

# CITY OF BEAUMONT



## MESA LIFT STATION UPGRADE

### DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS AND OTHER APPLICABLE CODES AND ORDINANCES.

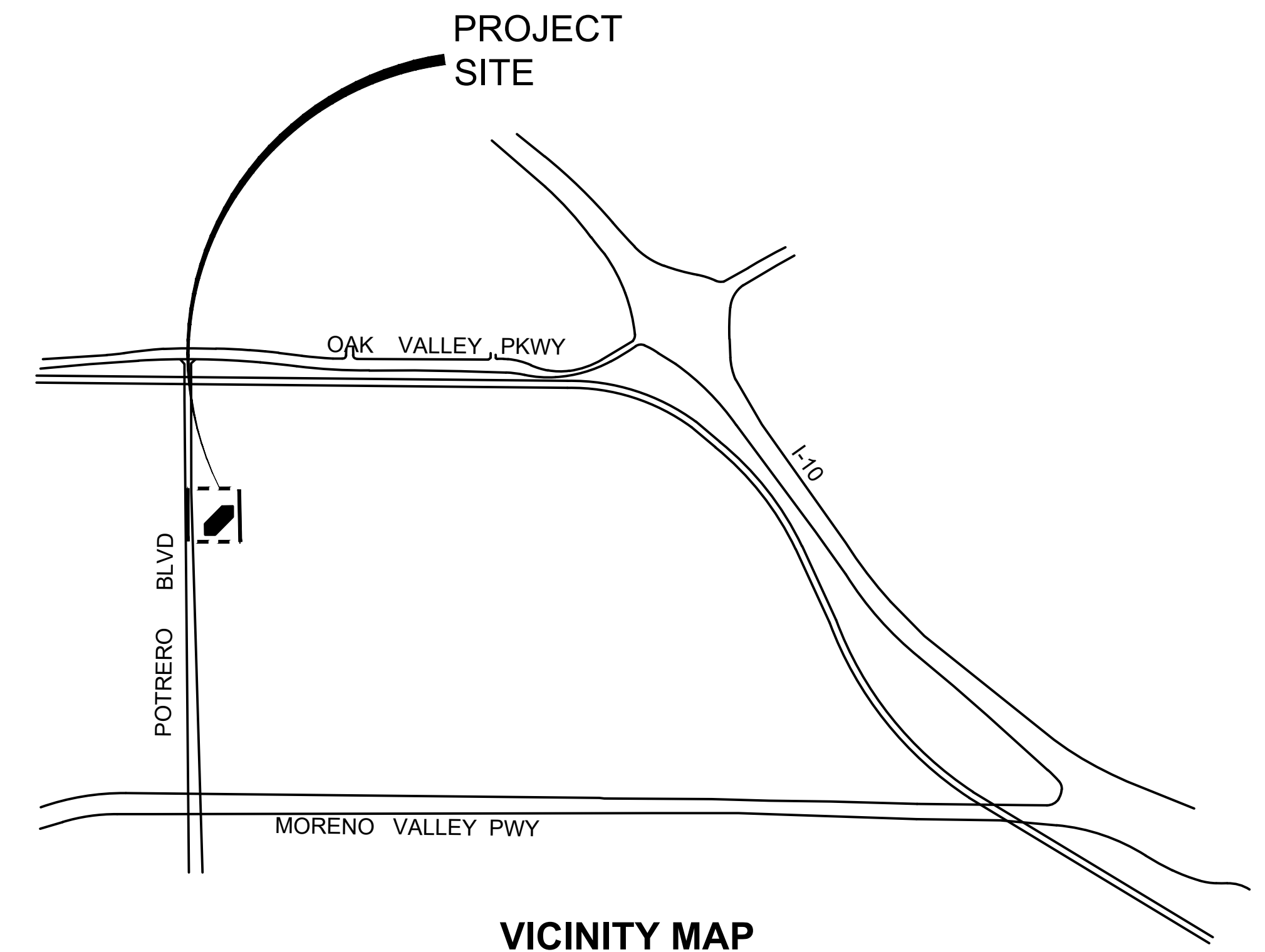
JUSTIN R LOGAN R.C.E. C-73749 DATE \_\_\_\_\_  
 PRINCIPAL ENGINEER

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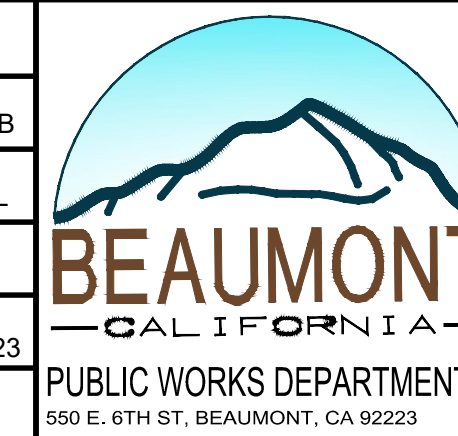
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BY	MARK	DESCRIPTION	APPR.	DATE
ENGINEER		REVISIONS		CITY



DESIGN BY: BP  
 DRAWN BY: KRB  
 CHECKED BY: JRL  
 SCALE: NONE  
 DATE: 03/03/2023  
 JOB NUMBER:



REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 STAFF ENGINEER  
 RECOMMENDED BY: *[Signature]* DATE: 6/11/2024  
 PRINCIPAL ENGINEER  
 APPROVED BY: *[Signature]* DATE: 06/12/2024  
 CITY ENGINEER

CITY OF BEAUMONT, CALIFORNIA  
 IMPROVEMENT PLANS FOR:  
 MESA LIFT STATION UPGRADE  
 GENERAL  
 TITLE PAGE, VICINITY MAP AND INDEX

SHEET  
**1**  
 OF 65 SHEETS  
 FILE NO:  
**G001**



# LEGEND

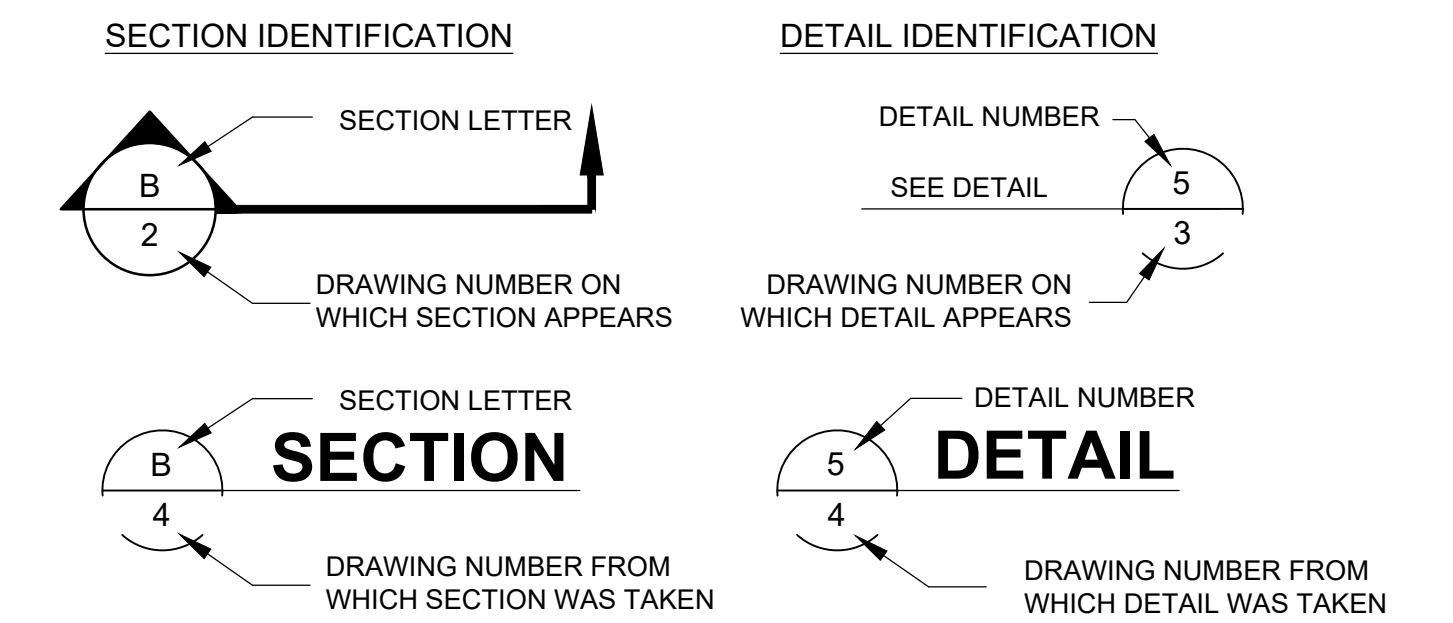
# ABBREVIATIONS

## PLAN VIEW

	EXISTING	PROPOSED
PROPERTY OR RW LINE	-----	-----
EASEMENT LINE	-----	-----
FENCE	--- X --- X ---	--- X --- X ---
EDGE OF ASPHALT	-----	-----
EDGE OF CONCRETE	-----	-----
EDGE OF GRAVEL	-----	-----
CONTOUR LINE	--- 4250 ---	--- 4250 ---
SPOT ELEVATION	o 4250.00	o 550.00 TOA
BANK SLOPES	Y Y Y	Y Y Y
STORM DRAIN LINE	--- SD ---	--- SD ---
WATER LINE	--- W ---	--- W ---
GAS LINE	--- G ---	--- G ---
TELEPHONE CABLE	--- T ---	--- T ---
ELECTRIC CABLE	--- E ---	--- E ---
SANITARY SEWER LINE	--- SS ---	--- SS ---
FIRE HYDRANT	--- FH ---	--- FH ---
WATER VALVE	--- WV ---	--- WV ---
WATER METER	--- WM ---	--- WM ---
MANHOLE	--- M ---	--- M ---
CATCH BASIN	--- CB ---	--- CB ---
CLEAN OUT BOX	--- COB ---	--- COB ---
OVERHEAD POWER LINE	--- OP ---	--- OP ---
POLE & ANCHOR	--- PA ---	--- PA ---
STREET LIGHT	--- SL ---	--- SL ---
STRUCTURE	[Symbol]	[Symbol]
ASPHALT PAVING	[Symbol]	[Symbol]
CONCRETE PAVING	[Symbol]	[Symbol]
GRAVEL PAVING	[Symbol]	[Symbol]
FLOW DIRECTION	--->	--->

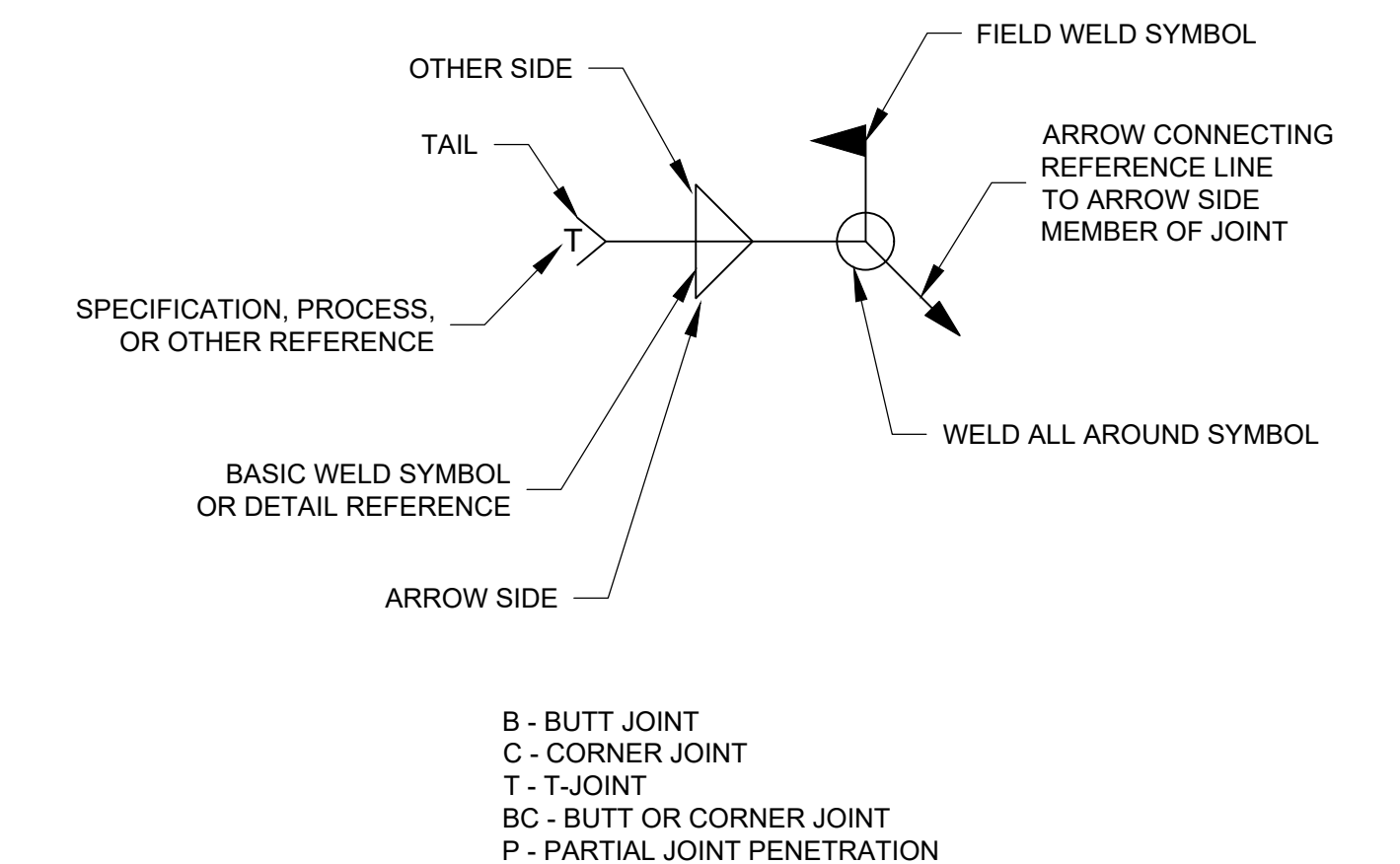
@	AT	EQ	EQUAL	OC	ON CENTER	VIC	VICTAULIC COUPLING
Ø	DIAMETER	EQU	EQUIPMENT	O/C	OPEN/CLOSE	VOL	VOLUME
AB	ANCHOR BOLT	ES	EXIT SIGN	OD	OUTSIDE DIAMETER	VPI	VERTICAL POINT OF INTERSECTION
ABUT	ABUTMENT	EST	ESTIMATE	O-O	OUTSIDE TO OUTSIDE	VPC	VERTICAL POINT OF CURVE
AD	ANAEROBIC DIGESTER	EW	EACH WAY	OFF REV	OFFICE REVISION	VPT	VERTICAL POINT OF TANGENCY
	/AEROBIC DIGESTER	EX	EXCAVATION	ORIG	ORIGINAL	VTR	VENT TO ROOF
ADF	AVERAGE DAILY FLOW	EX	EXISTING	OSB	ORIENTED STRAND BOARD		
ADT	AVERAGE DAILY TRAFFIC	FEN COR	FENCE CORNER	PVMT	PAVEMENT	W	WEST / WATER
AL	AIR LINE	FE	FIRE EXTINGUISHER	PBR	PHOTOBIOREACTOR	WAS	WASTE ACTIVATED SLUDGE
ALUM	ALUMINUM	FD	FLOOR DRAIN	PC	POINT OF CURVATURE/PRIMARY CLARIFIER	WC	WATER CLOSET
APPROX	APPROXIMATELY	FDN	FOUNDATION	PCC	POINT OF COMPOUND CURVATURE	WH	WATER HEATER
APV	AIR PINCH VALVE	FF	FINISHED FLOOR	PD	POND EFFLUENT	WM	WATER METER
ASPH	ASPHALT	FG	FINISHED GRADE	PE	PLANT EFFLUENT	WO	WEIR OVERFLOW
AZ	AZIMUTH	FH	FIRE HYDRANT	PERF	PERFORATED	W	WITH
BAL	BALANCE	FIN	FINISH	PI	POINT OF INTERSECTION	W/O	WITHOUT
BEG	BEGINNING / BEGIN	FL	FLOW LINE	PI	PRIMARY INFLUENT		
BDRY	BOUNDARY	FLG	FLANGE	PL	PROPERTY LINE	XING	CROSSING
BK	BACK	FLR	FLOOR	POC	POINT ON CURVE	X-SEC	CROSS SECTION
BKFL	BACKFILL	FP	FLOOR PENETRATION	PP	POWER POLE		
BLD FLG	BLIND FLANGE	FPS	FEET PER SECOND	PRC	POINT OF REVERSE CURVE		
BLDG	BUILDING	FRP	FIBERGLASS REINFORCED PIPE/PANEL	PROJ	PROJECT		
BLM	BUREAU OF LAND MANAGEMENT	FT	FEET	PROP	PROPERTY		
BM	BENCH MARK	FTG	FOOTING	PSF	POUNDS PER SQUARE FOOT		
BLK	BLOCK	FW	FLAT WASHER	PSI	POUNDS PER SQUARE INCH		
BOD	BLOCK	G	GAS	PT	POINT OF TANGENCY		
BOT	BOTTOM	GA	GAUGE	POB	POINT OF BEGINNING		
BRG	BEARING	GAL	GALLONS	PV	PLUG VALVE		
BSMT	BASEMENT	GALV	GALVANIZED	PVC	POLYVINYL CHLORIDE		
BT	BIOTOWER	GEN	GENERAL	PW	POTABLE WATER		
BTU	BRITISH THERMAL UNIT	GLB	GLUED LAMINATED BEAM	QTY	QUANTITY		
BTWN	BETWEEN	GM	GAS METER	R	RANGE / RADIUS		
BV	BUTTERFLY VALVE	GPD	GALLONS PER DAY	RAA	RETURN ACTIVATED ALGAE		
CB	CATCH BASIN	GPH	GALLONS PER HOUR	RAS	RETURN ACTIVATED SLUDGE		
CCW	COUNTER CLOCKWISE	GPM	GALLONS PER MINUTE	RCP	REINFORCED CONCRETE PIPE		
C-C	CENTER TO CENTER	GT	GRAVITY THICKENER	RD	ROAD		
C&G	CURB AND GUTTER	GV	GATE VALVE	REF	REFERENCE		
CFM	CUBIC FEET PER MINUTE	GSP	GALVANIZED STEEL PIPE	REINF	REINFORCED		
CFS	CUBIC FEET PER SECOND	GYP	GYP SUM	REV	REVISION		
CJ	CONSTRUCTION JOINT	HB	HOSE BIBB	RR	RAILROAD		
CL	CENTERLINE	HDG	HOT DIPPED GALVANIZED	RT	RIGHT / ROUTE		
CLR	CLEARANCE	HDPE	HIGH DENSITY POLYURETHANE PIPE	RW	RECLAIMED WATER		
CIP	CAST IRON PIPE	HDWL	HEADWALL	R/W	RIGHT OF WAY		
CMP	CORRUGATED METAL PIPE	H&T	HUB & TACK	S	SOUTH / SLOPE		
CMU	CONCRETE MASONRY UNIT	HP	HORSE POWER	SAN	SANITARY		
CO	CLEAN OUT	HR	HOUR	SC	SECONDARY CLARIFIER		
COB	CLEAN OUT BOX	HRT	HYDRAULIC RETENTION TIME	SCH	SCHEDULE		
COL	COLUMN	HRTZ	HORIZONTAL	SD	STORM SEWER		
CONC	CONCRETE	HORIZ	HORIZONTAL	SEC COR	SECTION CORNER		
CONN	CONNECT	HSS	HOLLOW STRUCTURAL SECTION	SHT	SHEET		
CONT	CONTINUOUS	HW	HOT WATER	SIM	SIMILAR		
COR	CORNER	HWL	HIGH WATER LEVEL	SKT	SOCKET		
CTR	CENTER	HWY	HIGHWAY	SP	SPACING OR SPACE		
CU FT	CUBIC FEET	HYD	HYDRANT	SPECS	SPECIFICATIONS		
CU YD	CUBIC YARD	IC	INTERMEDIATE CLARIFIER	SQ	SQUARE		
CUL	CULINARY	ID	INSIDE DIAMETER	SQ FT	SQUARE FEET		
CULV	CULVERT	IE	INVERT ELEVATION	SQ YD	SQUARE YARD		
CV	CHECK VALVE	IJ	ISOLATION JOINT	SS	STAINLESS STEEL / SANITARY SEWER		
CW	CLOCKWISE	IN	INCH	ST	STREET		
D	DRAIN	INFO	INFORMATION	STL	STEEL		
DEG	DEGREE	IRR	IRRIGATION	STN STL	STAINLESS STEEL		
DET	DETAIL	INV	INVERT	STA	STATION		
DIA	DIAMETER	JCT	JUNCTION	STD	STANDARD		
DIG	DIGESTER	L	LENGTH	STRUCT	STRUCTURE		
DIP	DUCTILE IRON PIPE	LB	POUND	T	TOWNSHIP		
DIST	DISTANCE	LG	LONG / LENGTH	TAN	TANGENT		
DL	DRAIN LINE	LIC	LICENSE	TBC	TOP BACK CURB		
DMH	DRAINAGE MANHOLE	LIN	LINEAR / LINEAL	TEMP	TEMPORARY		
DTH	DEKATHERM	LP	LIGHT POLE	TF	TRICKLING FILTER		
DN	DOWN	LS	LAND SURVEYOR	THD	THREADED		
D/W	DISHWASHER	LT	LEFT	THK	THICK		
DWG	DRAWINGS	LWL	LOW WATER LEVEL	TKN	TOTAL KIELDAHL NITROGEN		
DWV	DRAIN WASTE VENT	MAINT	MAINTENANCE	TOA	TOP OF ASPHALT		
E	EAST	MATL	MATERIAL	TOC	TOP OF CONCRETE		
EA	EACH	MAX	MAXIMUM	TOF	TOP OF FOOTING		
EB	ELECTRICAL BOX	MB	MACHINE BOLT	TOG	TOP OF GRAVEL		
EF	EACH FACE	MBR	MEMBRANE BIOREACTOR	TOM	TOP OF MANHOLE		
EG	EXISTING GROUND	MFR	MANUFACTURER	TOP	TOP OF PIER		
EL	ELBOW	MKR	MARKER	TOS	TOP OF SLAB		
ELEC	ELECTRIC / ELECTRICAL	MH	MANHOLE	TOW	TOP OF WALL		
ELEV	ELEVATION	MI	MILE	TP	TELEPHONE POLE		
ELEV	ELEVATION	MIN	MINIMUM / MINUTE	TSS	TOTAL SUSPENDED SOLIDS		
EMB	EMBANKMENT	MJ	MECHANICAL JOINT	TYP	TYPICAL		
EMH	ELECTRICAL MANHOLE	ML	MIXED LIQUOR	UB	UTILITY BOX		
ENGR	ENGINEER	MISC	MISCELLANEOUS	UG	UNDERGROUND		
ENT	ENTRANCE	MON	MONUMENT	UNO	UNLESS NOTED OTHERWISE		
EO	EDGE OF OIL	MPH	MILES PER HOUR	UV	ULTRA VIOLET		
EOA	EDGE OF ASPHALT	N	NORTH	UW	UTILITY WATER		
EOC	EDGE OF CONCRETE	NO OR #	NUMBER	V	VOLTS		
EOG	EDGE OF GRAVEL	NPW	NON-POTABLE WATER	VC	VERTICAL CURVE		
EOS	EDGE OF SHOULDER	NTS	NOT TO SCALE	VERT	VERTICAL		

## SECTION AND DETAIL IDENTIFICATION

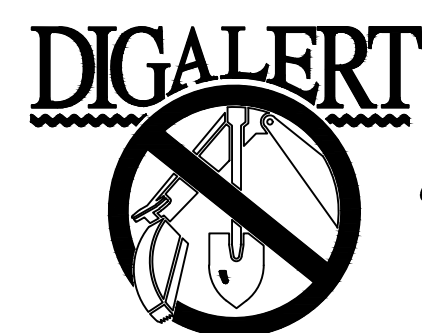


NOTE: IF PLAN AND SECTION (OR DETAIL REFERENCE AND DETAIL) ARE SHOWN ON THE SAME DRAWING, THE DRAWING NUMBER IS REPLACED WITH A LINE.

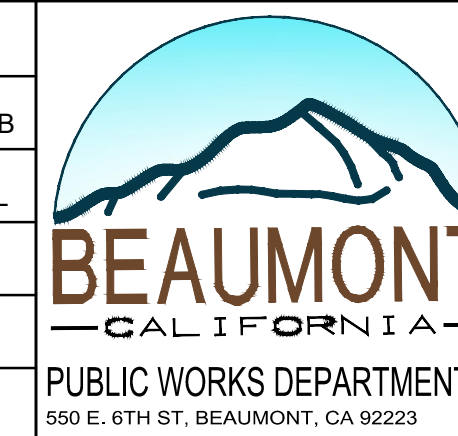
## SECTION AND DETAIL NOTES:



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BY	MARK	DESCRIPTION	APPR.	DATE
ENGINEER		REVISIONS		CITY



DESIGN BY: BP  
DRAWN BY: KRB  
CHECKED BY: JRL  
SCALE: NONE  
DATE: 07-28-2023  
JOB NUMBER:

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
STAFF ENGINEER  
RECOMMENDED BY: *[Signature]* DATE: 6/11/2024  
PRINCIPAL ENGINEER  
APPROVED BY: *[Signature]* DATE: 06/12/2024  
CITY ENGINEER

CITY OF BEAUMONT, CALIFORNIA  
IMPROVEMENT PLANS FOR:  
MESA LIFT STATION UPGRADE  
GENERAL  
LEGEND, SYMBOLS AND ABBREVIATIONS

SHEET  
2  
OF 65 SHEETS  
FILE NO:  
G002



**GENERAL NOTES:**

- 1- REFER TO SECTION 011000 OF THE SPECIFICATIONS FOR DEMOLITION AND CONSTRUCTION WORK PHASING.
- 2- THE LOCATION OF EXISTING STRUCTURES AND UNDERGROUND FACILITIES (PIPING, VALVES, CONDUCTORS, ELECTRICAL CONDUIT, ETC.) ARE SHOWN IN AN APPROXIMATE WAY ONLY AND ARE BASED ON OWNERS EXISTING RECORDS. CONTRACTOR SHALL EXERCISE CARE DURING EXCAVATION TO AVOID DAMAGE TO SAID FACILITIES. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UNDERGROUND FACILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PROTECT ANY AND ALL FACILITIES.
- 3- AT LEAST 48 HOURS BEFORE COMMENCING ANY EXCAVATION, CONTRACTOR SHALL REQUEST UNDERGROUND SERVICE ALERT AND NON-MEMBER COMPANIES OR UTILITIES TO MARK OR OTHERWISE INDICATE THE LOCATION(S) OF THEIR SUBSURFACE FACILITIES INCLUDING, BUT NOT LIMITED TO STRUCTURES, VAULTS, PIPING, VALVES, CONDUCTORS, CONDUITS, CABLES AND SERVICE CONNECTIONS.
- 4- AS FIRST ITEM OF WORK CONTRACTOR SHALL EXCAVATE AND EXPOSE EXISTING FACILITIES IN LOCATIONS WHERE NEW FACILITIES ARE PROPOSED TO ESTABLISH (POTHOLE) THE EXACT LOCATION, SIZE, AND DEPTH, AND DETERMINE IF THERE WILL BE AN INTERFERENCE WITH PROPOSED FACILITIES. CHANGES OR DELAYS CAUSED BY CONTRACTOR'S FAILURE TO PERFORM "POTHOLING" AND INTERFERENCE LOCATION WORK SHALL NOT BE ELIGIBLE FOR EXTRA WORK COMPENSATION OR TIME EXTENSION. UPON LEARNING OF THE EXISTENCE OR LOCATION OF ANY UNDERGROUND FACILITY OMITTED OR SHOWN INCORRECTLY ON THESE DRAWINGS, OR IMPROPERLY MARKED OR OTHERWISE INDICATED, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER, PROVIDING FULL DETAILS AS TO DEPTH, LOCATION, SIZE, AND FUNCTION.
- 5- EXISTING IMPROVEMENTS WHERE DAMAGED OR REMOVED BY CONSTRUCTION SHALL BE REPLACED IN ACCORDANCE WITH TECHNICAL SPECIFICATION SECTION 015300.

**CITY OF BEAUMONT PUBLIC WORKS STANDARD NOTES:**

**SITE GRADING:**

- 1- ALL GRADING SHALL CONFORM TO THE CITY OF BEAUMONT ORDINANCES, CURRENT ADOPTED CALIFORNIA BUILDING CODE, APPENDIX J, STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, "LATEST EDITION" AND RECOMMENDATIONS OF THE SOILS ENGINEER.
- 2- NO WORK SHALL COMMENCE UNTIL ALL PERMITS HAVE BEEN OBTAINED FROM THE CITY AND OTHER APPROPRIATE AGENCIES.
- 3- DURING ROUGH GRADING OPERATIONS AND PRIOR TO CONSTRUCTION OF PERMANENT DRAINAGE STRUCTURES, TEMPORARY DRAINAGE AND EROSION CONTROL SHOULD BE PROVIDED TO PREVENT PONDING WATER, SEDIMENT TRANSPORTATION, AND DAMAGE TO ADJACENT PROPERTIES.
- 4- DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS.
- 5- NO FILL SHALL BE PLACED ON EXISTING GROUND THAT HAS NOT BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL, AND OTHER DELETERIOUS MATERIAL.
- 6- MAXIMUM CUT AND FILL SLOPE = 2:1 EXCEPT WHERE SPECIFICALLY APPROVED OTHERWISE.
- 7- NO OBSTRUCTION OF FLOODPLAIN OR NATURAL WATER COURSES SHALL BE PERMITTED.
- 8- ALL EXISTING DRAINAGE COURSES ON THE PROJECT SITE SHALL CONTINUE TO FUNCTION, ESPECIALLY DURING STORM CONDITIONS, PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS MUST BE USED TO PROTECT ADJOINING PROPERTIES DURING GRADING OPERATIONS.
- 9- CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT TWO DAYS BEFORE DIGGING AT 8-1-1 AND THE FOLLOWING UTILITY OR AGENCIES A MINIMUM OF ONE WEEK PRIOR TO COMMENCING ANY CONSTRUCTION OR GRADING:
 

A. CITY OF BEAUMONT	951.769.8520
B. BEAUMONT CHERRY VALLEY WATER DISTRICT (BDVWD).	951.845.9581
- 10- THE CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN A NEAT, SAFE, CLEAN AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE CITY'S INSPECTOR. THE ADJACENT STREETS SHALL BE KEPT CLEAN OF SEDIMENT, DEBRIS AND OTHER NUISANCES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY THE CONSTRUCTION.
- 11- ALL OPERATIONS CONDUCTED ON THE SITE OR ADJACENT THERETO SHALL ADHERE TO THE NOISE ORDINANCE SET FORTH BY THE CITY MUNICIPAL CODE. ALL OPERATIONS SHALL BE LIMITED BY THE NOISE ORDINANCE TO THE LIMIT OF DECIBELS SPECIFIED FOR THE AREA AND TIME PERIOD. CONSTRUCTION ACTIVITIES WILL BE LIMITED TO THE PERIOD BETWEEN 7:00 A.M. AND 6:00 P.M. MONDAY THROUGH FRIDAY.
- 12- ALL OFF-SITE HAUL ROUTES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR APPROVAL TWO FULL WORKING DAYS PRIOR TO BEGINNING OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTE OR ADJACENT STREETS AS A RESULT OF THE GRADING OPERATION.
- 13- UNLESS NOTED OTHERWISE REGRADE ADJACENT TO NEW AND/OR IMPROVED STRUCTURE TO RESTORE GRADE AFTER WORK IS COMPLETED.

**STREET IMPROVEMENT NOTES:**

- 1- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, GREENBOOK, LATEST EDITION AND THE RIVERSIDE COUNTY TRANSPORTATION DEPARTMENT IMPROVEMENT STANDARDS AND SPECIFICATIONS, "LATEST EDITION," COUNTY ORDINANCE NO. 461 AND SUBSEQUENT AMENDMENTS.
- 2- CONTRACTOR SHALL COMPLY WITH THE STATE AND LOCAL SAFETY CODES DURING THE PROGRESS OF WORK.
- 3- CONSTRUCTION PROJECTS THAT DISTURB MORE THAN ONE ACRE MUST OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT. OWNER/DEVELOPERS ARE REQUIRED TO FILE A NOTICE OF INTENT (NOI) WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND COMPLY WITH ALL REQUIREMENTS OF THE BEAUMONT DRAINAGE MANAGEMENT PLAN. BEAUMONT IS CO-PERMITTEE WITH R.C.F.C. & W.C.D.
- 4- CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN A NEAT, SAFE, CLEAN AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE COUNTY'S OR DISTRICT'S INSPECTOR. THE ADJACENT STREETS SHALL BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. THE DEVELOPERS SHALL BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY HIS CONSTRUCTION. METHOD OF STREET CLEANING SHALL BE DRY SWEEPING OF ALL PAVED AREAS.
- 5- CONTRACTORS SHALL BE RESPONSIBLE TO INSTALL AND MAINTAIN DURING CONSTRUCTION ALL, REGULATORY GUIDE AND WARNING SIGNS WITHIN THE PROJECT LIMITS AND ITS SURROUNDINGS TO PROVIDE SAFE PASSAGE FOR THE TRAVELING PUBLIC AND WORKERS UNTIL THE FINAL COMPLETION AND ACCEPTANCE OF THE PROJECT BY THE CITY OF BEAUMONT.
- 6- CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING OF THE PROPOSED WORK AREA AND RELOCATION COSTS OF ALL EXISTING UTILITIES. PERMITEE MUST INFORM CITY OF CONSTRUCTION SCHEDULE AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION AT (951) 769-8520.
- 7- CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND THAT CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER, CITY OF BEAUMONT, AND THE CITY'S ENGINEER, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNERS OR THE DEVELOPER'S ENGINEER.
- 8- CONTRACTOR SHALL BE THE RESPONSIBLE TO OBTAIN ANY ENCROACHMENT PERMIT FOR ALL WORK PERFORMED WITHIN PUBLIC RIGHT-OF-WAY, DEDICATED AND ACCEPTED FOR PUBLIC USE; AND TO BE RESPONSIBLE FOR SATISFACTORY COMPLIANCE FOR ALL CURRENT ENVIRONMENTAL REGULATIONS DURING THE LIFE OF CONSTRUCTION ACTIVITIES FOR THIS PROJECT.
- 9- CONTRACTOR MUST NOTIFY THE CITY OF BEAUMONT AT (951) 769-8520 AT LEAST ONE WEEK PRIOR TO CONSTRUCTION.
- 10- CONTRACTOR SHALL BE RESPONSIBLE TO APPLY TO THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) FOR AN ENCROACHMENT PERMIT FOR ALL WORK PERFORMED WITHIN STATE RIGHT-OF-WAY.
- 11- CONTRACTOR SHALL HAVE THE CITY'S GEOTECHNICAL/SOILS ENGINEERING FIRM OBSERVE TRENCHING, BACKFILLING, & SOIL COMPACTION OF ALL UTILITY TRENCHES WITHIN ALL CITY OWNED PROPERTY, EASEMENTS & ROAD RIGHTS OF WAY.
- 12- ASPHALTIC EMULSION (FOG SEAL) SHALL BE APPLIED NOT LESS THAN FOURTEEN DAYS FOLLOWING PLACEMENT OF THE ASPHALT SURFACING. FOG SEAL AND PAINT BINDER SHALL BE APPLIED AT A RATE OF 0.05 AND 0.03 GALLON PER SQUARE YARD RESPECTIVELY. ASPHALTIC EMULSION SHALL CONFORM TO SECTIONS 37.39, AND 94 OF THE STATE STANDARD SPECIFICATIONS.
- 13- ANY PRIVATE DRAINAGE FACILITIES SHOWN ON THESE PLANS ARE FOR INFORMATION ONLY. BY SIGNING THESE IMPROVEMENT PLANS, NO REVIEW OR APPROVAL OF THESE PRIVATE FACILITIES ARE IMPLIED OR INTENDED BY CITY OF BEAUMONT.

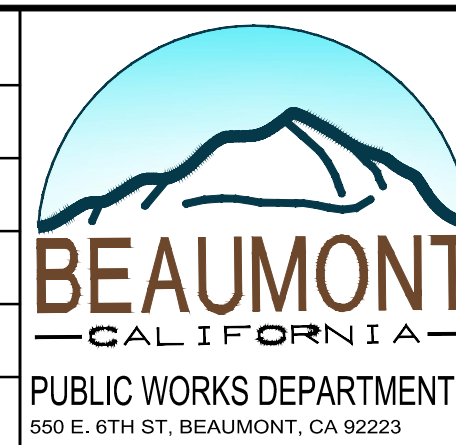
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REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 STAFF ENGINEER  
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 CITY ENGINEER

CITY OF BEAUMONT, CALIFORNIA  
 IMPROVEMENT PLANS FOR:  
 MESA LIFT STATION UPGRADE  
 GENERAL  
 PROJECT NOTES

SHEET  
**3**  
 OF 65 SHEETS  
 FILE NO:  
**G003**



**STRUCTURAL GENERAL NOTES:**

- THE PROJECT SPECIFICATIONS SHALL BE PART OF THE CONTRACT DOCUMENTS.
- THE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS. NO PORTION OF STRUCTURAL RELATED WORK, INCLUDING SHOP DRAWING DEVELOPMENT, SHALL BE PERFORMED WITHOUT CONSIDERING REQUIREMENTS OF CONTRACT DOCUMENTS IN THEIR ENTIRETY.
- DETAILS AND SCHEDULES INDICATED AS "TYPICAL" MAY NOT BE SPECIFICALLY REFERENCED ON DRAWINGS. DETERMINE WHERE EACH TYPICAL DETAIL OR SCHEDULE APPLIES BEFORE PROCEEDING WITH WORK. IF CONDITIONS ARE FOUND WHICH ARE NOT SPECIFICALLY DETAILED AND NO TYPICAL DETAIL OR SCHEDULE APPLIES, PROMPTLY NOTIFY THE STRUCTURAL ENGINEER.
- OPENINGS, POCKETS, CORE DRILLING, ETC. SHALL NOT BE PLACED IN STRUCTURAL WALLS, SLABS, AND MEMBERS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. NOTIFY THE STRUCTURAL ENGINEER OF RECORD WHEN DRAWINGS BY OTHERS INDICATE OPENINGS, POCKETS, CORE DRILLING, ETC., NOT INDICATED ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN STRUCTURAL MEMBERS.
- THE CONTRACTOR SHALL REVIEW EXISTING CONDITIONS ON THE SITE DURING THE BIDDING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES PRIOR TO PROCEEDING.
- UNLESS NOTED OR SHOWN OTHERWISE, ALL PHASES OF WORK ARE TO CONFORM TO THE MINIMUM STANDARDS OF THE CALIFORNIA BUILDING CODE (LATEST EDITION), AND ANY ASTM SPECIFICATIONS ON WHICH THESE STANDARDS ARE BASED. WHERE CONFLICT BETWEEN BUILDING CODES AND SPECIFICATIONS OCCUR, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.
- ALL ASTM DESIGNATIONS REFERRED TO ON THESE DRAWINGS SHALL BE THE LATEST ADOPTED OR REVISED SPECIFICATION, AS OF THE DATE OF THESE DRAWINGS.
- ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
- NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- THE STRUCTURAL DRAWINGS SHOW ONLY THE BASIC STRUCTURAL REQUIREMENTS. REFER TO CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS, SUCH AS:
  - SIZE AND LOCATION OF ALL OPENINGS.
  - SIZE AND LOCATION OF ALL CONCRETE CURBS, WALKS, ROOF AND FLOOR DRAINS, SLOPES, DEPRESSED SLAB AREAS, ETC.
  - FLOOR, ROOF, AND WALL FINISHES.
  - DIMENSIONS WHICH ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
- THE STRUCTURAL CONTRACT DOCUMENTS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
- NEITHER THE OWNER NOR THE STRUCTURAL ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND BRACING AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS. SITE OBSERVATION VISITS BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE SAFETY ITEMS.
- SATISFACTORY EXECUTION OF CONSTRUCTION IS DEPENDENT UPON CONFORMANCE WITH THE INTENT OF THESE DRAWINGS. THE OWNER SHALL RETAIN A CALIFORNIA LICENSED CIVIL OR STRUCTURAL ENGINEER DURING CONSTRUCTION TO OBSERVE THE CONSTRUCTION AND STATE THAT THE STRUCTURE HAS BEEN BUILT IN GENERAL CONFORMANCE WITH THE INTENT OF THESE DRAWINGS.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED DESIGN LIVE LOAD FOR EACH PARTICULAR LEVEL. WHEN WEIGHT OF MATERIALS OR EQUIPMENT MAY EXCEED DESIGN LOAD, STRUCTURAL SYSTEMS SHALL BE SHORED.
- WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK, THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
- FOR BELOW GRADE STRUCTURES BACKFILL SHALL NOT BE PLACED UNTIL ALL FLOOR AND ROOF FRAMING IS COMPLETE.

**FOUNDATION:**

- ATTACH ONE COPY OF SOILS REPORT TO THE APPROVED SET OF CONSTRUCTION DOCUMENTS. SOILS REPORT SHALL BE PART OF THESE NOTES. PRIOR TO THE POURING OF CONCRETE AND PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE GEOTECHNICAL ENGINEER SHALL INSPECT AND APPROVE THE FOOTING EXCAVATIONS. THE GEOTECHNICAL ENGINEER SHALL POST NOTICE ON THE JOB SITE AND ADVISE THE BUILDING INSPECTOR IN WRITING THAT THE WORK SO INSPECTED MEETS THE CONDITIONS OF THE REPORT. THE GEOTECHNICAL ENGINEER WRITTEN CERTIFICATION SHALL VERIFY THE FOLLOWING:
    - THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
    - THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
    - THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.
  - SOILS REPORT PREPARED BY: CONVERSE CONSULTANTS  
 GEOTECHNICAL INVESTIGATION REPORT MESA LIFT STATION UPGRADES SOUTHEAST CORNER OF THE INTERSECTION OF POTRERO BOULEVARD AND CASTELLO LANE, CITY OF BEAUMONT, RIVERSIDE COUNTY, CALIFORNIA CONVERSE PROJECT NO. 21-81-289-01 DATED JUNE 23, 2022
  - SOIL REMOVAL, BACKFILLING, AND RECOMPACTION SHALL BE PERFORMED PER SOILS REPORT RECOMMENDATIONS UNDER GEOTECHNICAL ENGINEER'S SUPERVISION AND INSPECTION.
  - SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE CALIFORNIA BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
  - TYPE OF FOOTING:
    - SHALLOW FOOTING SYSTEM-MINIMUM EMBEDMENT 18" BELOW LOWEST ADJACENT GRADE.
- DESIGN SOIL PRESSURE:**
- | FOOTING TYPE       | STATIC BEARING PRESSURE |
|--------------------|-------------------------|
| SPREAD FOOTING     | 3,500 PSF               |
| CONTINUOUS FOOTING | 3,500 PSF               |
- ALLOWABLE BEARING CAPACITIES MAY BE INCREASED TO 4,500 PSF WHEN FOUNDATION IS LOCATED A MINIMUM OF 3'-6" BELOW GRADE AND BY ONE-THIRD WHEN CONSIDERING LOADS OF SHORT DURATION SUCH AS WIND OR SEISMIC FORCES.
- FOOTING ELEVATIONS SHALL BE LOCATED SUCH THAT THEIR BEARING IS A MINIMUM HORIZONTAL DISTANCE OF 7 FEET FROM THE DAYLIGHT OF AN ADJACENT SLOPE OR AS RECOMMENDED WITHIN THE SOILS REPORT.
  - FOUNDATION EXCAVATIONS, FILLING, AND COMPACTION ARE TO BE OBSERVED BY AND DEEMED ACCEPTABLE TO THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE PRIOR TO PLACEMENT OF REINFORCING STEEL OR CONCRETE.
  - ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE WALLS HAVE ATTAINED FULL DESIGN STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS, AND INSTALLATION OF SUCH BRACING.
  - SLAB BASE AND COMPACTION ARE TO BE IN ACCORDANCE WITH SOILS REPORT.
  - NO PIPES OR DUCTS SHALL BE PLACED IN SLABS OR WALLS UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE ENGINEER.
  - FOR ALL DIMENSIONS, CURBS, SLAB DEPRESSIONS, STEPS, FLOOR DRAINS, FLOOR SINKS, TRENCHES, UNDER FLOOR DUCTS, AND CONDUITS, SEE ARCHITECTURAL, MECHANICAL, REFRIGERATION, AIR CONDITIONING, PLUMBING, ELECTRICAL, AND FOOD SERVICES DRAWINGS. TRENCH BACK FILL AS PER SOILS REPORT REQUIREMENTS.
  - ALL WALLS RETAINING EARTH SHALL DRAIN TO DAYLIGHT OR OTHER DRAINAGE.
  - ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED
  - THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICE IN AREAS TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING. DAMAGE CAUSED AS A RESULT OF FAILING TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
  - THE CONTRACTOR SHALL PROVIDE FOR DESIGN, APPROVALS, PERMITS, INSTALLATION, AND MONITORING OF ALL CRIBBING, SHEATHING, AND SHORING REQUIRED TO SAFELY RETAIN TEMPORARY EXCAVATIONS.
  - ALL PLANTERS IN CLOSE PROXIMITY TO THE STRUCTURE SHALL HAVE ADEQUATE DRAINAGE OF SURFACE WATER TO PREVENT SATURATION OF SOIL UNDER FOUNDATION.

**DESIGN BASIS:**

CODE: 2019 CBC (CALIFORNIA BUILDING CODE) CCR, TITLE 24, PART 2.

**GRAVITY LOADS:**

- FLAT ROOF LIVE LOAD : 50 PSF (REDUCIBLE)
- FLOOR LIVE LOAD : 100 PSF
- PLATFORM/WALKWAY LIVE LOAD : 100 PSF

**LATERAL LOADS:**

- EARTHQUAKE DESIGN DATA :
    - RISK CATEGORY = III
    - SEISMIC DESIGN CATEGORY = D
    - SITE CLASS = C
    - S<sub>s</sub> = 1.701g
    - S<sub>1</sub> = 0.623g
    - F<sub>a</sub> = 1.00
    - F<sub>v</sub> = 1.70
    - S<sub>MS</sub> = 1.701g
    - S<sub>M1</sub> = 1.059g
    - S<sub>DS</sub> = 1.134g
    - S<sub>D1</sub> = 0.706g
    - I<sub>e</sub> = 1.25
    - STRUCTURE: CONCRETE BASINS:
    - RESPONSE MODIFICATION FACTORS PER ACI 350.3 FOR FIXED OR HINGE BASE TANKS
    - R<sub>t</sub> = 2.0
    - R<sub>c</sub> = 1.0
  - WIND DESIGN DATA:
    - BASIC WIND SPEED = 105MPH
    - EXPOSURE C
    - ANALYSIS PROCEDURE USED: ASCE 7 METHOD 2 MWFRS DIRECTION
- PROCEDURES - ALL HEIGHTS

**SOIL LOADS:**

- BRACED RETAINING/FOUNDATION WALLS:
  - AT-REST PRESSURE = 59H PSF/FT
- CANTILEVER RETAINING WALLS:
  - ACTIVE PRESSURE = 38H PSF/FT
  - SOIL SEISMIC (ULTIMATE) = 27H PSF/FT (TRIANGULAR PRESSURE)
  - PASSIVE PRESSURE = 200 PCF
- TRAFFIC SURCHARGE = 100 PSF
- COEFFICIENT OF FRICTION = 0.35

**DEFERRED SUBMITTALS**

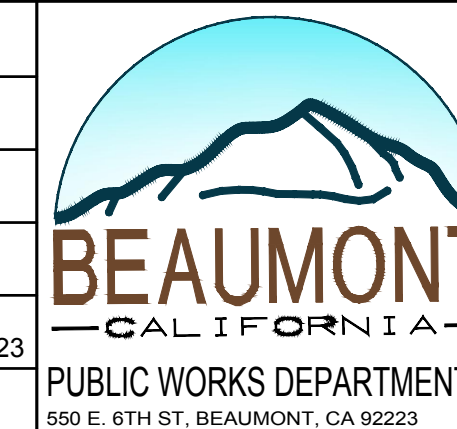
- THE FOLLOWING PORTIONS OF THE PROJECT ARE DEFERRED SUBMITTAL ITEMS AND HAVE NOT BEEN DESIGNED BY THE ENGINEER OF RECORD.
  - ALUMINUM COVER
  - ANCHORING OF MECHANICAL EQUIPMENT
- DEFERRED SUBMITTAL ITEMS SHALL BE DESIGNED BY A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA. STRUCTURAL CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW.
- DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE ENGINEER OF RECORD HAS REVIEWED THE SUBMITTAL DOCUMENTS AND INDICATED THAT THEY HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN DOCUMENTS.



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ENGINEER		REVISIONS		CITY



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 JOB NUMBER:



REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 STAFF ENGINEER

RECOMMENDED BY: *[Signature]* DATE: 6/11/2024  
 PRINCIPAL ENGINEER

APPROVED BY: *[Signature]* DATE: 06/12/2024  
 CITY ENGINEER

CITY OF BEAUMONT, CALIFORNIA  
 IMPROVEMENT PLANS FOR:  
 MESA LIFT STATION UPGRADE  
 GENERAL  
 STRUCTURAL NOTES - 1

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**4**  
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**G004**



**CONCRETE:**

- CONCRETE CONSTRUCTION SHALL CONFORM TO CHAPTER 19 OF THE CALIFORNIA BUILDING CODE, ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND ACI 350 "CODE REQUIREMENT FOR ENVIRONMENTAL CONCRETE STRUCTURES" (LATEST EDITIONS), EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS CONTAINED HEREIN OR SHOWN ON THE DRAWINGS.
- SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE CALIFORNIA BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
- ALL CONCRETE SHALL BE 150 PCF HARDROCK, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
- THE MAXIMUM SIZE AGGREGATE IN FOUNDATION AND MASS CONCRETE WORK SHALL BE 1 INCH. THE MAXIMUM SIZE AGGREGATE IN SLABS ON GRADE, WALLS, AND ALL OTHER CONCRETE SHALL BE 3/4 INCH. PEA GRAVEL SHALL NOT BE USED FOR STRUCTURAL CONCRETE, UON.
- CEMENT SHALL CONFORM TO ASTM C150, TYPE II/V, LOW ALKALI. AGGREGATES FOR NORMAL WEIGHT SHALL CONFORM TO ASTM C33.
- ADMIXTURES AND COLORS (EXCEPT AS NOTED HEREIN) SHALL NOT BE USED UNLESS SUBSTANTIATING DATA IS SUBMITTED TO AND REVIEWED BY THE ENGINEER OF RECORD.
- CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY. THE MIX DESIGNS SHALL CONFORM TO CBC CHAPTER 19 UNLESS OTHERWISE NOTED.
- NON-STRUCTURAL STEEL EMBEDDED IN CONCRETE SHALL BE GALVANIZED OR PAINTED. ALL DAMAGED GALVANIZED AREAS SHALL BE REPAIRED PRIOR TO EMBEDMENT.
- PROVIDE 2- #5 DIAGONAL BARS AT CORNERS OF WALL, FLOOR, AND ROOF OPENINGS AND INSIDE CORNERS OF FLOORS.
- PROVIDE WATERSTOPS IN ALL BELOW GRADE FOUNDATION WALL CONSTRUCTION JOINTS.
- READY MIXED CONCRETE SHALL CONFORM TO ASTM C94.
- PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 304. CLEAN AND ROUGHEN TO 1/4" AMPLITUDE FOR ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.
- ALL EXPOSED CONCRETE SHALL HAVE A SMOOTH FORM FINISH USING B-B PLYFORM, CLASS I, EXT-APA PLYWOOD.
- ALL SLABS SHALL HAVE A TROWEL FINISH EXCEPT AS NOTED ON THE DRAWINGS.
- ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- IF THE CONTRACTOR REQUESTS TO MAKE ANY CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THESE DRAWINGS, THEY SHALL SUBMIT DETAILS OF CHANGES TO THE ENGINEER OF RECORD FOR REVIEW BEFORE STARTING WORK.
- NO BRICK OR POROUS MATERIAL SHALL BE USED TO SUPPORT FOUNDATION STEEL OFF THE GROUND.
- PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CONCRETE CORNERS, UON.
- SLEEVE PLUMBING OPENINGS IN SLABS WITH NON-CORROSIVE SLEEVE BEFORE PLACING CONCRETE AND BEND REINFORCING AROUND SLEEVES.
- ALL REINFORCING BARS SHALL BE PROVIDED WITH THE FOLLOWING CONCRETE MINIMUM COVER:
 

FOOTINGS CAST AGAINST EARTH FORMED CONCRETE EXPOSED TO EARTH, WEATHER, OR LIQUID	3"
BEAMS AND GIRDERS	2"
WALLS	2"
COLUMN TIES	2"
SLABS (#11 AND SMALLER)	2"
- CONCRETE CURING: TYPICALLY REQUIRED A MINIMUM OF 7 DAYS.

**REINFORCING STEEL:**

- ALL REINFORCING STEEL SHALL BE PLACED IN CONFORMANCE WITH THE CBC, AND THE "MANUAL OF STANDARD PRACTICE" BY THE CRSI OR AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.
- SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE CALIFORNIA BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
- REINFORCING BARS SHALL CONFORM TO ASTM A615, DEFORMED GRADE 60. REINFORCING BARS THAT ARE TO BE WELDED SHALL CONFORM TO ASTM A706, DEFORMED GRADE 60.
- DETAILS OF REINFORCEMENT SHALL COMPLY WITH ACI 318 (LATEST EDITION).
- WELDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH ASTM A706 WITH LOW HYDROGEN ELECTRODES AND STRUCTURAL WELDING CODE REINFORCING STEEL SHALL CONFORM TO ANSI / AWS D1.4. MINIMUM TENSILE STRENGTH OF WELD METAL SHALL BE 90 KSI. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
- REINFORCING BARS FOR COLUMNS AND REINFORCING IN SEISMIC ELEMENTS INCLUDING SHEAR WALL VERTICAL REINFORCING STEEL, MOMENT FRAME BEAMS AND COLUMNS, AND DIAPHRAGM CHORD BARS SHALL CONFORM TO ASTM A706, GRADE 60, U.O.N.
- ALL REINFORCING BAR BENDS SHALL BE MADE COLD, UNLESS OTHERWISE PERMITTED BY THE BUILDING OFFICIAL.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185, AND SHALL BE LAPPED 1 SPACE AND 12" MINIMUM.
- DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE LAPPED WITH THE SAME GRADE, SIZE, SPACING, AND NUMBER AS THE VERTICAL REINFORCEMENT.
- REINFORCING SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS.
- ALL VERTICAL REINFORCING SHALL BE CONTINUOUS BETWEEN TWO LEVELS, UNLESS OTHERWISE NOTED.
- SLAB ON GRADE REINFORCING SHALL BE POSITIONED AT MID-DEPTH, UNLESS OTHERWISE NOTED.
- PROVIDE #3 SPACER TIES AT 2'-6" ON CENTER IN ALL BEAMS AND FOOTINGS TO SECURE REINFORCING BARS IN PLACE, UNLESS OTHERWISE NOTED.
- PIPING AND CONDUIT SHALL BE SO FABRICATED AND INSTALLED THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED.
- REINFORCING BAR LAP SPLICES SHALL NOT BE PERMITTED IN MOMENT FRAMES OR SHEAR WALLS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER IN WRITING.
- MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL, NOT INCLUDING SPLICED REINFORCEMENT, SHALL BE 1" OR 1 BAR DIAMETER, WHICHEVER IS GREATER. MINIMUM CLEAR DISTANCE AT COLUMNS SHALL BE 1 1/2" OR 1 1/2 BAR DIAMETERS, WHICHEVER IS GREATER.
- ALL REINFORCEMENT SHALL BE CENTERED ON MEMBER UNLESS OTHERWISE INDICATED.

**STRUCTURAL OBSERVATION:**

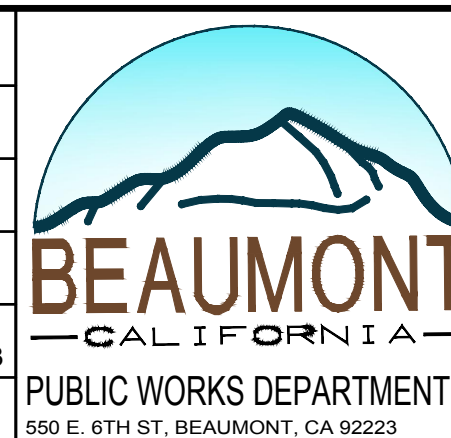
- PER CBC CHAPTER 17 SECTION 1704, THE OWNER SHALL EMPLOY A LICENSED ENGINEER RESPONSIBLE FOR THE STRUCTURAL DESIGN, OR HIS DESIGNATED ENGINEER TO MAKE SITE VISITS TO OBSERVE GENERAL COMPLIANCE WITH THE APPROVED STRUCTURAL PLANS, SPECIFICATIONS AND CHANGE ORDERS. THE ENGINEER SHALL SUBMIT A STATEMENT IN WRITING TO THE BUILDING OFFICIAL STATING THAT THE SITE VISIT HAS BEEN MADE AND THAT ANY DEFICIENCIES NOTED HAVE BEEN CORRECTED. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE INSPECTIONS REQUIRED BY SECTIONS 110, 1704, 1705 OR OTHER SECTIONS OF THE CODE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 72 HOURS PRIOR TO THE COMPLETION OF ANY WORK THAT REQUIRES OBSERVATIONS. STRUCTURAL OBSERVATIONS ARE REQUIRED FOR THE FOLLOWING WORK PERFORMED BY THE CONTRACTOR:
  - 90% OF FOUNDATION REINFORCEMENT PRIOR TO FIRST CONCRETE PLACEMENT.
  - 90% OF WALL REINFORCEMENT PRIOR TO FIRST CONCRETE PLACEMENT.



BY	MARK	DESCRIPTION	APPR.	DATE
ENGINEER		REVISIONS		CITY



DESIGN BY: CN  
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REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 RECOMMENDED BY: *[Signature]* DATE: 6/11/2024  
 APPROVED BY: *[Signature]* DATE: 06/12/2024

CITY OF BEAUMONT, CALIFORNIA  
 IMPROVEMENT PLANS FOR:  
 MESA LIFT STATION UPGRADE  
 GENERAL  
 STRUCTURAL NOTES - 2

SHEET  
**5**  
 OF 65 SHEETS  
 FILE NO:  
**G005**



**STATEMENT OF SPECIAL INSPECTIONS**

REQUIRED VERIFICATION AND INSPECTION OF SOILS		
VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

**SPECIAL INSPECTION PROGRAM - APPLIES TO ALL TABLES**

THE SPECIAL INSPECTIONS LISTED ARE IN ADDITION TO THE CALLED INSPECTIONS REQUIRED BY LATEST EDITION OF THE CBC CHAPTER 1 SECTION 110. THE SPECIAL INSPECTIONS IDENTIFIED ON PLANS ARE, IN ADDITION TO, AND NOT SUBSTITUTE FOR, THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY THE GOVERNING JURISDICTION'S BUILDING INSPECTOR. THE GOVERNING JURISDICTION IS DEFINED AS THE CITY, COUNTY, OR GOVERNMENTAL UNIT THAT IS RESPONSIBLE FOR THE INSPECTIONS OF CONSTRUCTION OR WORK AS SPECIFIED IN THE CONTRACT DOCUMENTS.

- A. PROVIDE SPECIAL INSPECTION AND TESTING FOR SEISMIC AND WIND RESISTANCE AS REQUIRED BY CBC SECTIONS 1704, AND 1705.
- B. THE SPECIAL INSPECTORS MUST BE CERTIFIED BY THE GOVERNING JURISDICTION, TO PERFORM THE TYPE OF INSPECTION SPECIFIED.  
  
EXCEPTIONS:  
1. SOILS INSPECTIONS BY THE GEOTECHNICAL SOILS ENGINEER OF RECORD.  
2. SMOKE CONTROL SYSTEM, BY THE MECHANICAL ENGINEER OF RECORD.  
3. WHEN WAIVED BY THE BUILDING OFFICIAL.
- C. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE SPECIAL INSPECTOR OR INSPECTION AGENCY AT LEAST ONE WORKING DAY PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION.
- D. SPECIALLY INSPECTED WORK THAT IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE INSPECTOR IS SUBJECT TO REMOVAL OR EXPOSURE.
- E. THE CONSTRUCTION MATERIALS TESTING LABORATORY MUST BE APPROVED BY THE GOVERNING JURISDICTION, FOR TESTING OF MATERIALS, SYSTEMS, COMPONENTS AND EQUIPMENTS.
- F. A PROPERTY OWNER'S FINAL REPORT OF WORK REQUIRING SPECIAL INSPECTION MUST BE COMPLETED BY THE PROPERTY OWNER, PROPERTY OWNER'S AGENT OF RECORD, ARCHITECT OF RECORD, OR ENGINEER OF RECORD AND SUBMITTED TO THE INSPECTION SERVICES DIVISION.
- G. AN APPLICATION TO PERFORM OFF-SITE FABRICATION MUST BE SUBMITTED TO THE INSPECTION SERVICES DIVISION FOR APPROVAL PRIOR TO FABRICATION.
- H. A CERTIFICATE OF COMPLIANCE OF OFF-SITE FABRICATION MUST BE COMPLETED AND SUBMITTED TO THE INSPECTION SERVICES DIVISION PRIOR TO ERECTION OF PREFABRICATED COMPONENTS.
- I. FABRICATOR MUST BE REGISTERED AND APPROVED BY THE GOVERNING JURISDICTION FOR THE FABRICATION OF MEMBERS AND ASSEMBLIES ON THE PREMISES OF THE FABRICATOR'S SHOP.
- J. THE SPECIAL INSPECTOR MUST BE CERTIFIED BY THE GOVERNING JURISDICTION IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION.
- K. FABRICATION OF MEMBERS AND ASSEMBLIES DONE IN A FABRICATOR'S SHOP APPROVED BY INSPECTION SERVICES NEED NOT HAVE CONTINUOUS OR PERIODIC SPECIAL INSPECTION. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT THE CERTIFICATE OF COMPLIANCE FORM TO INSPECTION SERVICES.
- L. CONTRACTOR RESPONSIBILITY PER CBC SECTION 1704.4 :  
EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS IN CBC SECTION 1704.

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION		
VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1. INSPECTION OF REINFORCING STEEL, AND PLACEMENT.	-	X
2. REINFORCING BAR WELDING: a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706; b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND c. INSPECT ALL OTHER WELDS.	- X	X -
3. INSPECTION ANCHORS CAST IN CONCRETE.	X	-
4. INSPECTION ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBER. a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	X -	- X
5. VERIFYING USE OF REQUIRED DESIGN MIX.	-	X
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-
7. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X
9. VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X
10. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X

**REQUIRED REPORTS:**

- 1. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
- 2. SPECIAL INSPECTION REPORTS SHALL INDICATE THAT THE WORK INSPECTED WAS PERFORMED IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
- 3. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
- 4. IF DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK.
- 5. A FINAL REPORT DOCUMENTING THE REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.

**CONTINUOUS AND PERIODIC INSPECTIONS:**

- 1. WHERE CONTINUOUS SPECIAL INSPECTION IS REQUIRED, THE SPECIAL INSPECTOR SHALL CONTINUOUSLY PROVIDE FULL-TIME VERIFICATION OF THE WORK.
- 2. WHERE PERIODIC SPECIAL INSPECTION IS REQUIRED, THE SPECIAL INSPECTOR SHALL PROVIDE VERIFICATION THAT THE PERIODIC INSPECTION WAS PERFORMED.

BY	MARK	DESCRIPTION	APPR.	DATE
ENGINEER		REVISIONS		CITY

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DESIGN BY: CN  
DRAWN BY: SL  
CHECKED BY: EN  
SCALE: NONE  
DATE: 07-28-2023  
JOB NUMBER:

**BEAUMONT**  
CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
550 E. 6TH ST., BEAUMONT, CA 92223

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
STAFF ENGINEER  
RECOMMENDED BY: *[Signature]* DATE: 6/11/2024  
PRINCIPAL ENGINEER  
APPROVED BY: *[Signature]* DATE: 06/12/2024  
CITY ENGINEER

CITY OF BEAUMONT, CALIFORNIA  
IMPROVEMENT PLANS FOR:  
MESA LIFT STATION UPGRADE  
GENERAL  
STRUCTURAL SPECIAL INSPECTION 1

SHEET  
**6**  
OF 65 SHEETS  
FILE NO:  
**G006**





**BCVWD RECYCLED WATER GENERAL NOTES**

- 1- ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH THE "DISTRICT STANDARDS FOR THE FURNISHING OF MATERIALS AND THE CONSTRUCTION OF WATER RECYCLED WATER FACILITIES AND PREPARATION OF WATER SYSTEM PLANS", LATEST REVISION, AND THE ADOPTED ADDENDUMS THERETO.
- 2- WORK SHALL BE PERFORMED BY A CONTRACTOR LICENSED IN THE STATE OF CALIFORNIA, EXPERIENCED IN WATER UTILITY CONSTRUCTION.
- 3- CONTRACTOR SHALL OBTAIN CONSTRUCTION PERMIT FROM THE DISTRICT AND PAY INSPECTION AND VALVE COVER DEPOSIT PRIOR TO CONSTRUCTION.
- 4- UNLESS OTHERWISE INDICATED, ALL PIPE SHALL BE CEMENT MORTAR LINED DUCTILE IRON PIPE, MINIMUM PRESSURE CLASS 350, WITH PUSH-ON JOINTS. ALL DUCTILE IRON PIPE SHALL BE INSTALLED WITH PURPLE COLOR-CODED POLYETHYLENE ENCASUREMENT IN ACCORDANCE WITH AWWA C105 AND RECOMMENDATIONS FOR THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA). COLOR SHALL BE PANTONE 512. POLYETHYLENE MATERIAL SHALL BE 8-MIL LINEAR LOW-DENSITY (LLD) FILM. INSTALLATION METHOD SHALL BE IN ACCORDANCE WITH METHOD A PER AWWA C105. TRACER WIRE SHALL BE 14-GAUGE, INSULATED (BLUE COLOR) SOLID COPPER WIRE. POLYETHYLENE BAGS AND/OR WARNING TAPE SHALL HAVE THE WORDS "CAUTION - WATER RECLAMATION LINE" OR SIMILAR WORDING IN BLACK PRINTING. THE WARNING TAPE SHALL BE CONTINUOUS ALONG THE ENTIRE PIPELINE AND LATERALS AND SHALL BE TAPED TO THE PIPELINE AT INTERVALS NOT TO EXCEED 10 FEET. ALL ABOVE GROUND APPURTENANCES SHALL BE COLOR CODED PURPLE, PANTONE 512 AND MARKED/SIGNAGE INDICATION: "NON POTABLE WATER - DO NOT DRINK" OR SIMILAR WORDING AND IDENTIFIED PER AWWA STANDARDS AND SECTION 116815 OF THE CALIFORNIA HEALTH AND SAFETY CODE.
- 5- FOR SEPARATION REQUIREMENTS BETWEEN WATER AND RECYCLED WATER, STORM DRAINS, AND SEWER LINES, SEE RIVERSIDE COUNTY STANDARD NO. 609 AND CALIFORNIA CODE OF REGULATIONS, TITLE 22, SECTION 64572.
- 6- THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA AT 811/800-227-2600 FOR LOCATION OF ALL UNDERGROUND UTILITIES, TWO WORKING DAYS PRIOR TO COMMENCING WORK.
- 7- CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FORM CITY OF BEAUMONT, AND/OR RIVERSIDE COUNTY, AS APPROPRIATE, PRIOR TO CONSTRUCTION.
- 8- CONTRACTOR SHALL NOTIFY THE DISTRICT AT (951) 845-9581 TWO WORKING DAYS PRIOR TO COMMENCING WORK ON THE RECYCLED WATER UTILITY INSTALLATION. CONTRACTOR SHALL NOTIFY DISTRICT BY PRECEDING WEDNESDAY AT 4:00 PM PRIOR TO WORKING DURING THE WEEKEND. CANCELLATIONS SHALL BE NOTIFIED TO THE DISTRICT BY PRECEDING FRIDAY AT 3:00 PM.
- 9- NO EXISTING DISTRIBUTION SYSTEM VALVE SHALL BE OPERATED BY THE CONTRACTOR. DISTRICT PERSONNEL WILL OPERATE ALL NECESSARY VALVES.
- 10- NO DEVIATIONS FROM THESE PLANS SHALL BE PERMITTED WITHOUT THE APPROVAL OF THE DISTRICT.
- 11- EXISTING RECYCLED WATER MAINS SHALL NOT BE TAKEN OUT OF SERVICE FOR MORE THAN 4 HOURS. CONTRACTOR SHALL NOTIFY ALL WATER USERS AFFECTED BY THE SHUTDOWN A MINIMUM OF 48 HOURS PRIOR TO THE ACTUAL SHUTDOWN. INDICATE THE DATE AND PRECISE HOURS THAT THE MAIN WILL BE TAKEN OUT OF SERVICE.
- 12- CONTRACTOR SHALL CONFORM TO THE STREET EXCAVATION REPLACEMENT STANDARDS OF THE CITY OF BEAUMONT.
- 13- CONTRACTOR SHALL RESTRAIN ALL MECHANICAL (ALL FITTINGS AND STRAIGHT PIPE LENGTHS) JOINTS.
- 14- ALL JOINTS TO BE RESTRAINED SHALL BE WITH U.S. PIPE "FIELD-LOK 350", MEGA LUGS (IF MECHANICAL JOINT).
- 15- CONTRACTOR SHALL BEAR ALL COSTS FOR THE CORRECTION OR REMOVAL AND REPLACEMENT OF DEFECTIVE WORK, AND ALL ADDITIONAL DIRECT AND INDIRECT COSTS THE CITY, COUNTY, OR DISTRICT MAY INCUR ON ACCOUNT OF DEFECTIVE WORK, INCLUDING THE COSTS OF ADDITIONAL ADMINISTRATIVE, PROFESSIONAL CONSULTANT, INSPECTION, TESTING, AND OTHER SERVICES.
- 16- ALL PIPE SHALL BE HYDRO TESTED, DISINFECTED AND APPROVED PRIOR TO FINAL CONNECTION TO EXISTING NON-POTABLE WATER LINES.
- 17- ALL MATERIALS SHALL BE OF DOMESTIC ORIGIN AND NOT OF FOREIGN MANUFACTURE.
- 18- ALL COPPER SERVICES SHALL BE INSTALLED WITH TAPE WRAP OR WITH POLYETHYLENE ENCASUREMENT PER GENERAL NOTE #4 (ABOVE)
- 19- ENGINEER OF RECORD SHALL FURNISH TO THE DISTRICT ELECTRONIC FILES, IN AUTOCAD FORMAT, THE SIGNED AND APPROVED "RECORD DRAWINGS" AND GIS DIGITAL DATA DEFINITION TABLES, PER DISTRICT STANDARDS, PRIOR TO FINAL ACCEPTANCE OF WORK.
- 20- CONTRACTOR SHALL FURNISH TO THE DISTRICT COPIES OF ALL SOIL COMPACTION TEST REPORTS FOR THE INSTALLED NON-POTABLE WATER FACILITIES PRIOR TO FINAL ACCEPTANCE OF THE WORK.
- 21- CONTRACTOR SHALL FURNISH TO THE DISTRICT INTERSECT TIE PLATES IN

ACCORDANCE WITH DISTRICT STANDARD PLATE NO. D-2 FOR ALL VALVE LOCATIONS PRIOR TO FINAL ACCEPTANCE OF THE WORK.

- 22- CONTRACTOR SHALL FURNISH DISTRICT WITH PROJECT SPECIFIC MATERIALS AND CONSTRUCTION SUBMITTALS (IN PDF FORMAT) FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
- 23- CONTRACTOR SHALL KEEP AND MAINTAIN AT THE JOBSITE (1) SET OF RECORD DRAWINGS. CONTRACTOR SHALL MARK ON DRAWINGS ALL CHANGES IN PROJECT CONDITIONS, LOCATIONS, CONFIGURATIONS, AND ANY DEVIATIONS WHICH MAY VARY FROM THE DRAWINGS. THESE MASTER RECORD DRAWINGS SHALL BE MAINTAINED UP TO DATE DURING THE PROGRESS OF WORK. RECORD DRAWINGS SHALL BE ACCESSIBLE TO THE DISTRICT AT ALL TIMES DURING CONSTRUCTION AND A COPY OF SAID RECORD DRAWINGS SHALL BE DELIVERED TO THE DISTRICT UPON COMPLETION OF THE WORK.

**GENERAL PIPING NOTES:**

- 1- NORTHING AND EASTING COORDINATES HAVE BEEN PROVIDED FOR ALL HORIZONTAL POINTS OF INFLECTION (HPI); HOWEVER, VERTICAL POINTS OF INFLECTION (VPI) BETWEEN THE HPIs HAVE NOT BEEN PROVIDED UNLESS INDICATED ON THE PIPING PROFILES OR IN PIPING DETAILS. CONTRACTOR SHALL ADJUST AND PROVIDE THE NECESSARY FITTINGS, AIR VALVES OR BLOW OFF AT NO ADDITIONAL COST TO THE OWNER.
- 2- PIPE AND FITTINGS SHALL BE HANDLED SO AS TO PROTECT PIPE JOINTS, LINING, AND COATING, AND CAREFULLY BEDDED TO PROVIDE CONTINUOUS BEARING AND PREVENT SETTLEMENT. PIPE SHALL BE PROTECTED AGAINST FLOTATION AT ALL TIMES. OPEN ENDS SHALL BE SEALED AT ALL TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
- 3- ALL PIPELINES LESS THAN 16" DIA. SHALL BE INSTALLED WITH A MINIMUM OF 48" INCHES OF COVER AT THE FINISH GRADE OVER THE PIPE.
- 4- PIPE JOINTS SHALL NOT BE PULLED AT ANY ANGLE GREATER THAN THE MAXIMUM ANGLE RECOMMENDED BY THE MANUFACTURER.
- 5- CONTRACTOR SHALL NOT BACKFILL ANY TRENCHES UNTIL HE HAS RECORDED AND DOCUMENTED AS-BUILT INFORMATION ON ALL FITTINGS AND APPURTENANCES.
- 6- FOR PIPE BEDDING REQUIREMENTS AND BACKFILL. REFER TO BCVWD STANDARD PLATES 6-1 AND 6-2.
- 7- ALL EXISTING PIPING AND ELECTRICAL CONDUITS SHALL BE SUPPORTED IN PLACE DURING TRENCHING, OR EXCAVATION WORK BY THE CONTRACTOR. THE CONTRACTOR SHALL NOT DISTURB THE LOCATIONS, ALIGNMENTS, AND ELEVATIONS OF THE EXISTING PIPING AND CONCRETE ENCASED ELECTRICAL CONDUITS.
- 8- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL PIPING SHALL HAVE A MINIMUM OF 12" VERTICAL CLEARANCE FROM THE NEAREST PIPELINE.
- 9- ALL MECHANICAL FITTINGS SHALL BE RESTRAINED.
- 10- INSTALL RESTRAINED JOINTS, MINIMUM TWO PIPE LENGTHS BEFORE AND AFTER ALL TEES, ELBOWS, AND CROSSES (HORIZONTAL AND VERTICAL)
- 11- RECYCLED WATER MAIN SHALL BE MINIMUM PRESSURE CLASS 200 (CL 200) UNDER SEWER AND STORM DRAIN CROSSINGS. A 20-FOOT LENGTH OF DIP SHALL BE CENTERED UNDER SEWER AND STORM DRAIN SUCH THAT NO WATER AND STEEL SLEEVE MAIN JOINTS ARE WITHIN 10" OF THE OUTSIDE DIAMETER OF THE SEWER OR STORM DRAIN.
- 12- IF JOINTS CANNOT BE RESTRAINED BY OTHER MEANS, CONCRETE THRUST BLOCKS SHALL BE INSTALLED AT DEAD ENDS, TEES, ELBOWS, BENDS, CROSSES, BLOWOFFS, DRAINS, AND FIRE HYDRANTS SHOWN IN THE PLANS. THRUST BLOCKS SHALL BE CONSTRUCTED PER BCVWD STANDARDS AND SHALL CONFORM TO THE DIMENSIONS IN THE DISTRICT STANDARD PLATES 11-1 AND 11-2. FOR PIPE SIZES NOT INCLUDED IN DISTRICT STANDARD PLATES, REFER TO DETAIL C101/91C901 HEREIN.
- 13- CURRENT INTERIM PRESSURE ZONE OF THE SYSTEM IS 2650 (HGL). THE DISTRICT WILL CONSTRUCT IN THE FUTURE A NON-POTABLE PRV WHICH WILL REGULATE THE MGL DOWN TO THE DESIGN HGL OF 2600.

**PROPOSED SEQUENCE OF WORK FOR CONNECTING TO EXISTING 24" RW WORK**

CONTRACTOR SHALL PROVIDE A FINAL SEQUENCE OF CONSTRUCTION FOR REVIEW AND APPROVAL BY THE BCVWD PRIOR TO START OF WORK. ALL OF CONSTRUCTION SHALL BE PERFORMED IN A MANNER WHICH MAINTAINS THE EXISTING PIPELINE IN SERVICE UNTIL FINAL CONNECTION WORK IS PERFORMED:

- 1- CONTRACTOR SHALL OVER-EXCAVATE AND RECOMPACT AREA WHERE EXISTING 24" LINE IS REMOVED.
- 2- CONTRACTOR SHALL CUT INTO EXISTING 24" MAIN AND INSTALL A 24" x 4" TEE CONNECTION AT LOCATION NOTED IN PLANS (REFER TO DRAWING 01C202), AND TEST AND DISINFECT SAID CONNECTION (TESTING AND DISINFECTION SHALL BE IN ACCORDANCE WITH BCVWD REQUIREMENTS)
- 3- SHUTDOWN OF EXISTING 24" WATER MAIN SHALL BE DONE BY BCVWD STAFF AND DURING A TIME OF LOW DEMAND AND SHALL BE SCHEDULED AND COORDINATED WITH BCVWD STAFF.
- 4- CONTRACTOR SHALL COORDINATE WITH BCVWD STAFF TO SHUTDOWN EXISTING 24" MAIN, DE-ENERGIZE AND DRAIN, THEN MAKE CONNECTION BETWEEN NEW TEE AND EXISTING 24" MAIN.
- 5- CONTRACTOR SHALL COORDINATE WITH BCVWD STAFF TO RE-ENERGIZE AND TEST ALL FINAL CONNECTIONS.

**PROJECT ADDRESS:**  
12940 POTRERO BLVD.  
BEAUMONT, CA. 92223

BEAUMONT-CHERRY VALLEY WATER DISTRICT  
BEAUMONT, CA

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

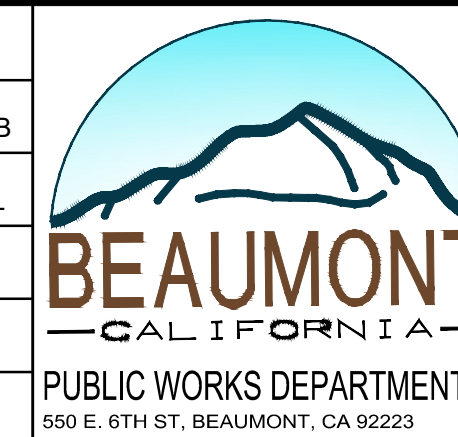
MARK B. SWANSON  
DISTRICT ENGINEER  
RCE NO 72332

AR 761

PZ 2600



BY	MARK	DESCRIPTION	APPR.	DATE
ENGINEER		REVISIONS		CITY



DESIGN BY: BP  
DRAWN BY: KRB  
CHECKED BY: JRL  
SCALE: NONE  
DATE: 07-28-2023  
JOB NUMBER:

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
RECOMMENDED BY: *[Signature]* DATE: 6/11/2024  
APPROVED BY: *[Signature]* DATE: 06/12/2024

CITY OF BEAUMONT, CALIFORNIA  
IMPROVEMENT PLANS FOR:  
MESA LIFT STATION UPGRADE  
GENERAL  
SITE UTILITY NOTES

SHEET  
7  
OF 65 SHEETS  
FILE NO:  
G007

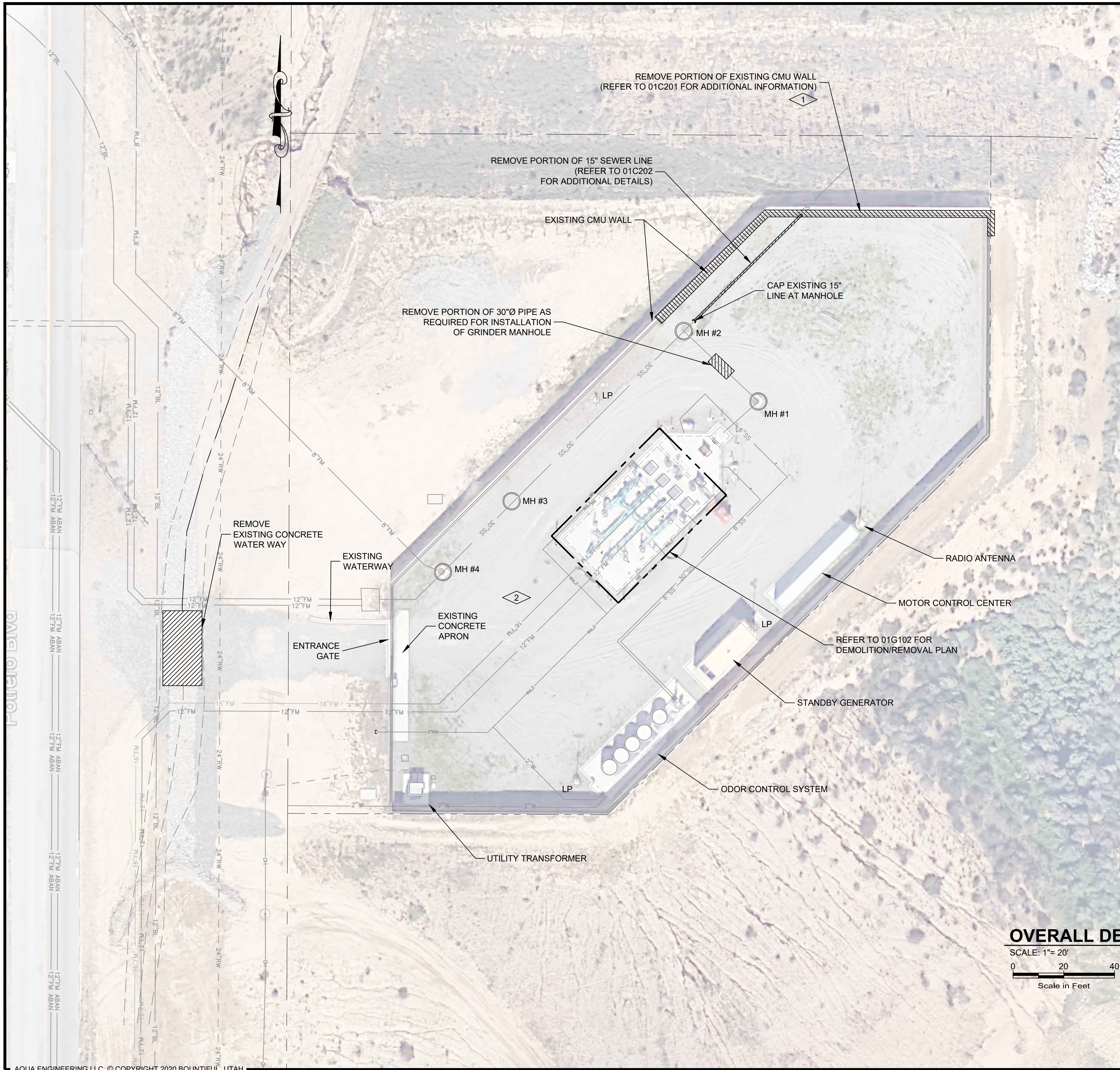






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3/30/2023



**GENERAL NOTES:**

- REFER TO SECTION 011000 OF THE TECHNICAL SPECIFICATIONS FOR DEMOLITION AND CONSTRUCTION WORK PHASING.
- SIZE AND LOCATION OF EXISTING INFRASTRUCTURE AND UNDERGROUND UTILITIES ARE BASED ON INFORMATION PROVIDED TO THE ENGINEER AND SHOULD NOT BE RELIED UPON AS COMPLETE AND ACCURATE. THE CONTRACTOR SHALL FIELD VERIFY THIS INFORMATION PRIOR TO DEMOLITION/CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY DURING CONSTRUCTION REFER TO SPECIFICATION SECTION 011000 "SUMMARY OF WORK" FOR ADDITIONAL INFORMATION.

**KEY NOTES:**

1 EXISTING WALL IS A POST-TENSIONED "PROTO II" CMU WALL SYSTEM. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND CMU WALL SUPPLIER TO DETERMINE THE FINAL EXTENTS OF WALL REMOVAL. REFER TO TECHNICAL SPECIFICATIONS, APPENDIX A FOR ADDITIONAL INFORMATION.

2 CONTRACTOR SHALL REMOVE EXISTING GRAVEL, EXPOSED SUBGRADE SHALL BE SCARIFIED AND COMPACTED PRIOR TO INSTALLATION OF NEW GRAVEL MATERIAL.



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	
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DESIGN	DRAWN
BP	KRB
JRL	
REVISIONS	
NO.	DATE
B	07-28-2023

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
LIFT STATION  
DEMOLITION

OVERALL DEMOLITION PLAN



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DRAWING NO.  
**01G101**

SHEET 9 of 65

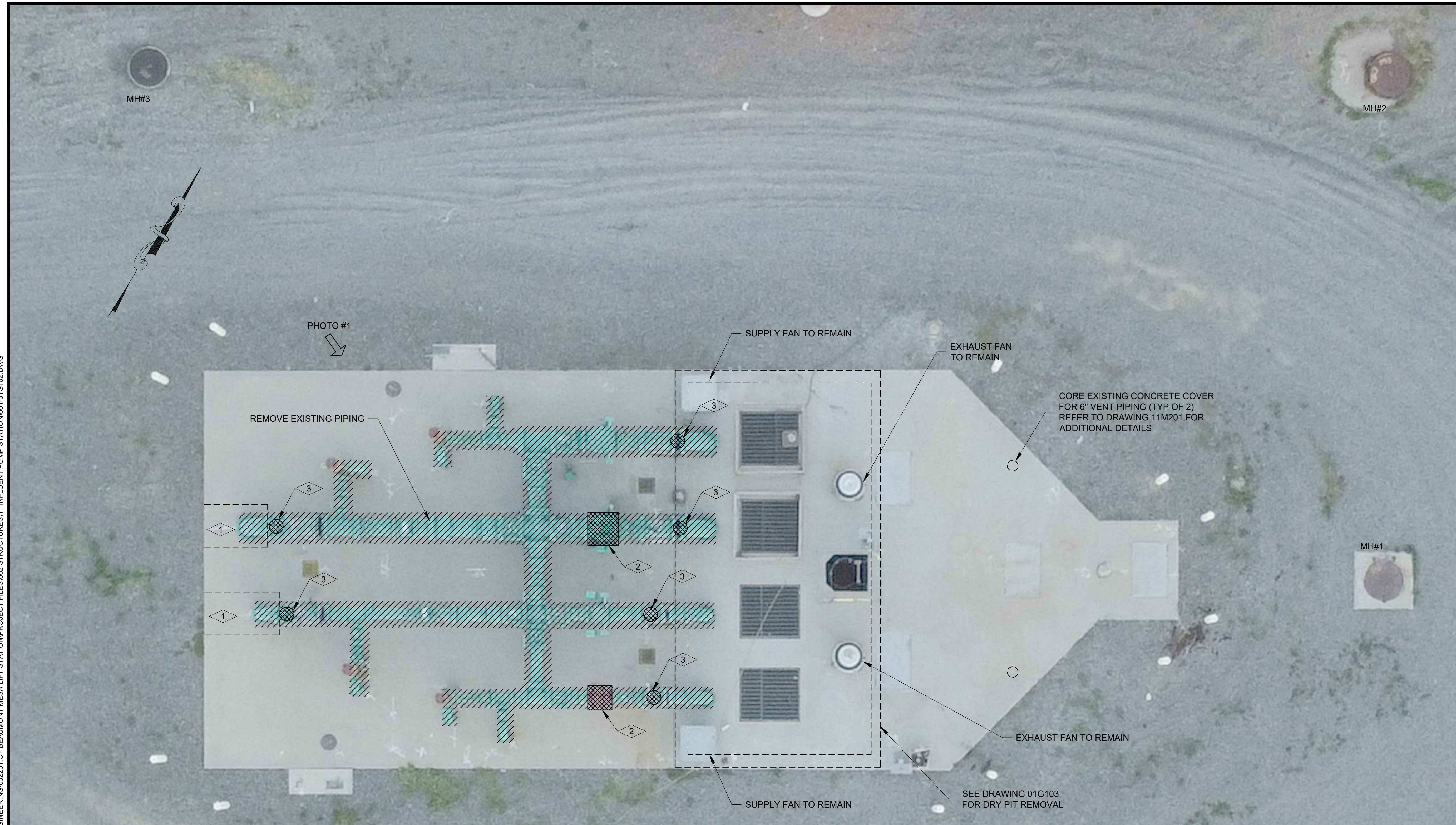
**OVERALL DEMOLITION PLAN**  
SCALE: 1" = 20'  
0 20 40  
Scale in Feet



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3/28/2023

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- NOTES:
- SEE DRAWING 01G901 FOR PHOTO #1.
  - UNLESS NOTED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE DISPOSED BY THE CONTRACTOR LEGALLY AND IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

**DEMOLITION PLAN**  
SCALE: 1/4"=1'-0"  
0 4 8  
Scale in Feet

- KEY NOTES**
- 1 REMOVE AND REPLACE EXISTING CONCRETE AS REQUIRED FOR PIPE REPLACEMENT.
  - 2 SALVAGE NOTED CHECK VALVES TO OWNER.
  - 3 SALVAGE AIR/VAC VALVES TO OWNER (TYP OF 6)

0	1/2	1	DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE		
ORIGINAL			DESIGN	DRAWN	CHECKED
NO. DATE			BP	KRB	JRL
B 07-28-2023			REVISIONS		

CITY OF BEAUMONT

**MESA LIFT STATION UPGRADE  
LIFT STATION  
DEMOLITION**

UPPER LEVEL PLAN

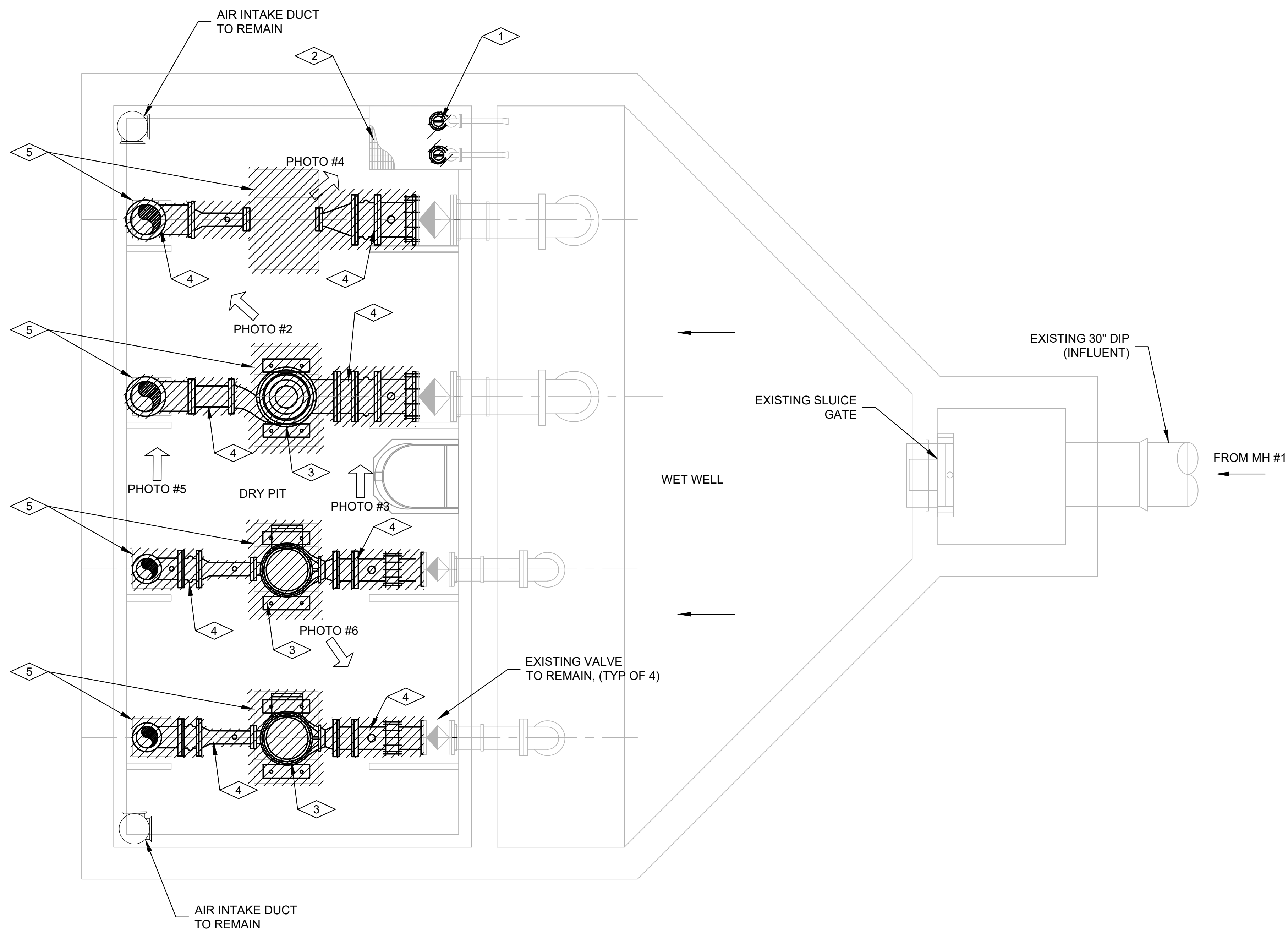
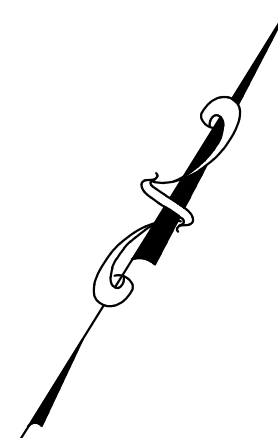


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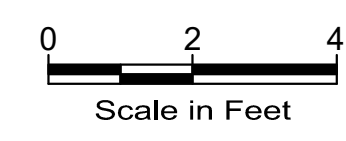
DRAWING NO.  
**01G102**  
SHEET 10 of 65





**DRY PIT  
DEMOLITION PLAN**

SCALE: 3/8"=1'-0"



**NOTES:**

- 1- SEE DRAWING 01G901 AND 01G902 FOR PHOTOS.
- 2- UNLESS NOTED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE DISPOSED BY THE CONTRACTOR LEGALLY AND IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

**KEY NOTES**

- 1 REMOVE EXISTING SUMP PUMPS AND PORTION OF ASSOCIATING DISCHARGE PIPING (REFER TO PHOTO #4 ON DRAWING 01G902).
- 2 REMOVE EXISTING GRATING.
- 3 REMOVE EXISTING PUMPS (SALVAGE TO OWNER).
- 4 REMOVE EXISTING DISCHARGE AND SUCTION PIPING, (TYP OF 4)(SUCTION PIPING SIZE VARIES)
- 5 REMOVE EXISTING CONCRETE PEDESTALS (REMOVE FLUSH WITH EXISTING FLOOR).



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE				
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1	07-28-2023	BP	KRB	JRL
REVISIONS				

CITY OF BEAUMONT  
 MESA LIFT STATION UPGRADE  
 LIFT STATION  
 DENOLITION  
 DRY PIT / WET WELL PLAN



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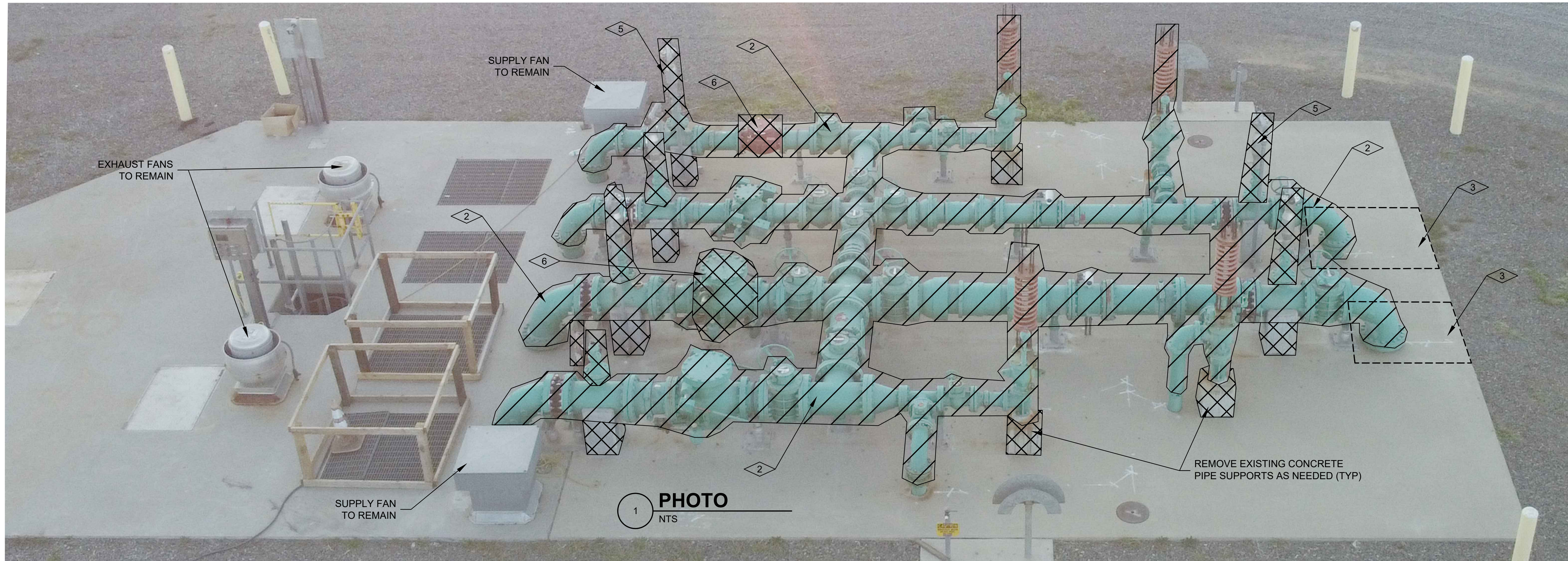
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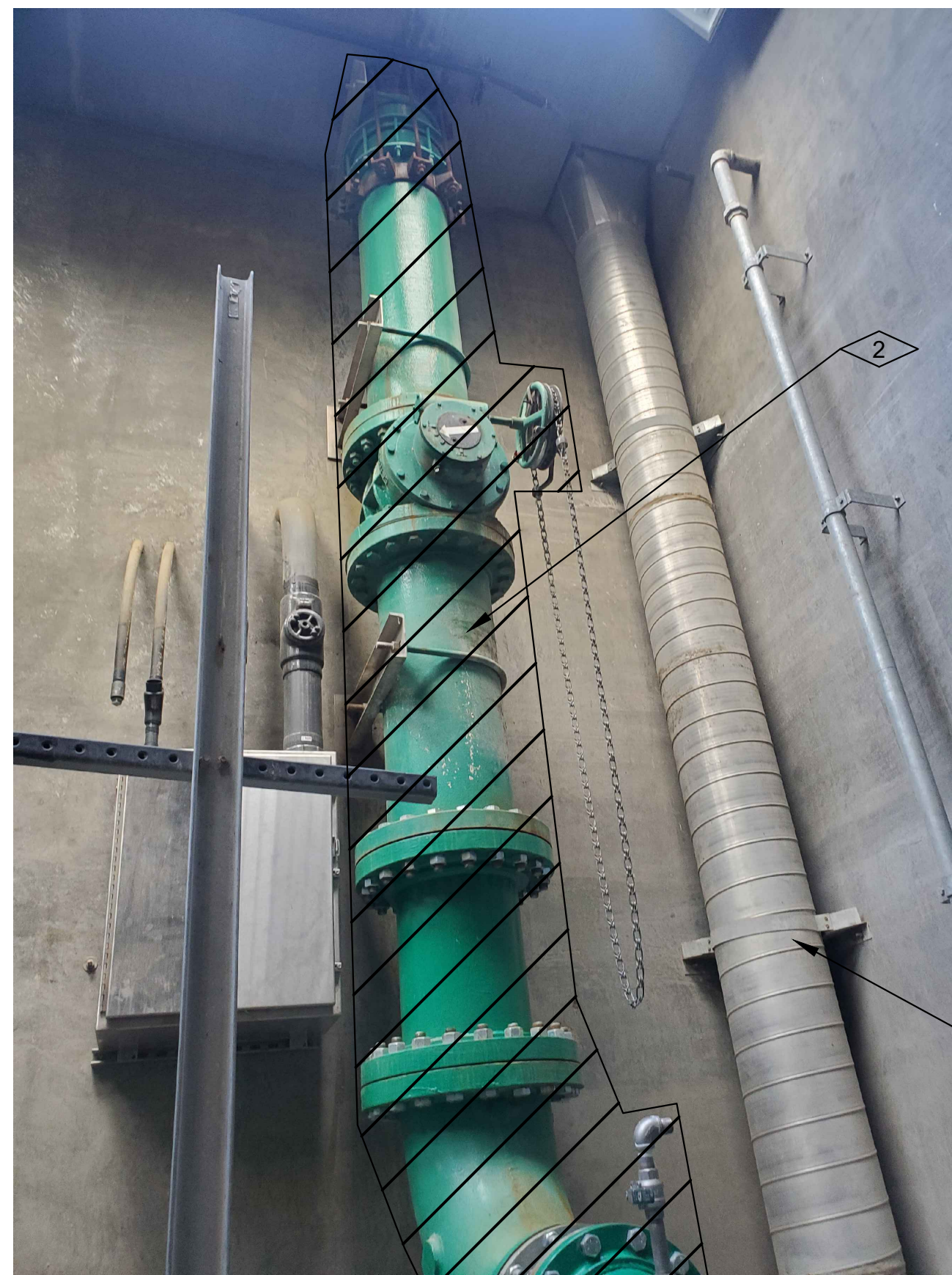
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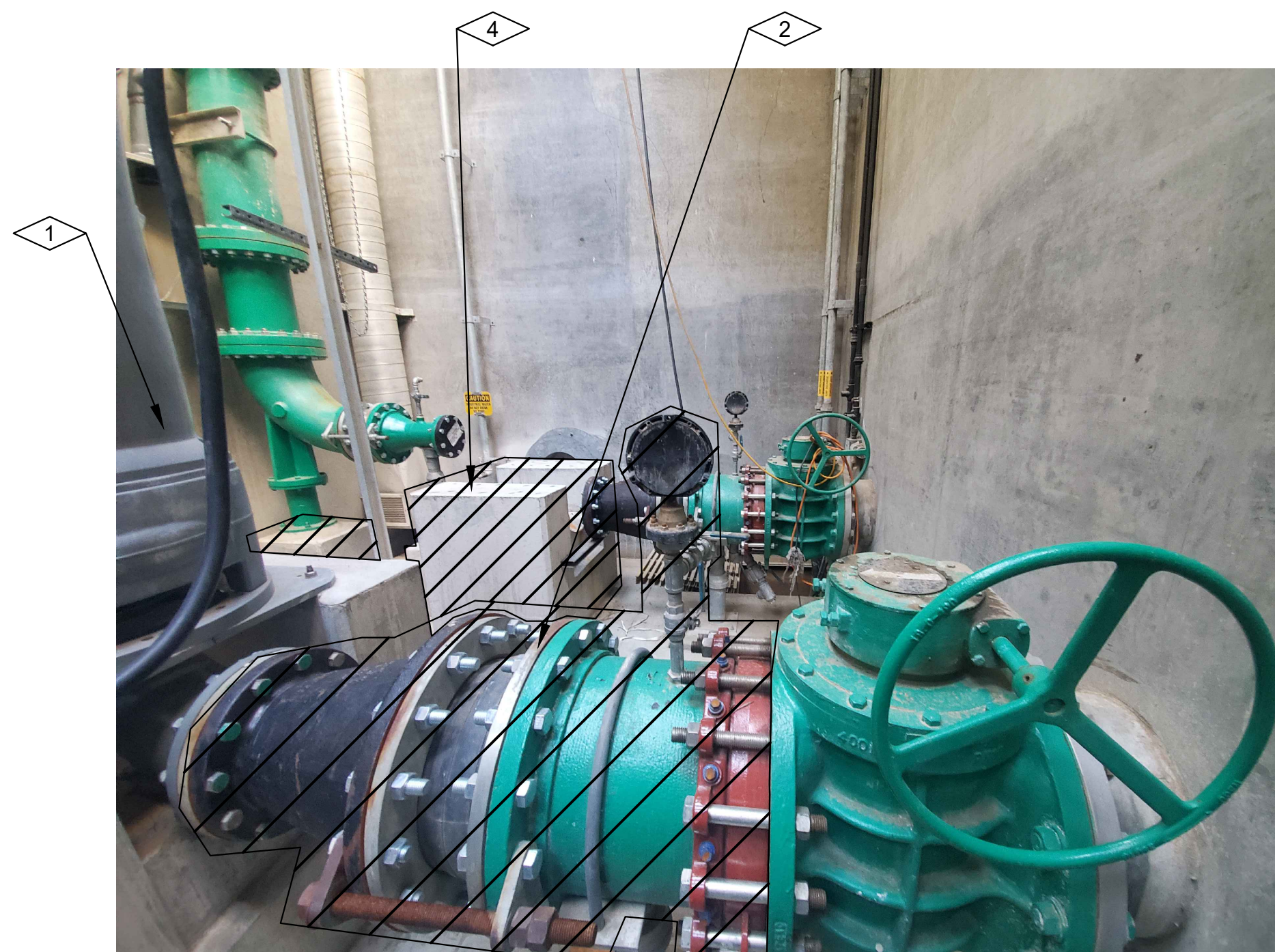
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1 PHOTO  
NTS



2 PHOTO  
NTS



3 PHOTO  
NTS

**KEY NOTES**

- 1 REMOVE EXISTING PUMPS (SALVAGE TO OWNER).
- 2 REMOVE EXISTING DISCHARGE AND SUCTION PIPING, (TYP OF 4)(SUCTION PIPING SIZE VARIES)
- 3 REMOVE AND REPLACE EXISTING CONCRETE AS REQUIRED FOR PIPE REPLACEMENT.
- 4 REMOVE EXISTING CONCRETE PEDESTAL (REMOVE FLUSH WITH EXISTING FLOOR).
- 5 SALVAGE AIR/VAC VALVES TO OWNER, (TYP OF 6).
- 6 SALVAGE NOTED CHECK VALVES TO OWNER.

**NOTES:**

- 1- UNLESS NOTED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE DISPOSED BY THE CONTRACTOR LEGALLY AND IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE				
NO.	DATE	DESIGN	DRAWN	CHECKED
0	07-28-2023	BP	KRB	JRL
REVISIONS				

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
LIFT STATION  
DEMOLITION  
PHOTOS - 1

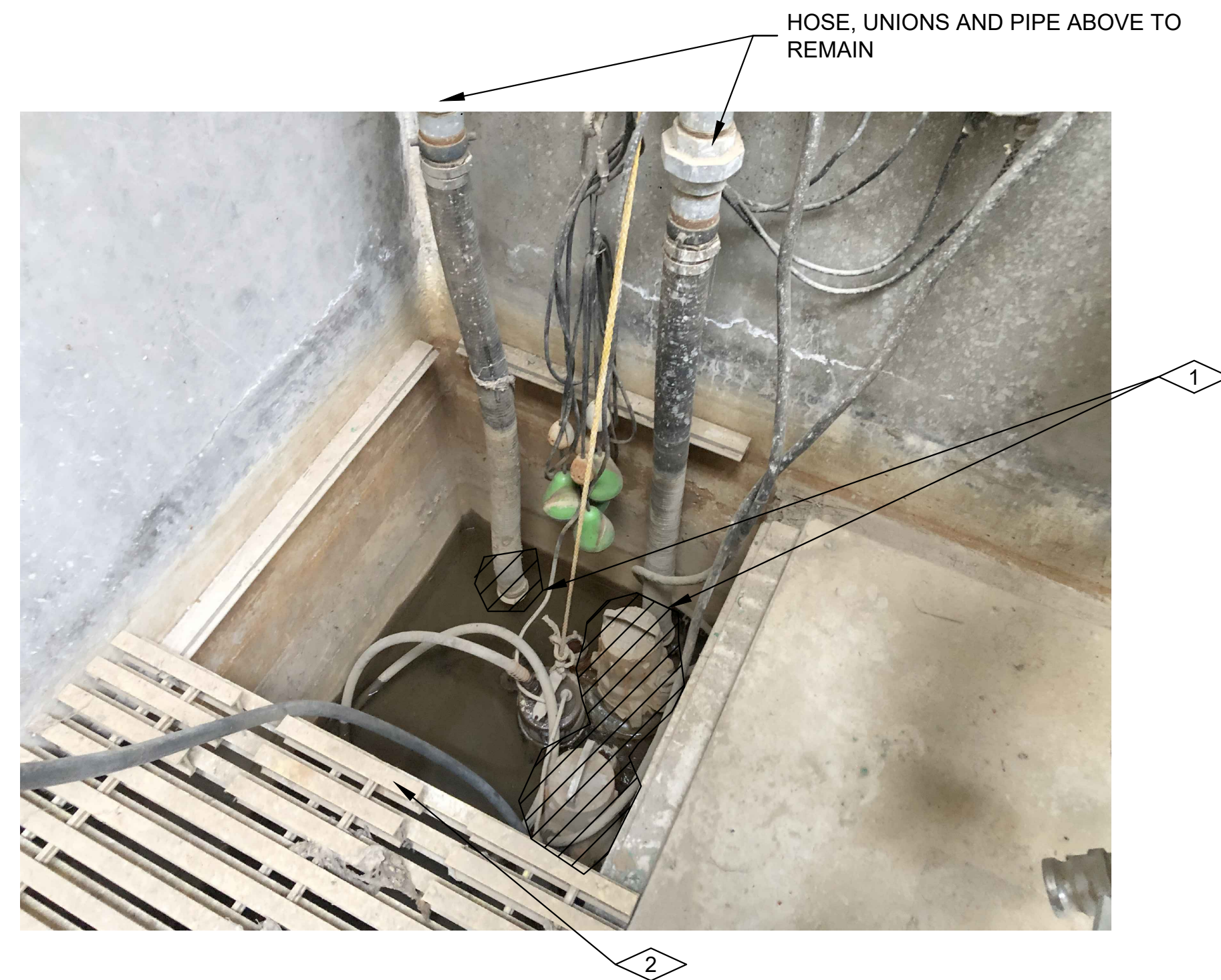


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**AQUA ENGINEERING**  
533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010  
PHONE (801) 299-1327 FAX (801) 299-0153

DRAWING NO.  
**01G901**  
SHEET 12 of 65

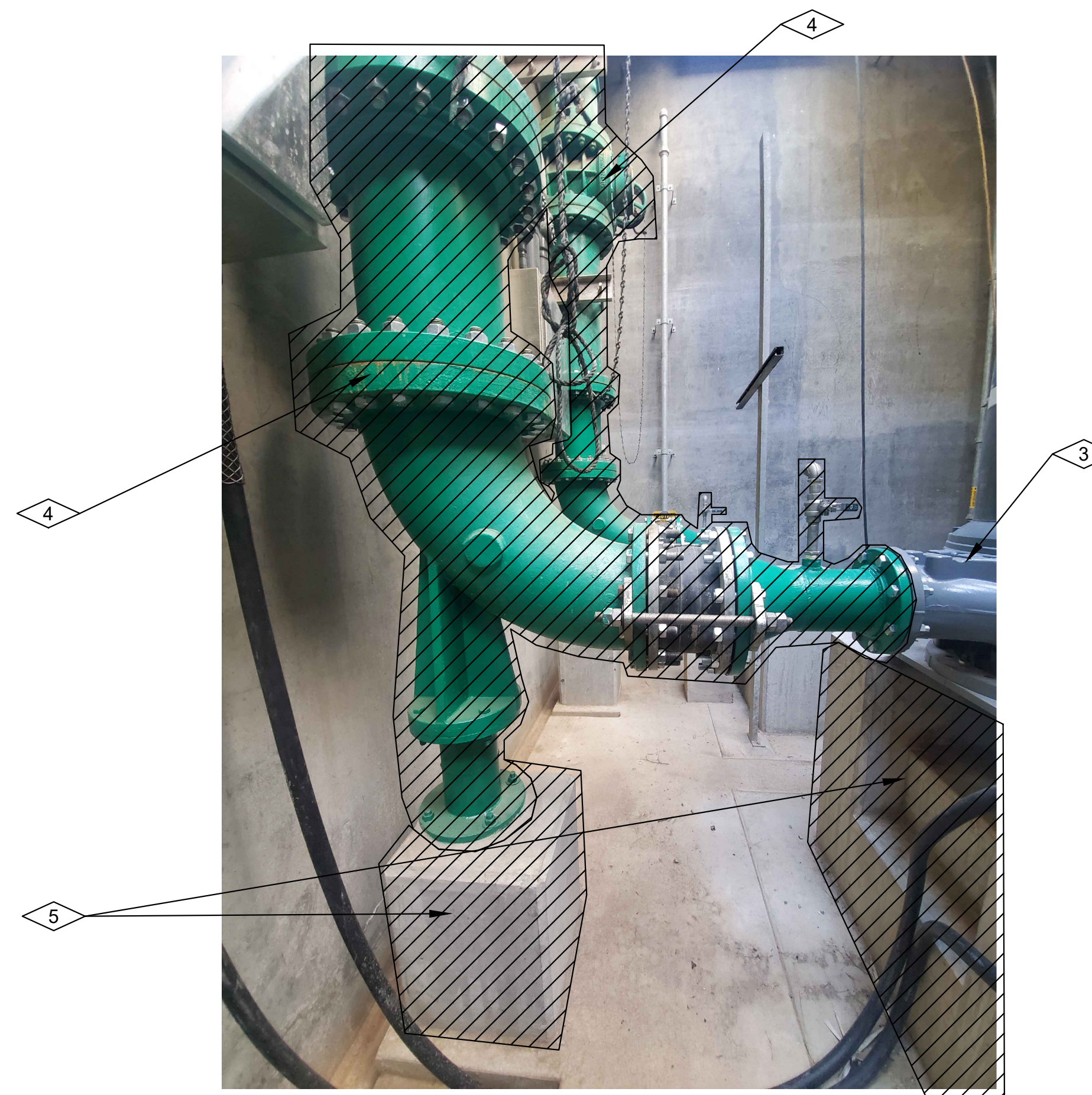




4 PHOTO  
NTS



6 PHOTO  
NTS



5 PHOTO  
NTS

NOTES:

- 1- UNLESS NOTED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE DISPOSED BY THE CONTRACTOR LEGALLY AND IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

KEY NOTES

- 1 REMOVE EXISTING SUMP PUMPS AND PORTION OF ASSOCIATED DISCHARGE PIPING.
- 2 REMOVE EXISTING GRATING.
- 3 REMOVE EXISTING PUMPS (SALVAGE TO OWNER).
- 4 REMOVE EXISTING DISCHARGE AND SUCTION PIPING, (TYP OF 4, SUCTION PIPING SIZE VARIES)
- 5 REMOVE EXISTING CONCRETE PEDESTAL (REMOVE FLUSH WITH EXISTING FLOOR).



DRAWING IS TO SCALE  
IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

NO.	DATE	DESIGN	DRAWN	CHECKED	REVISIONS	
					BY	DATE
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CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
LIFT STATION  
DEMOLITION

PHOTOS - 2



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DRAWING NO.

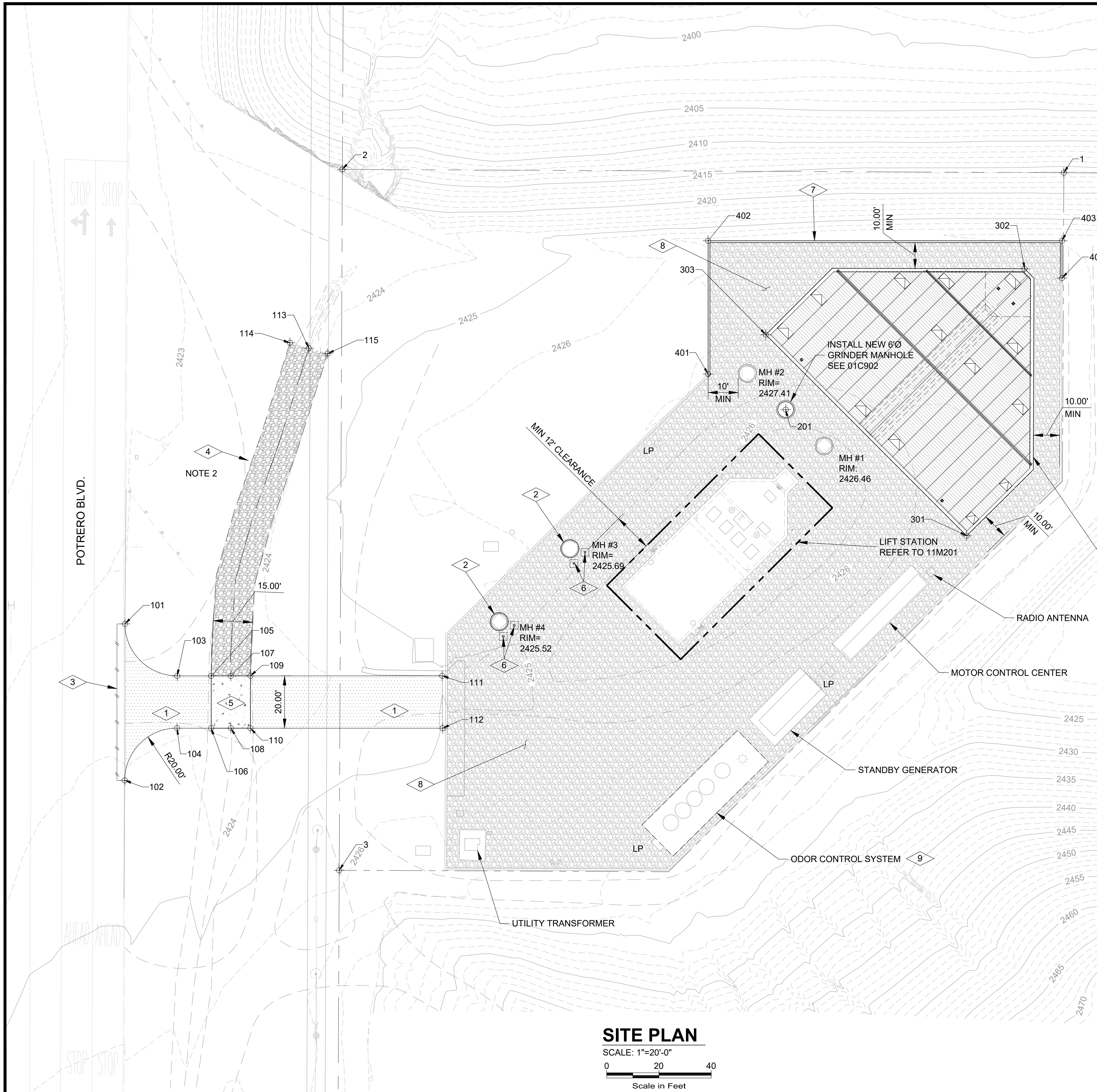
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SHEET 13 of 65



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6/29/2023



**SITE PLAN**  
SCALE: 1"=20'-0"  
0 20 40  
Scale in Feet

HORIZONTAL CONTROL				
PNT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	2286786.63	6329452.46	2416.18	PROPERTY CORNER
2	2286787.89	6329176.46	2419.57	PROPERTY CORNER
3	2286519.89	6329175.24	2426.01	PROPERTY CORNER
101	2286614.10	6329093.27	MATCH EXISTING	EOA/PC
102	2286554.25	6329093.23	MATCH EXISTING	EOA/PC
103	2286594.22	6329113.27	2423.15	EOA/PC
104	2286574.22	6329113.23	2423.75	EOA/PC
105	2286594.22	6329126.28	2423.00	EOA
106	2286574.22	6329126.28	2423.50	EOA
107	2286594.22	6329133.78	2422.75	EOC/FL
108	2286574.22	6329133.83	2423.25	EOC/FL
109	2286594.22	6329141.28	2423.00	EOA
110	2286574.22	6329141.28	2423.50	EOA
111	2286594.23	6329214.66	MATCH EXISTING	EOC (EXISTING WATERWAY)
112	2286574.22	6329214.82	MATCH EXISTING	EOC (EXISTING WATERWAY)
113	2286719.54	6329163.62	2422.00	GRAVEL SWALE INVERT
114	2286721.61	6329156.41	2424.00	EDGE OF GRAVEL
115	2286717.48	6329170.83	2423.75	EDGE OF GRAVEL
201	2286696.03	6329346.05	2427.00	MANHOLE RIM
301	2286647.82	6329415.28	2428.11	BASIN CORNER TOC
302	2286749.91	6329437.47	2428.11	BASIN CORNER TOC
303	2286724.71	6329338.46	2428.11	BASIN CORNER TOC
401	2286709.64	6329316.39	-	PROTO II WALL SYSTEM
402	2286760.58	6329316.39	-	PROTO II WALL SYSTEM
403	2286760.58	6329451.76	-	PROTO II WALL SYSTEM
404	2286746.35	6329451.76	-	PROTO II WALL SYSTEM

**GENERAL NOTES:**

- 1- REFER TO DRAWING G003 FOR GENERAL PROJECT NOTES
- 2- GRAVEL SWALE IS INSTALLED AS A TEMPORARY EROSION CONTROL MEASURE BASED ON INPUT FROM THE CITY.

**KEY NOTES:**

- 1 INSTALL NEW PAVEMENT. C108 AC-4" BASE= 5.0" 91C901
- 2 ADJUST EXISTING RIM TO ELEVATION 2427.00.
- 3 SAWCUT EXISTING ASPHALT AS REQUIRED FOR INSTALLATION OF NEW PAVEMENT. MATCH EXISTING GRADE.
- 4 INSTALL A 15' WIDE ANGULAR GRAVEL SWALE (D<sub>50</sub> = 6"). C115 91C901
- 5 INSTALL NEW CONCRETE WATERWAY. REFER TO DETAIL 1 01C901
- 6 INSTALL PIPE BOLLARDS. C120 91C901
- 7 INSTALL PROTO II WALL SYSTEM (8' HIGH), SPLIT FACE (MATCH EXISTING), REFER TO APPENDIX "A" OF TECHNICAL SPECIFICATIONS.
- 8 INSTALL 4" OF 3/4" CRUSHED ROCK OVER COMPACTED NATIVE SUBGRADE.
- 9 REFER TO TECHNICAL SPECIFICATION 011000 "SUMMARY OF WORK" FOR REQUIRED ODOR CONTROL SYSTEM WORK.

DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DESIGN	DRAWN	CHECKED	JRL
NO. DATE	DESIGN	DRAWN	CHECKED	JRL	REVISIONS
B 07-28-2023	BP	KRB	KRB	JRL	

**CITY OF BEAUMONT**

**MESA LIFT STATION UPGRADE**

**CIVIL**

**SITE GRADING AND PAVING PLAN**

**BEAUMONT**  
CALIFORNIA

**ALBERT A. WEBB ASSOCIATES ENGINEERING CONSULTANTS**

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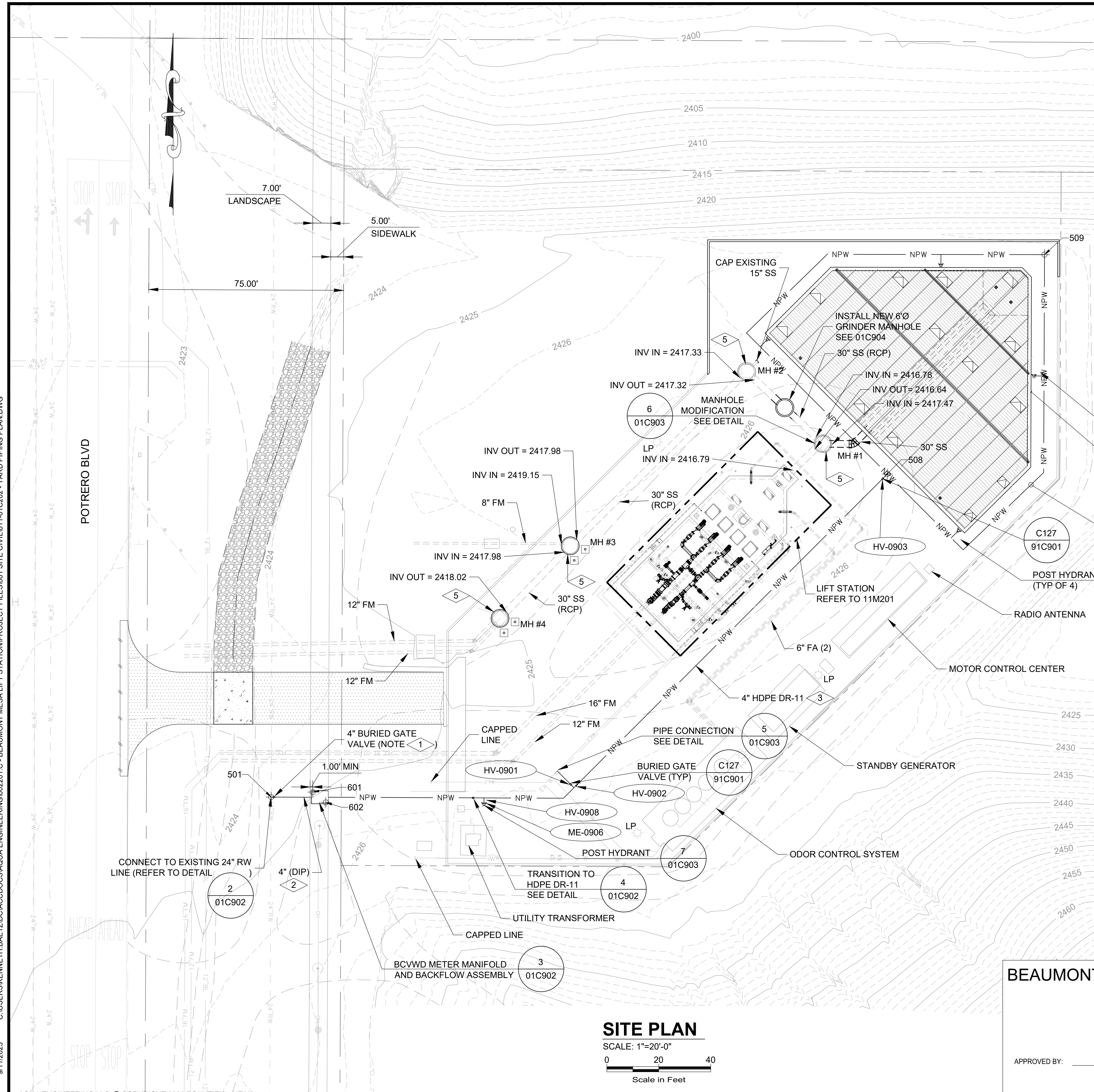
DRAWING NO. **01C201**

SHEET 14 of 65



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9/11/2023



**GENERAL NOTES:**

- 1- REFER TO DRAWING G007 FOR GENERAL PROJECT NOTES AND BCVWD REQUIREMENTS
- 2- REFER TO DETAIL 2/01C201 AND TABLE BELOW FOR BCVWD CONNECTION MATERIAL QUANTITIES.

**KEY NOTES:**

- 1 - REFER TO BCVWD PLATE 2 FOR INSTALLATION REQUIREMENTS.
- 2 - CLASS 350 DIP
- 3 - ALL NON-METALLIC PIPE SHALL BE MARKED IN ACCORDANCE WITH SECTION 400500 OF TECHNICAL SPECIFICATIONS.
- 4 - BACKFLOW PREVENTER CAGE - GUARDSHACK BPGI MODEL BP 3.3 (10"x 30"x 30"), LIFT-OFF MODEL, LOCKABLE, OR EQUAL
- 5 - MANHOLE REHABILITATION, REFER TO DRAWINGS 01C905 AND 01C906 FOR ADDITIONAL DETAILS.

YARD PIPING COORDINATES			
PNT	NORTHING	EASTING	DESCRIPTION
501	2286546.19	6329148.36	CONNECTION TO EXISTING 24" RECYCLED WATER PIPE
508	2286670.48	6329385.56	4" HDPE TEE
509	2286754.91	6329446.07	4" HDPE 90° BEND
601	2286548.11	6329164.37	TOP OF CONCRETE (2426.00±)
602	2286544.11	6329169.37	TOP OF CONCRETE (2426.00±)

**FITTING SCHEDULE:**

ITEM NO	DESCRIPTION	QUANTITY	UNIT
1	24" MEGALUG RESTRAINT	4	EA
2	24" MJ SLEEVE	2	EA
3	24" SPOOL (FLG x PE)	8	LF
4	24" x 4" TEE (FLG)	1	EA
5	4" GATE VALVE (FLG x FLG)	1	EA
6	4" FLANGE COUPLING ADAPTER (FLGxMJ)	5	EA
7	4" MEGALUG RESTRAINT	3	EA
8	4" DIP (CLASS 350)	15	LF
9	4" CAP (MJ)	2	EA
10	4" TEE (FLG)	1	EA
11	2" SERVICE TAP	2	EA
12	2" COPPER SERVICE LINE	40	LF
13	2" METER (BCVWD)	2	EA
14	2" GATE VALVE	2	EA
15	METER BOX	2	EA
16	2" RPP BACKFLOW PREVENTION	2	EA
17	BACKFLOW PREVENTION COVER - SEE KEY NOTE 4	2	EA

**SITE PLAN**  
SCALE: 1"=20'-0"  
0 20 40  
Scale in Feet

BEAUMONT-CHERRY VALLEY WATER DISTRICT  
BEAUMONT, CA

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
MARK B. SWANSON  
DISTRICT ENGINEER  
RCE NO 72332



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE		ORIGINAL	DESIGN	DRAWN	CHECKED	JRL
NO.	DATE	BP	KRB			
B	07/28/2023					

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
CIVIL  
YARD PIPING PLAN



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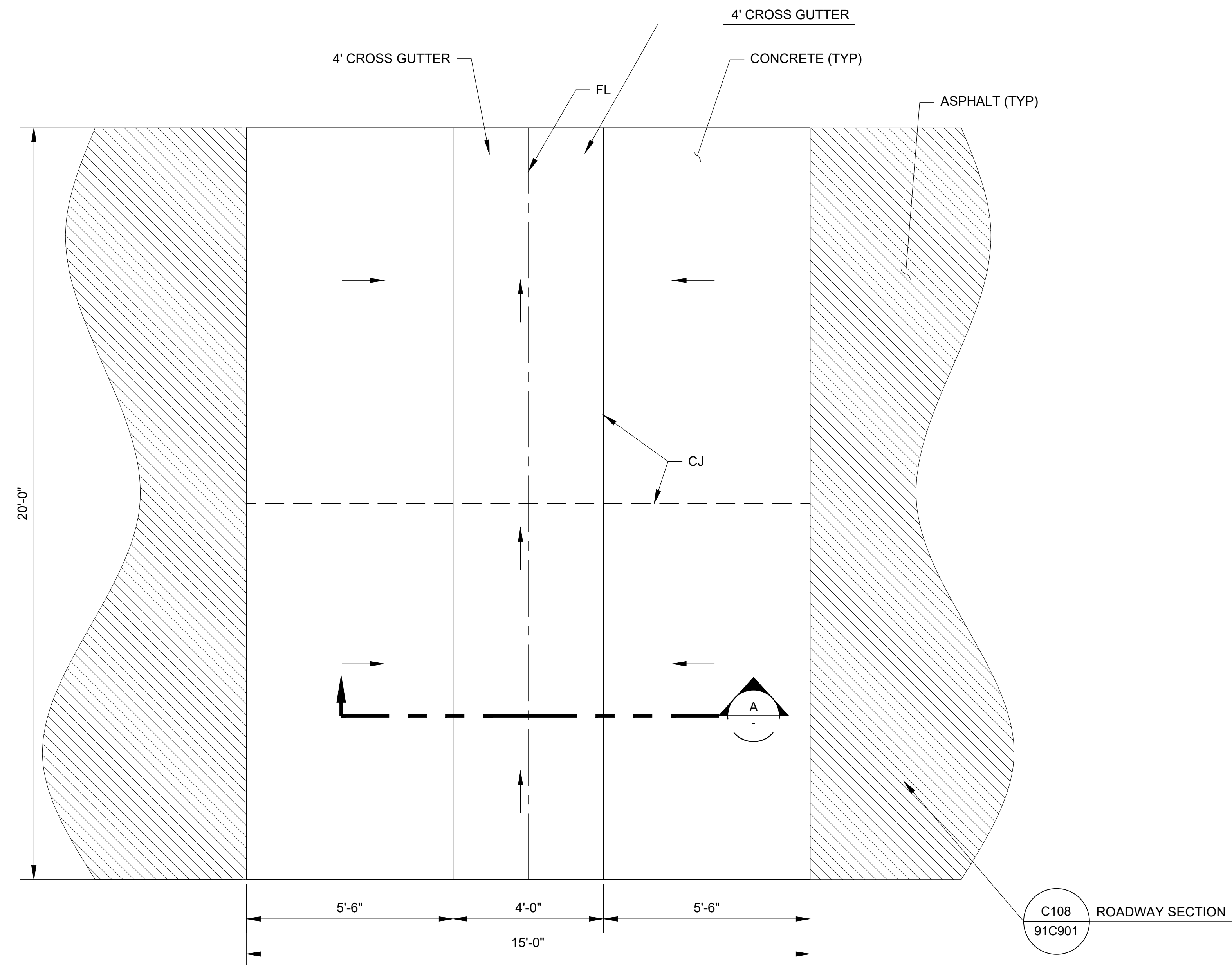


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DRAWING NO.  
**01C202**  
SHEET  
PZ 2600

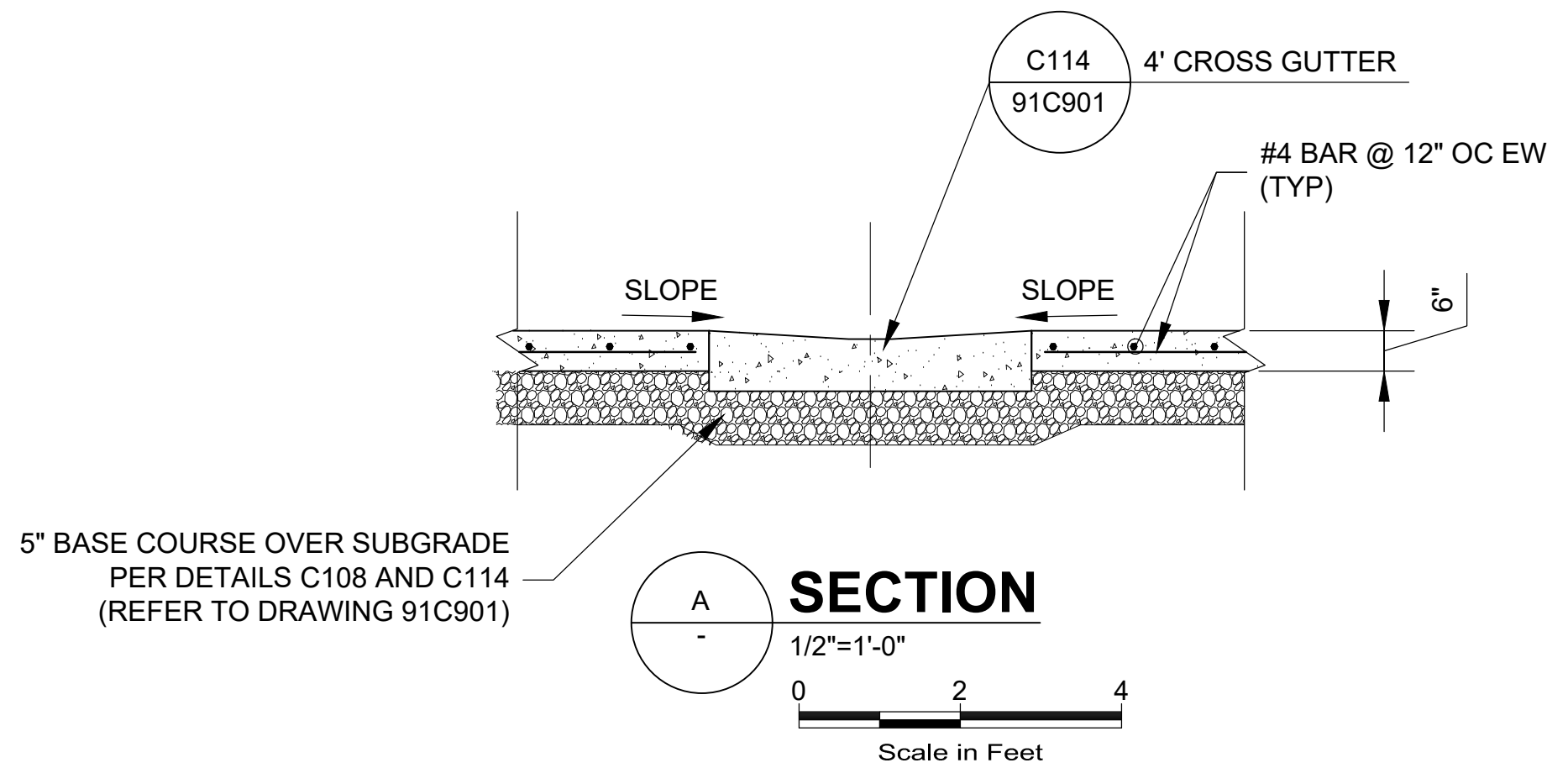


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3/29/2023



**1**  
01C201  
**DETAIL**  
1/2"=1'-0"  
Scale in Feet



DRAWING IS TO SCALE  
IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

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1/2				
1				

ORIGINAL

NO.	DATE	DESIGN	DRAWN	CHECKED
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REVISIONS

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
CIVIL

SITE DETAIL



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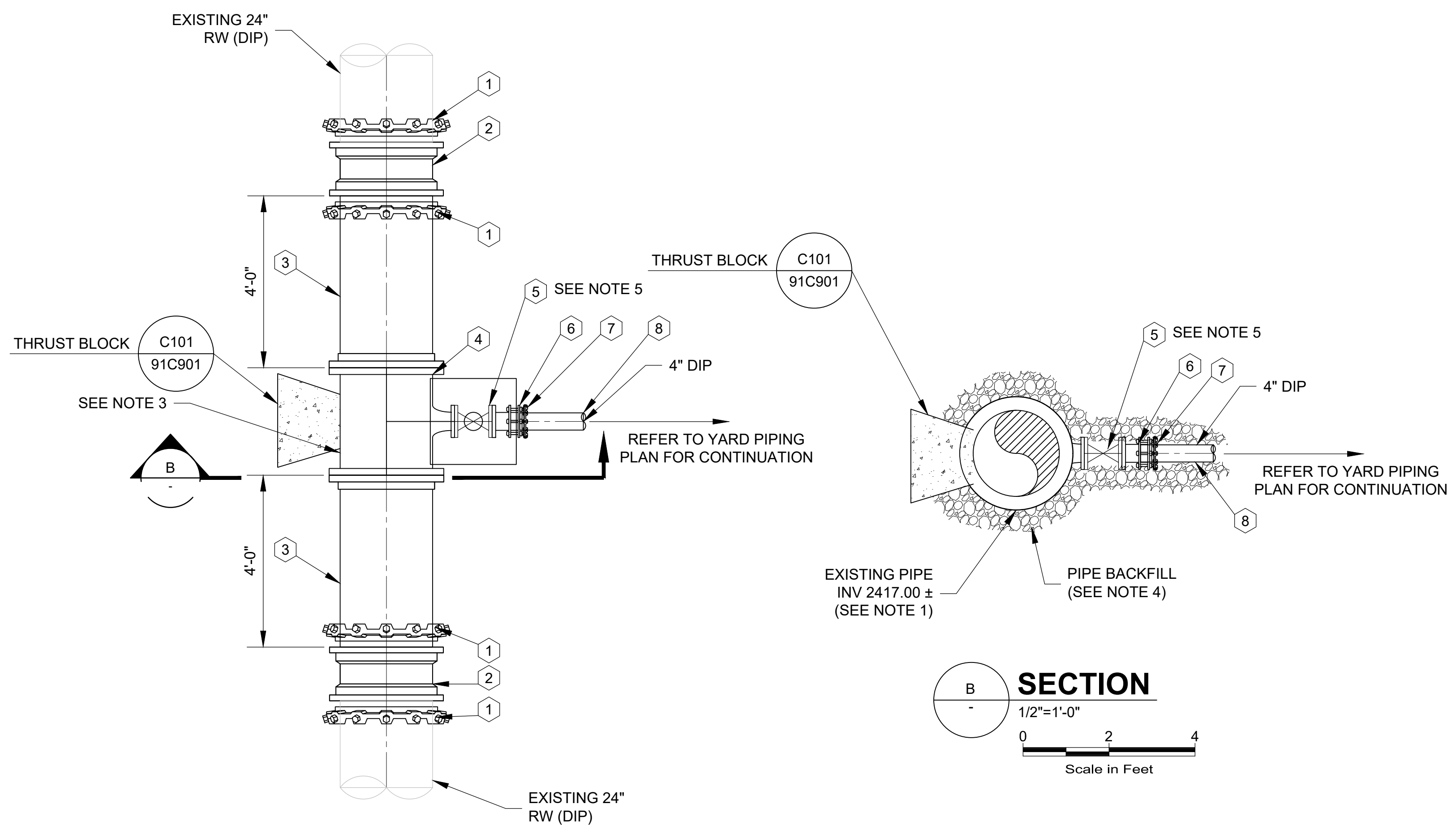


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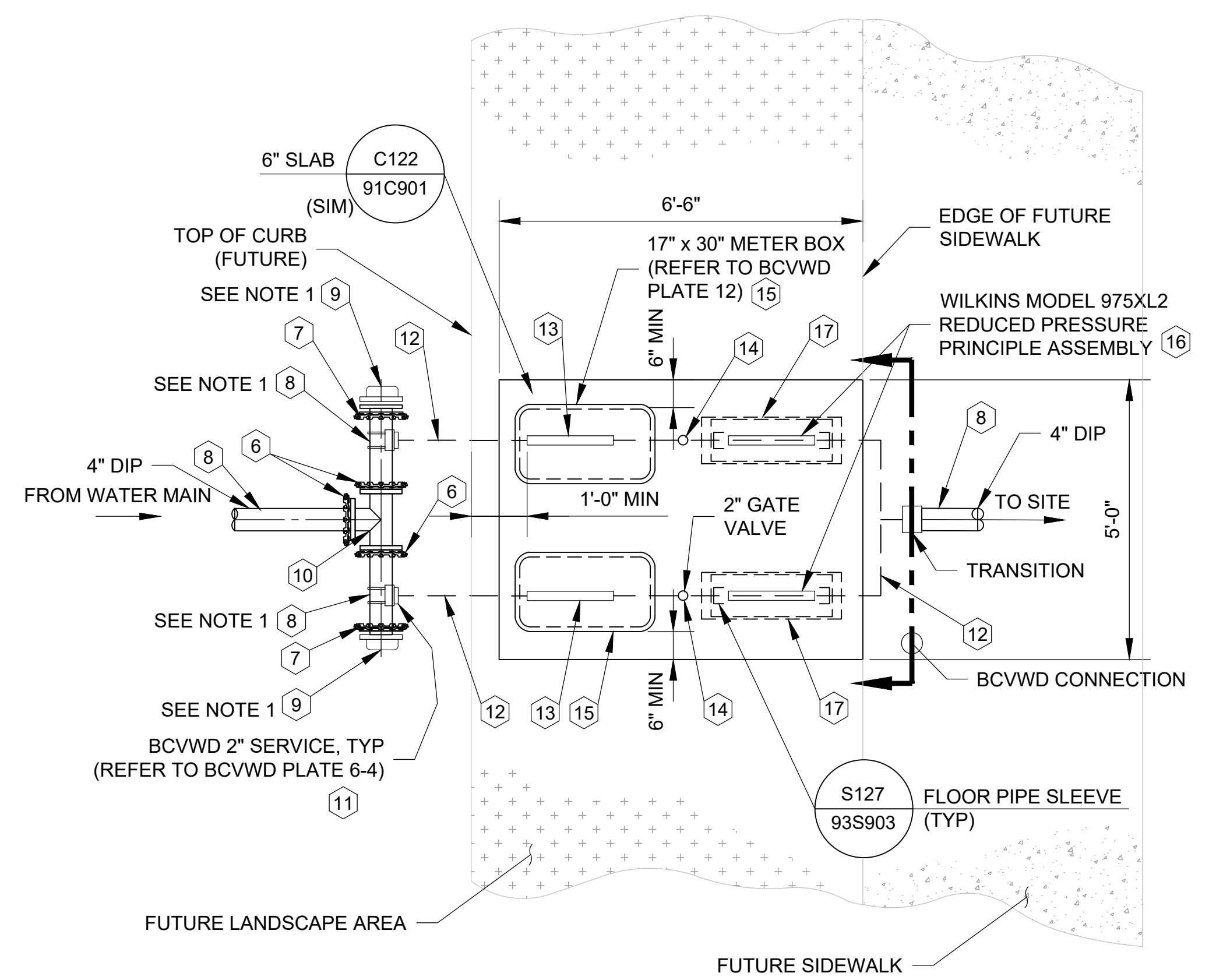
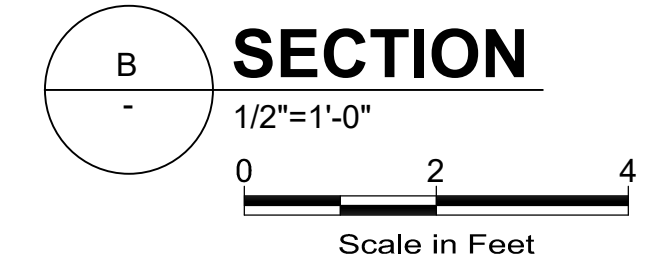
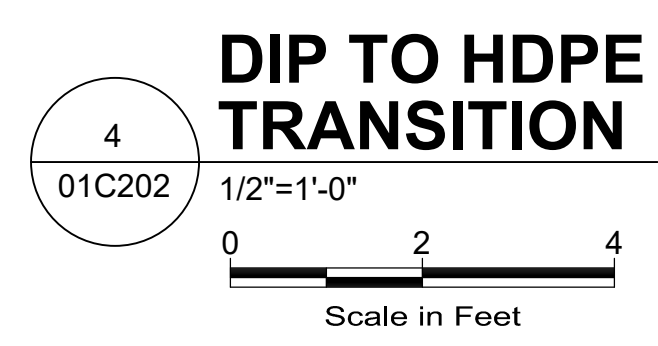
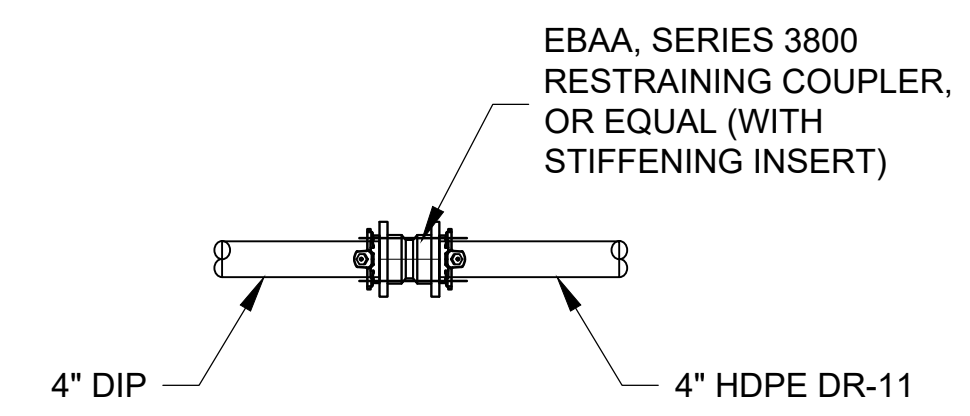
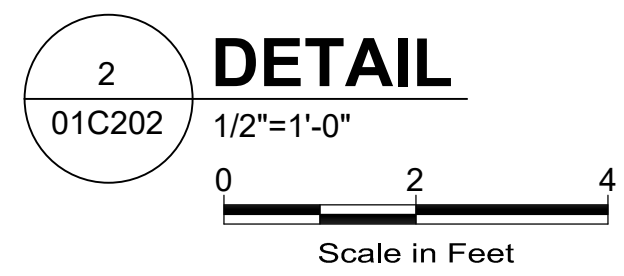
SHEET 16 of 65



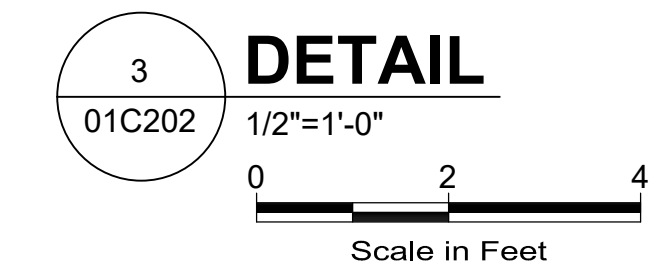
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- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND CONDITION OF EXISTING PIPE PRIOR TO INSTALLATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
  - ALL MJ SHALL BE FULLY RESTRAINED WITH EBAA MEGALUG SERIES 1100 W/ FIELD-LOCK 350 GASKETS OR BCVWD APPROVED EQUAL.
  - REMOVE PORTION OF EXISTING PIPE AS REQUIRED FOR INSTALLATION OF NEW TEE.
  - BACKFILL PER BCVWD SPECIFICATION 3-03 AND PLATE 6-01.
  - REFER TO BCVWD PLATE 2 FOR INSTALLATION REQUIREMENTS.
  - REFER TO FITTING SCHEDULE ON SHEET 01C202.



- NOTE:
- ALL MJ SHALL BE FULLY RESTRAINED WITH EBAA MEGALUG SERIES 1100.
  - CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS WITH REDUCED PRESSURE ASSEMBLY FOR PROPER STUB UP LOCATIONS.
  - REFER TO FITTING SCHEDULE ON SHEET 01C202.



NO.	DATE	DESIGN	DRAWN	CHECKED	JRL
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CITY OF BEAUMONT  
 MESA LIFT STATION UPGRADE  
 CIVIL  
 YARD PIPING DETAILS - 1



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 ENGINEERING CONSULTANTS



DRAWING NO.  
**01C902**

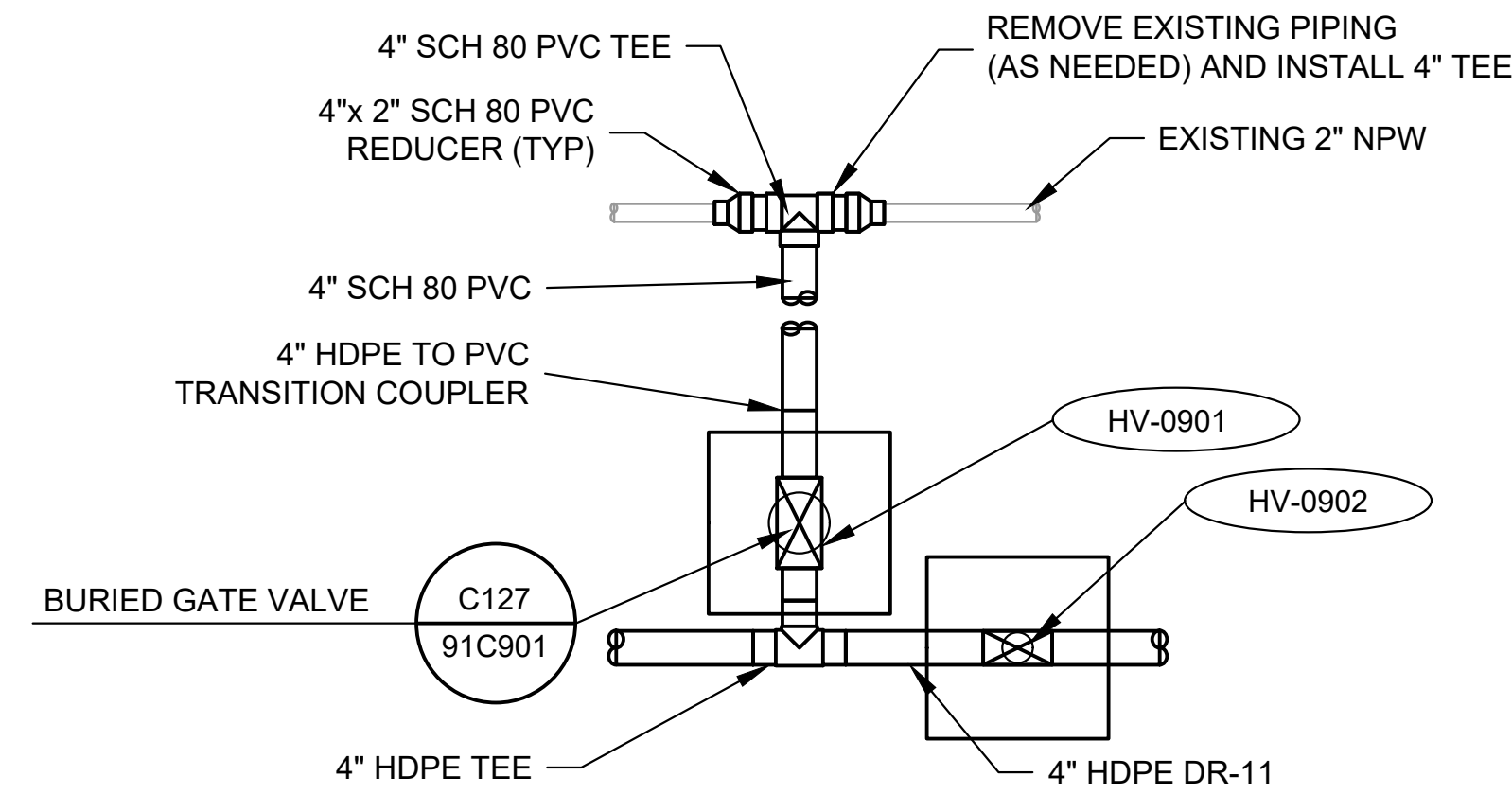
BEAUMONT-CHERRY VALLEY WATER DISTRICT  
 BEAUMONT, CA

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 MARK B. SWANSON  
 DISTRICT ENGINEER  
 RCE NO 72332

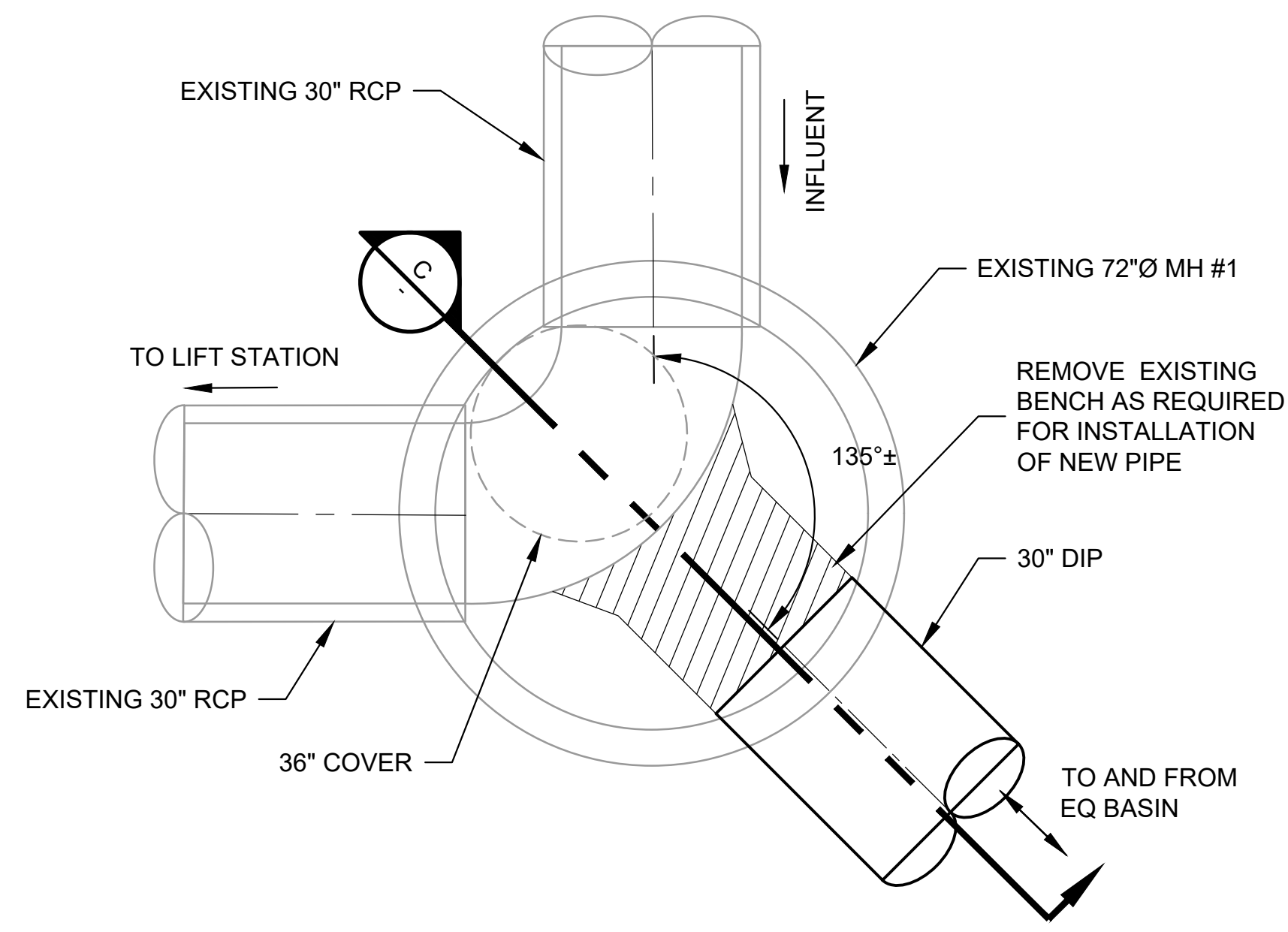
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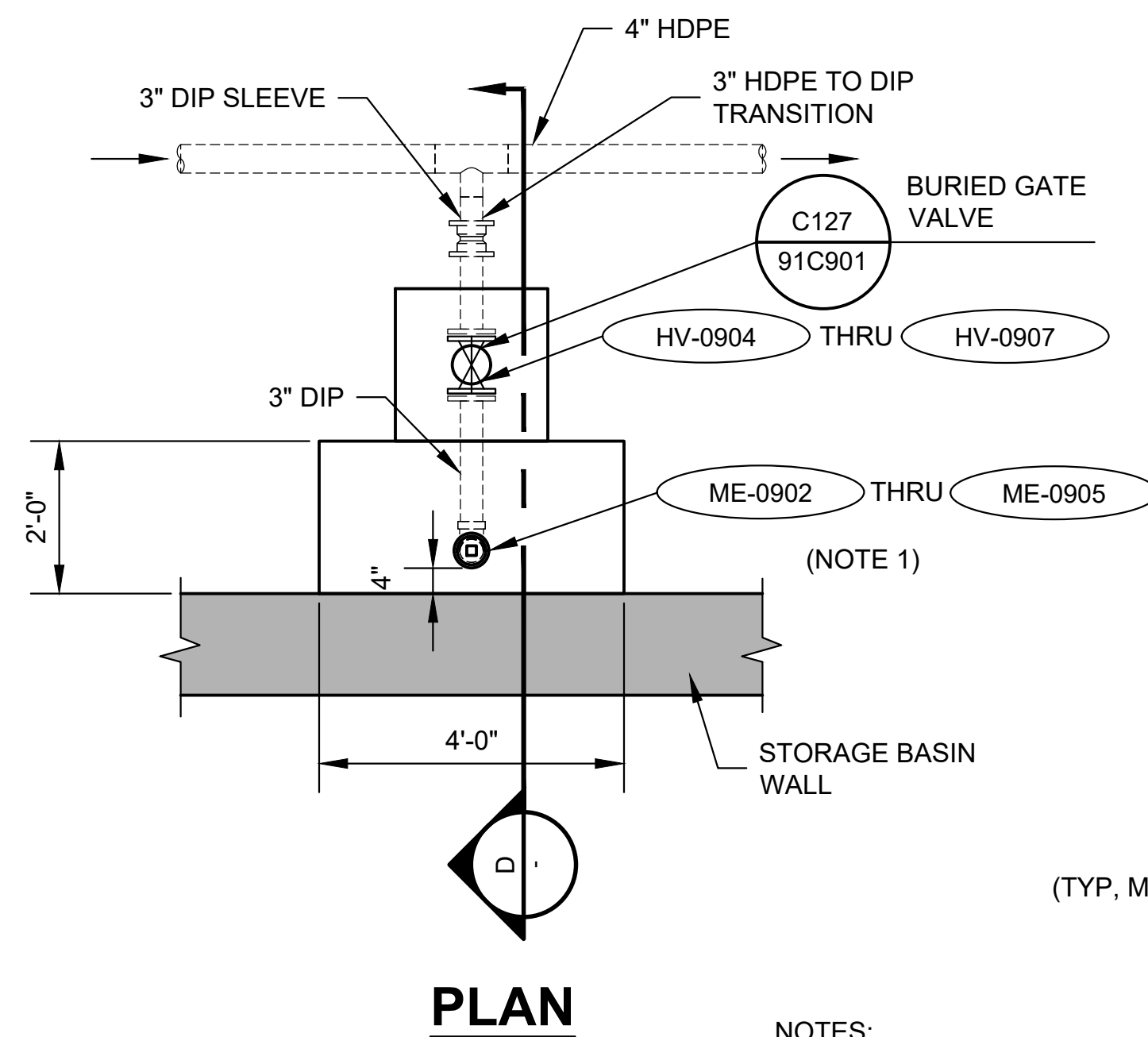
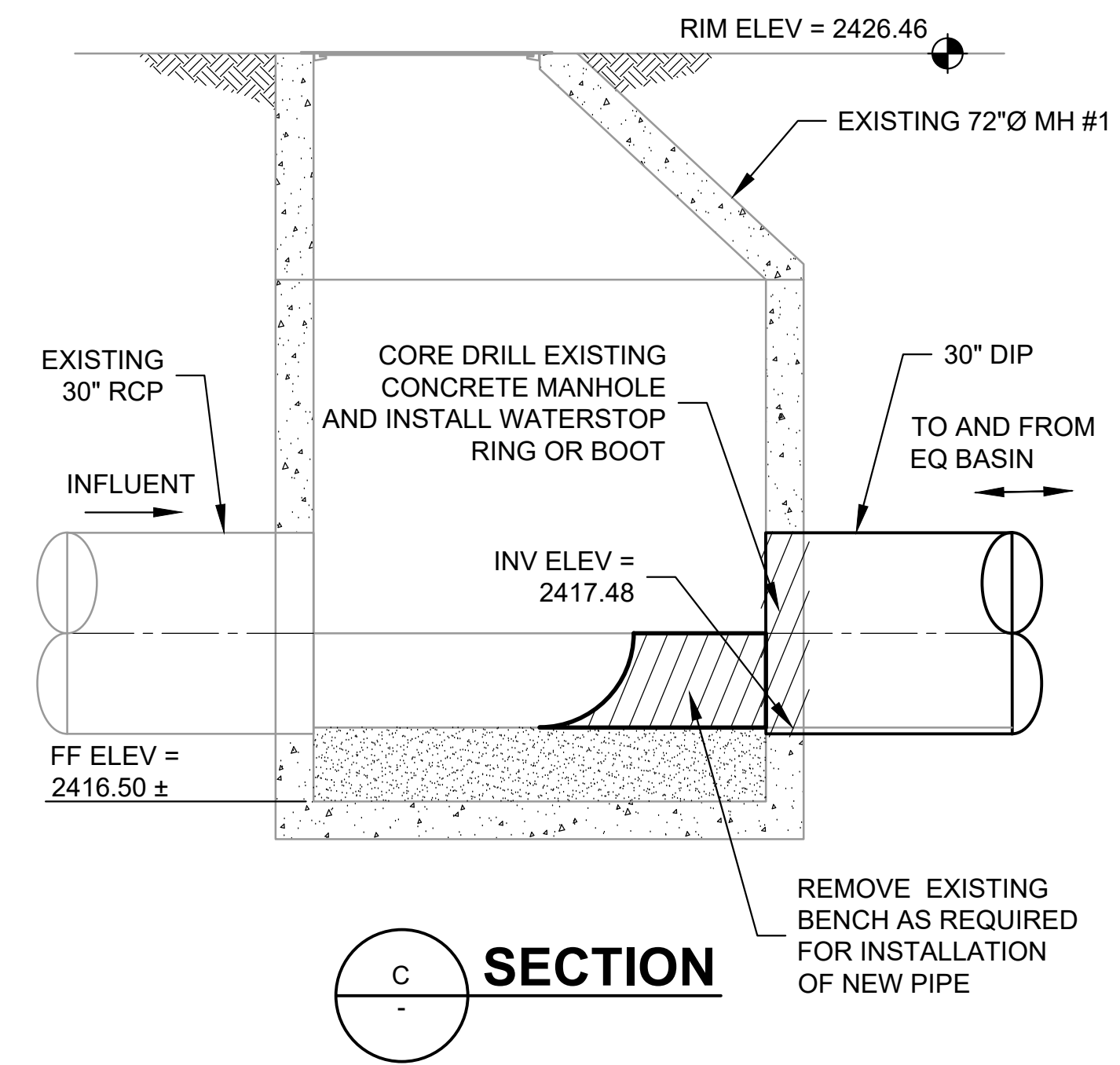




**5 PIPE CONNECTION**  
01C202 1/2"=1'-0"  
Scale in Feet

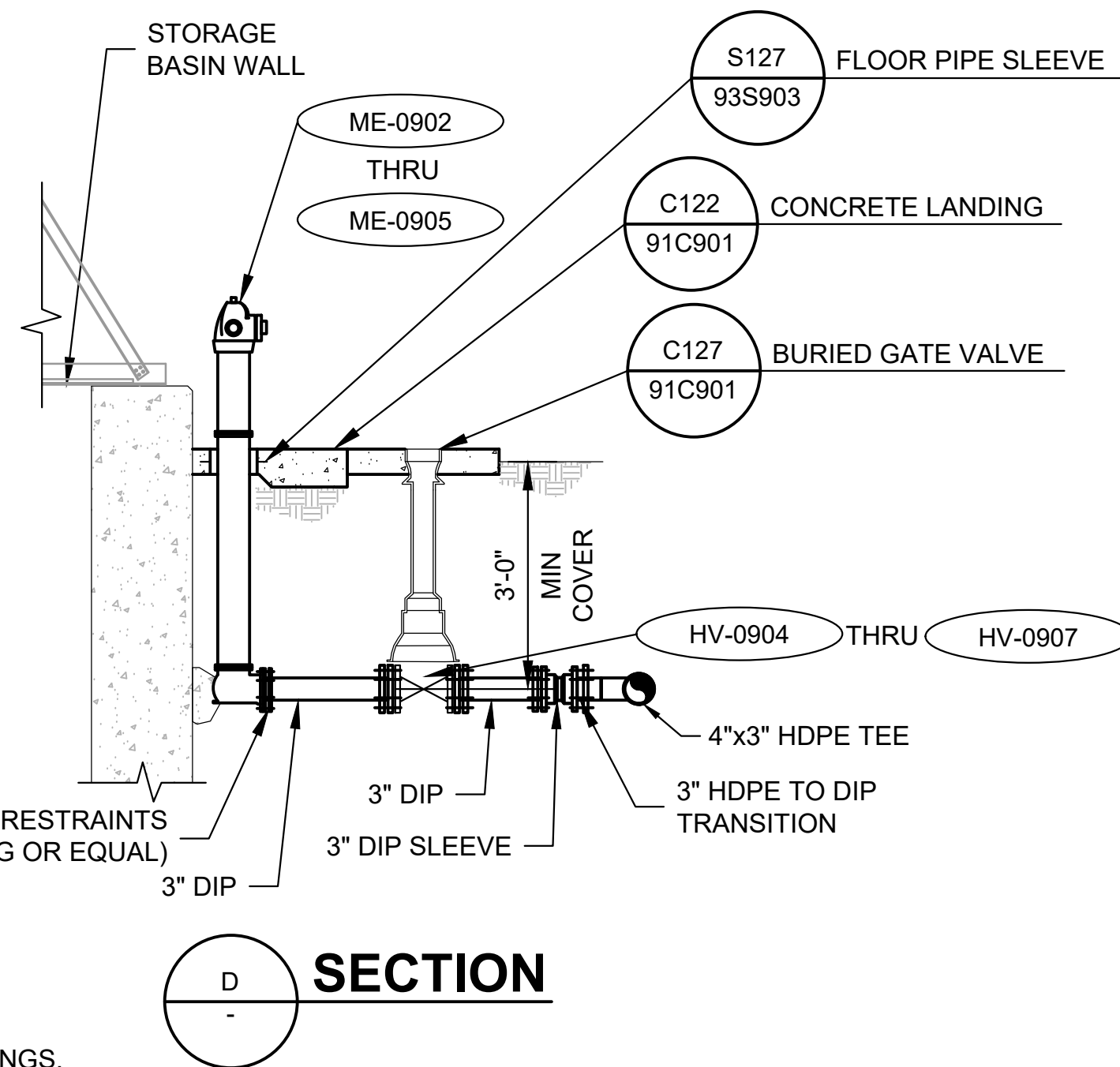


**6 MANHOLE #1**  
01C202 1/2"=1'-0"  
Scale in Feet



NOTES:  
1- FULLY RESTRAIN ALL MJ FITTINGS.

**7 POST HYDRANT**  
01C202 1/2"=1'-0"  
Scale in Feet



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE		ORIGINAL	DESIGN	DRAWN	CHECKED
NO.	DATE	BY	BY	BY	BY
1	07-28-2023	BP	KRB	JRL	
		REVISIONS			

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
CIVIL  
YARD PIPING DETAILS - 2



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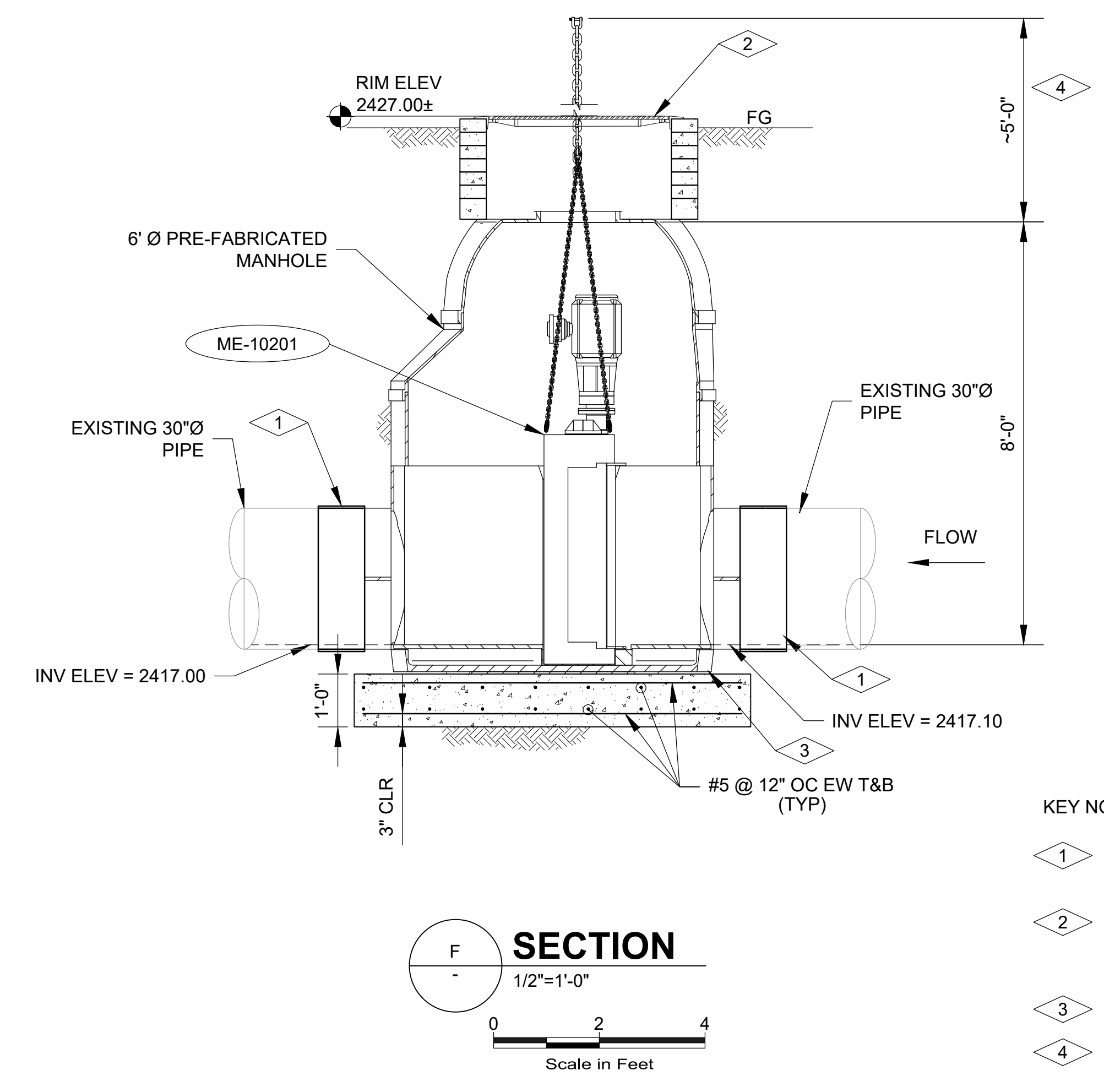
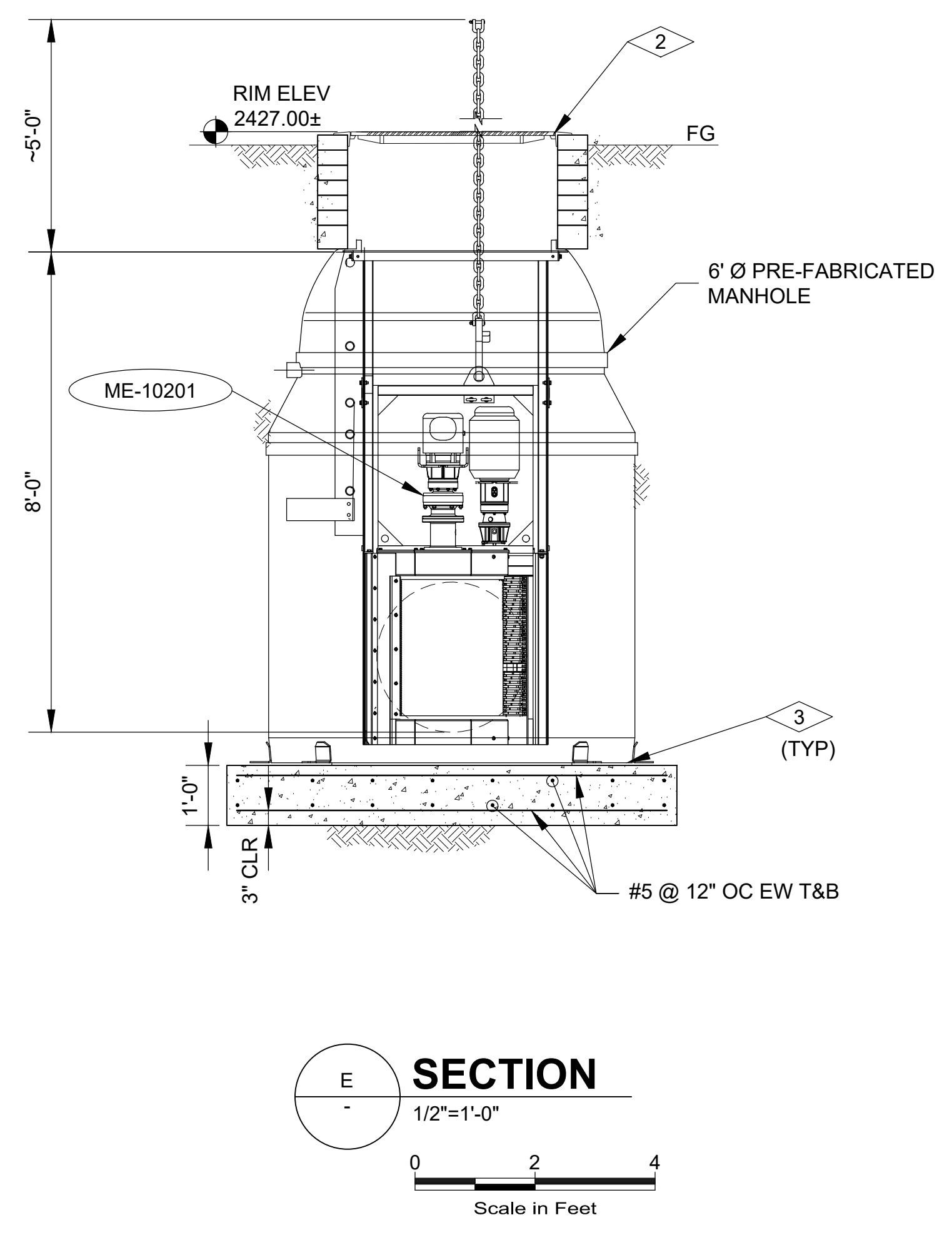
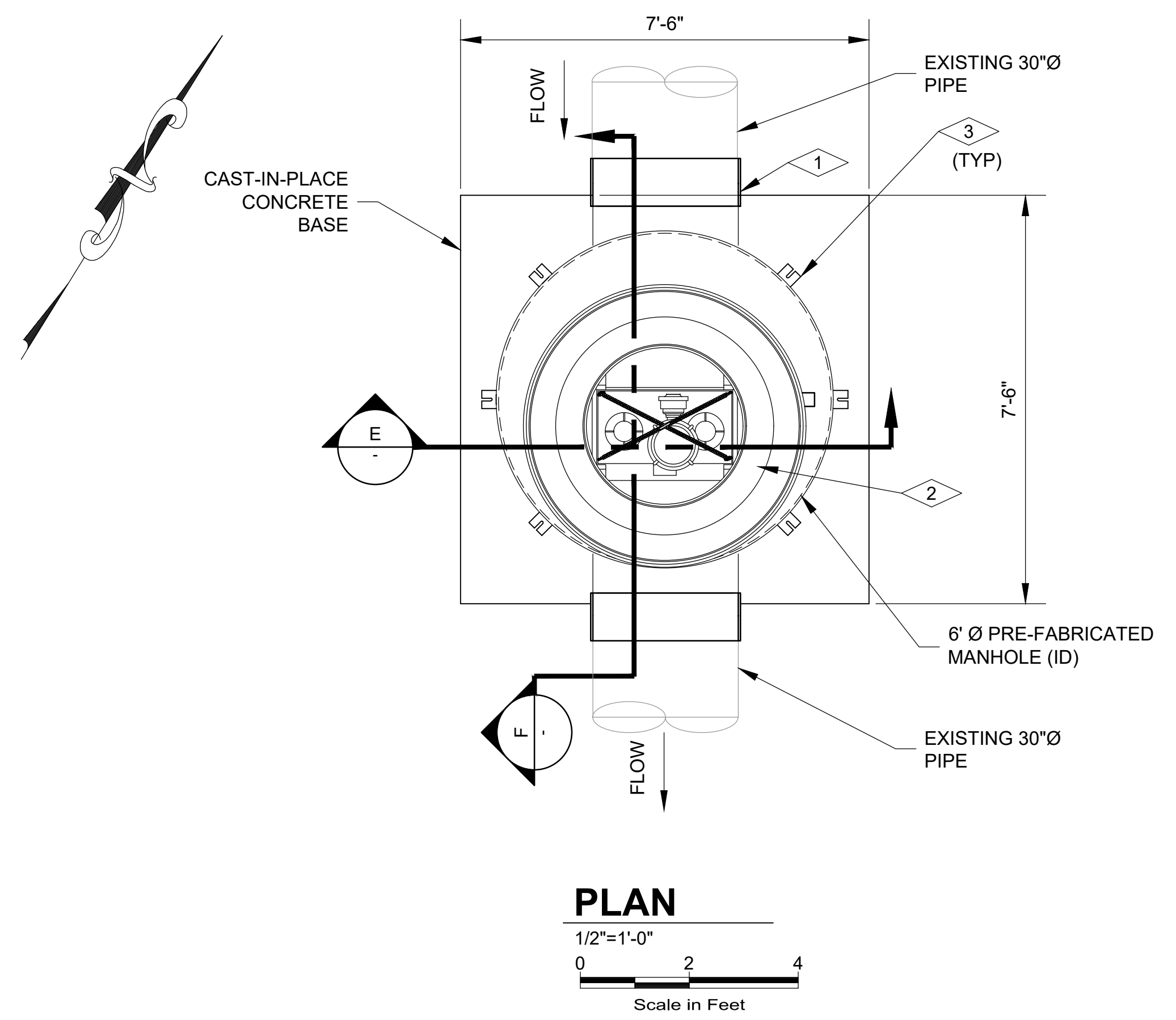
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SHEET 18 of 65

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- KEY NOTES:**
- 1 NEOPRENE BOOT WITH STAINLESS STEEL BANDS (SUPPLIED WITH GRINDER MANHOLE).
  - 2 48" PRECAST MANHOLE RING WITH MANHOLE COVER (H-20 RATED) (COORDINATE FINAL SIZE WITH GRINDER MANUFACTURER).
  - 3 1/2"Ø 316 SS ANCHOR BOLTS (CONTRACTOR FURNISHED).
  - 4 RETRIEVAL CHAIN LENGTH.



DRAWING IS TO SCALE  
IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

NO.	DATE	DESIGN	DRAWN	CHECKED	REVISIONS
1	07-28-2023	BP	KRB	JRL	

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
CIVIL  
GRINDER MANHOLE



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DRAWING NO.  
**01C904**



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**MANHOLE #1 LID PHOTO**  
NTS



**MANHOLE #1 INTERIOR PHOTO**  
NTS



**MANHOLE #2 LID PHOTO**  
NTS



**MANHOLE #2 INTERIOR PHOTO**  
NTS

**NOTES:**

- 1- MANHOLE PHOTOS REPRESENT CONDITIONS AS OF JUNE, 2023.
- 2- MANHOLE REHABILITATION CONTRACTOR SHALL SURVEY AND INSPECT ALL MANHOLES PRIOR TO BIDDING.
- 3- REFER TO TECHNICAL SPECIFICATION 011000 - SUMMARY OF WORK FOR PROJECT SEQUENCING AND CONSTRUCTION LIMITATIONS.
- 4- ANY REQUIRED BYPASS PUMPING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 020960 - TEMPORARY BYPASS PUMPING SYSTEM.

**KEY NOTES:**

- ① MANHOLE REHABILITATION PER REQUIREMENTS OF TECHNICAL SPECIFICATION 330130 - MANHOLE REHABILITATION.



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DESIGN	DRAWN	CHECKED	JRL
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CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
CIVIL  
MANHOLE #1, #2 REHABILITATION PHOTOS



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DRAWING NO.  
**01C905**



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**MANHOLE #3 LID PHOTO**  
NTS



**MANHOLE #3 INTERIOR PHOTO**  
NTS



**MANHOLE #4 LID PHOTO**  
NTS



**MANHOLE #4 INTERIOR PHOTO**  
NTS

**NOTES:**

- 1- MANHOLE PHOTOS REPRESENT CONDITIONS AS OF JUNE, 2023.
- 2- MANHOLE REHABILITATION CONTRACTOR SHALL SURVEY AND INSPECT ALL MANHOLES PRIOR TO BIDDING.
- 3- REFER TO TECHNICAL SPECIFICATION 011000 - SUMMARY OF WORK FOR PROJECT SEQUENCING AND CONSTRUCTION LIMITATIONS.
- 4- ANY REQUIRED BYPASS PUMPING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 020960 - TEMPORARY BYPASS PUMPING SYSTEM.

**KEY NOTES:**

- 1 MANHOLE REHABILITATION PER REQUIREMENTS OF TECHNICAL SPECIFICATION 330130 - MANHOLE REHABILITATION.



NO.	DATE	DESIGN	DRAWN	CHECKED	REVISIONS	
					BP	KRB
B	07/28/2023				JRL	

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
CIVIL

MANHOLE #3, #4 REHABILITATION PHOTOS



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FAX (951) 788-1266  
ASSOCIATES ENGINEERING CONSULTANTS

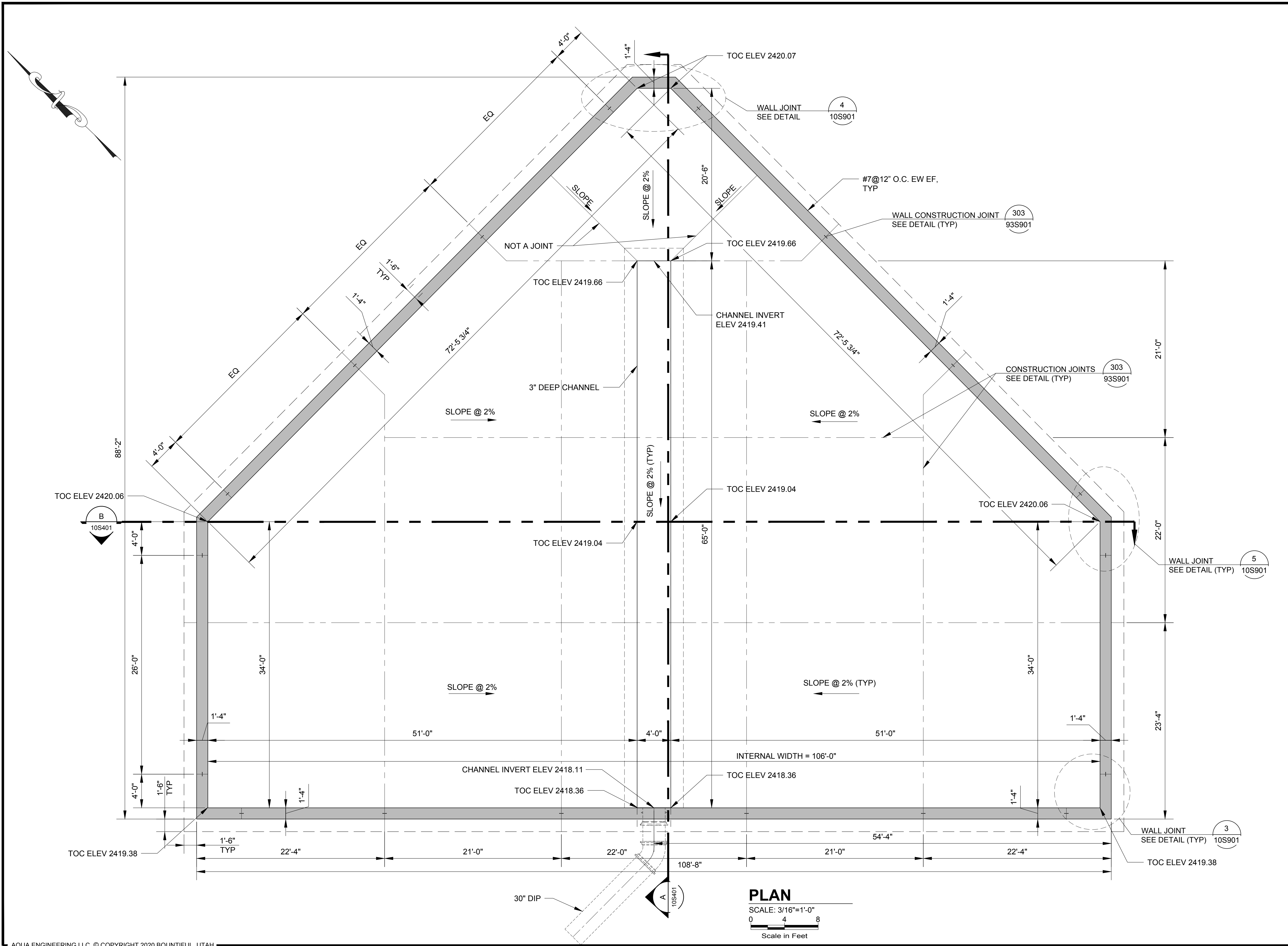
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PHONE (801) 299-1327 FAX (801) 299-0153

DRAWING NO.  
**01C906**



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7/19/2023



**PLAN**  
SCALE: 3/16"=1'-0"  
0 4 8  
Scale in Feet



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE		ORIGINAL	DESIGN	DRAWN	CHECKED
NO.	DATE	CN	SM	EN	
B	07-28-2023				
REVISIONS					

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
EMERGENCY STORAGE BASIN  
STRUCTURAL - PLAN



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3788 MCGRAW STREET  
RIVERSIDE, CA. 92506  
PH. (951) 686-1070  
FAX (951) 788-1256  
ENGINEERING CONSULTANTS

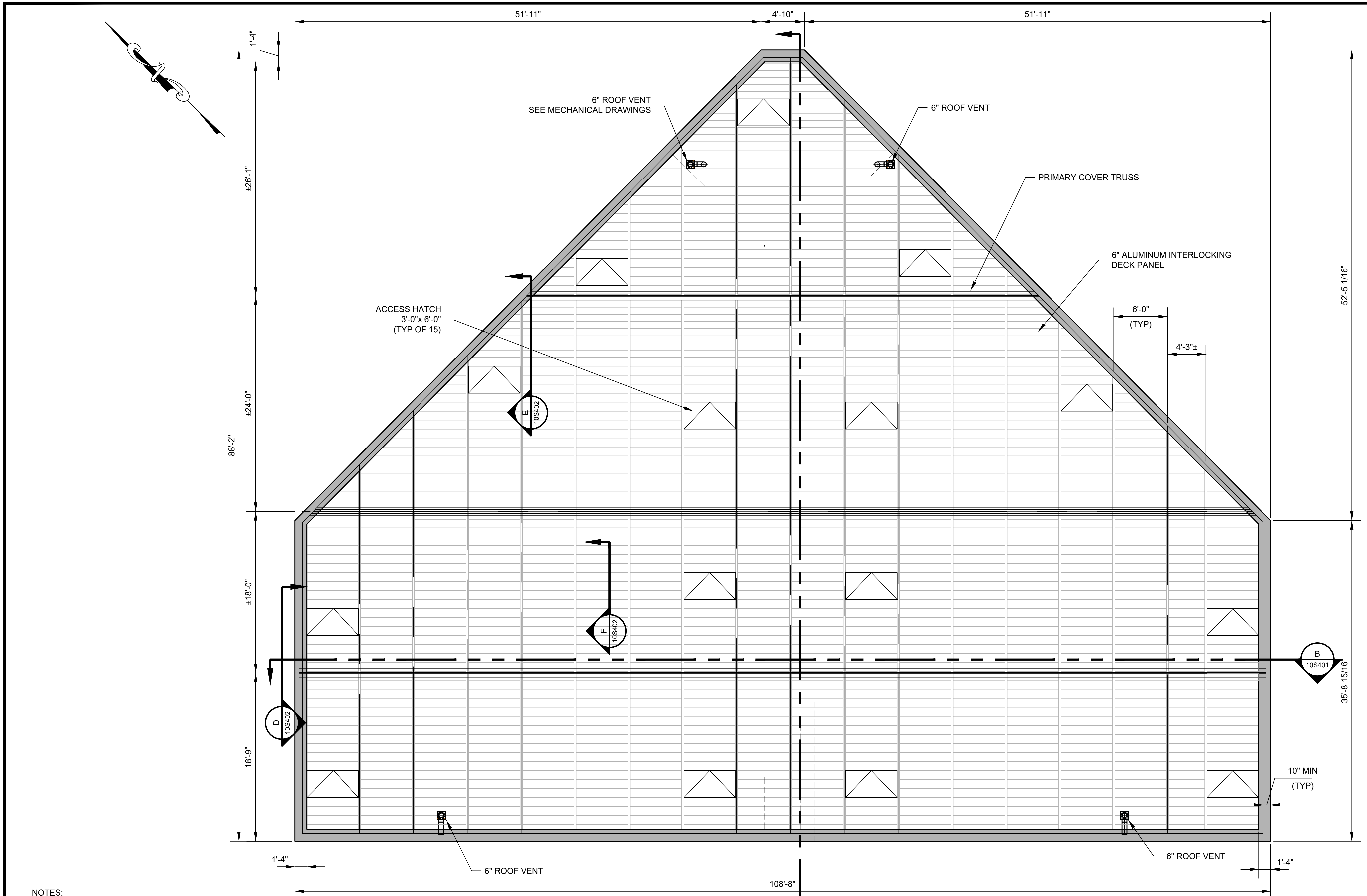


DRAWING NO.  
**10S201**  
SHEET 22 of 65



C:\USERS\KENNETH.BAETZ\ACCORDS\AQUA ENGINEERING\002201.C - BEAUMONT MESA LIFT STATION\PROJECT FILES\002 STRUCTURES\10 EQ BASIN\103-10S202 - COVER PLAN.DWG

2/28/2023



NOTES:

- 1- ALUMINUM COVER DESIGN SHALL BE A DEFERRED SUBMITTAL AND SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 461500.
- 2- DIMENSIONS AND DETAILS OF THE COVER SHOWN ARE PROVIDED AS GUIDANCE ONLY. ACTUAL COVER LAYOUT, DIMENSION AND CONSTRUCTION DETAILS SHALL BE PREPARED BY THE COVER MANUFACTURER.

**COVER PLAN**

SCALE: 3/16"=1'-0"  
 0 4 8  
 Scale in Feet



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE				
NO.	DATE	DESIGN	DRAWN	CHECKED
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1/2				
1				

CITY OF BEAUMONT  
 MESA LIFT STATION UPGRADE  
 EMERGENCY STORAGE BASIN  
 STRUCTURAL COVER PLAN



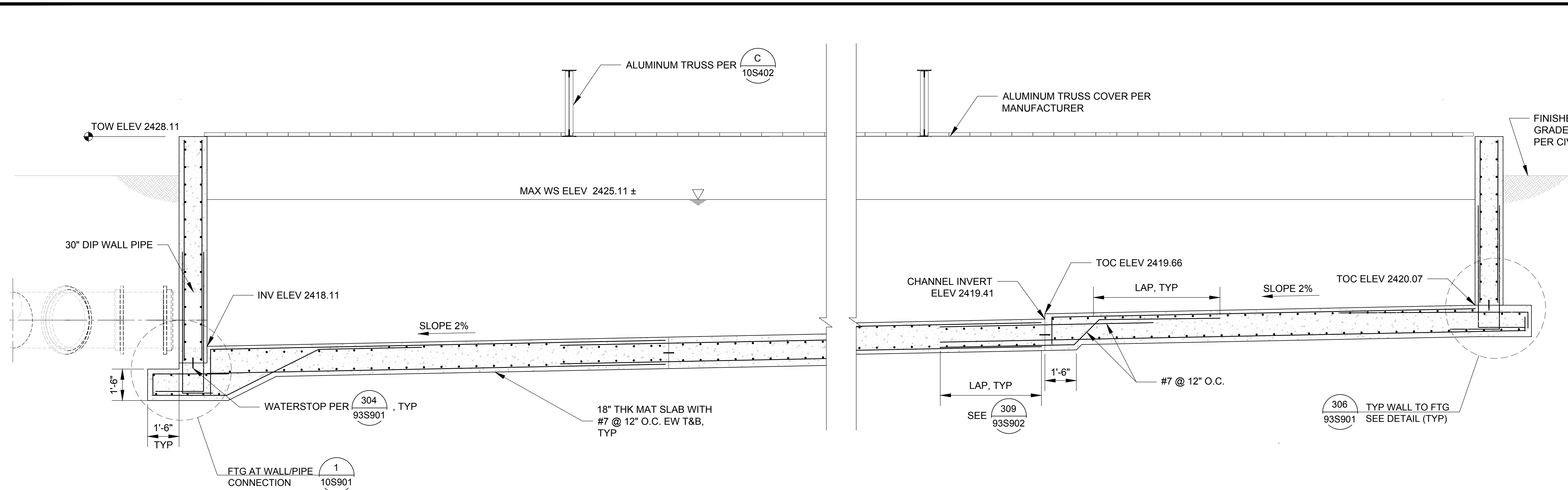
ALBERT A. WEBB ASSOCIATES  
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 3788 MCCRAY STREET  
 RIVERSIDE, CA 92506  
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 FAX (951) 788-1256

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 533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010  
 PHONE (801) 299-1327 FAX (801) 299-0153

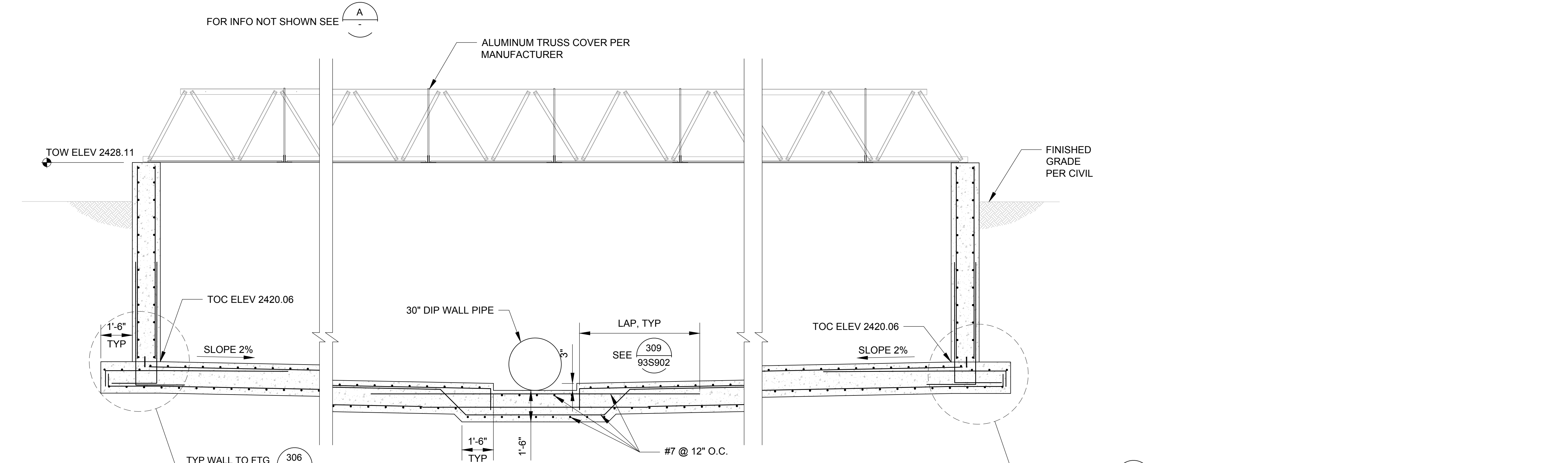
DRAWING NO.  
**10S202**  
 SHEET 23 of 65



C:\USERS\SMILEON\DRIVE - KLEINFELDER\KLEINFELDER\STRUCTURAL GROUP (KLF-SAN DIEGO DWNTN) TEAM - CAD\103-10S401.DWG  
7/19/2023



**SECTION A**  
SCALE: 3/8"=1'-0"  
Scale in Feet



**SECTION B**  
SCALE: 3/8"=1'-0"  
Scale in Feet



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE		ORIGINAL		DESIGN		DRAWN		CHECKED	
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CITY OF BEAUMONT  
**MESA LIFT STATION UPGRADE  
 EMERGENCY STORAGE BASIN**  
 STRUCTURAL SECTIONS

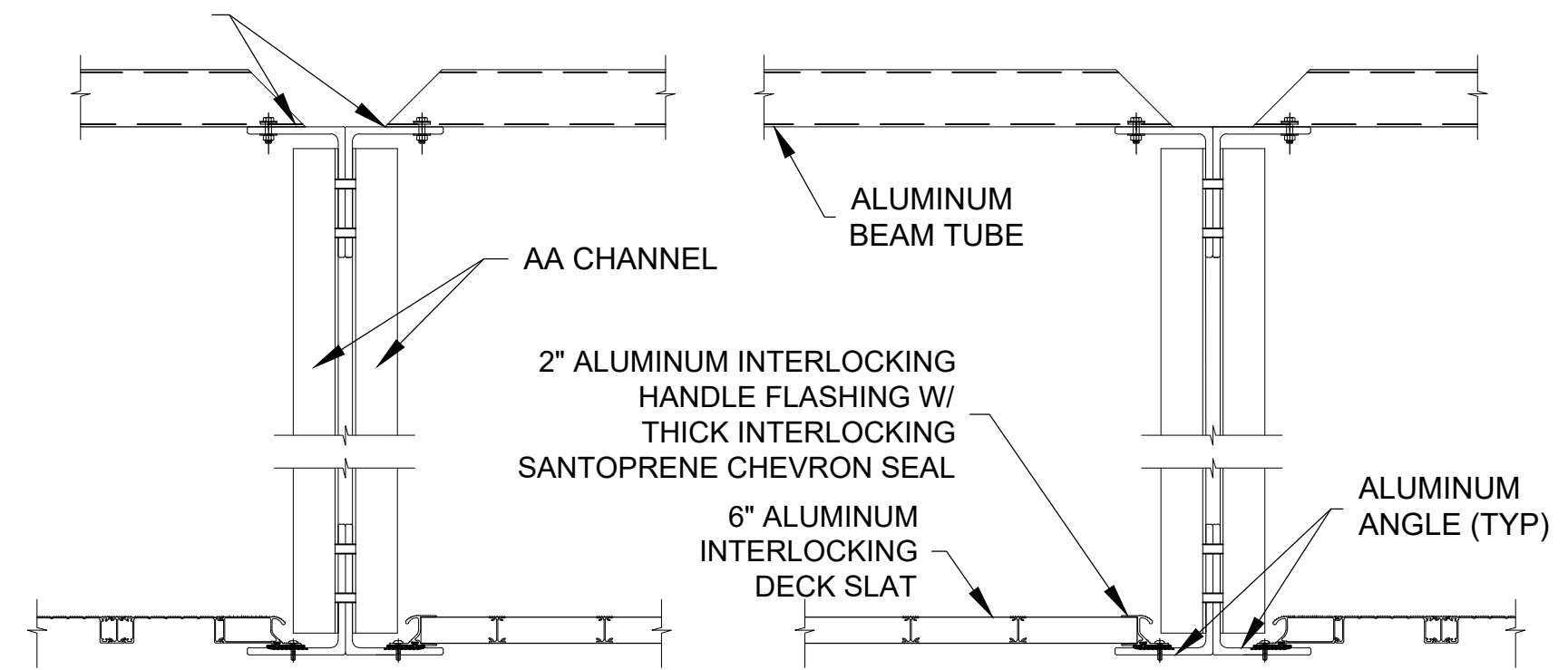


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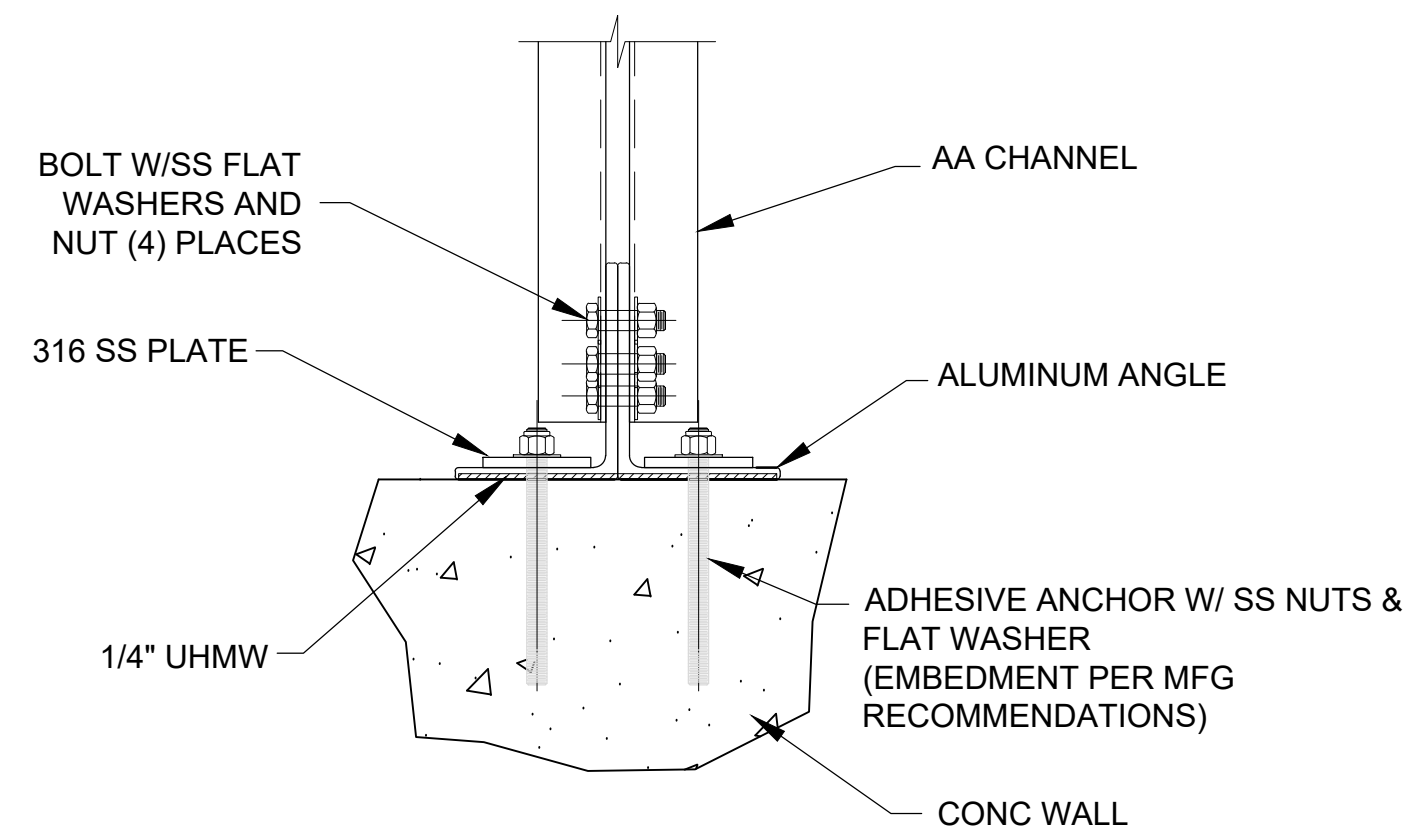


DRAWING NO.  
**10S401**  
 SHEET 24 of 65

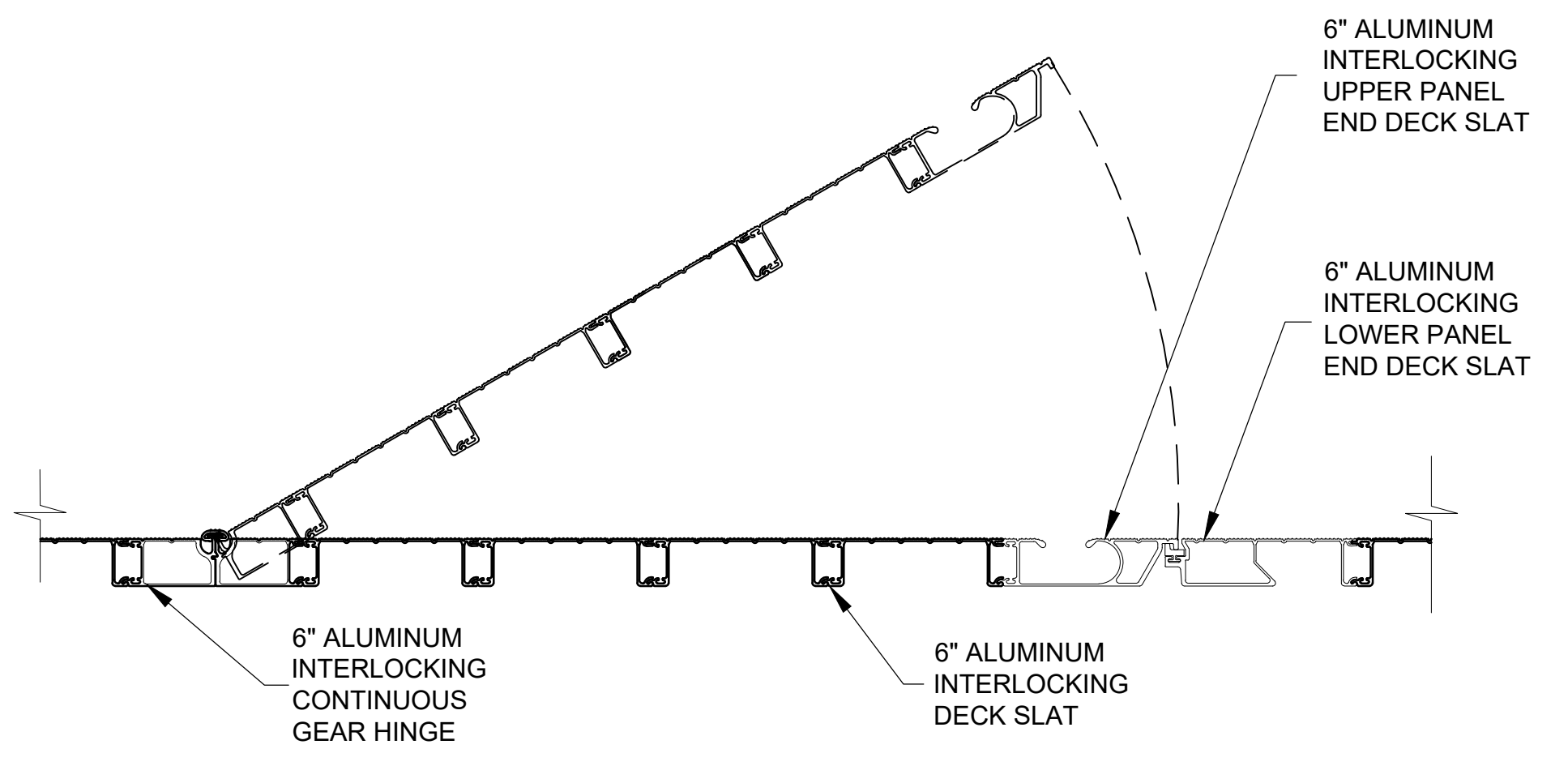




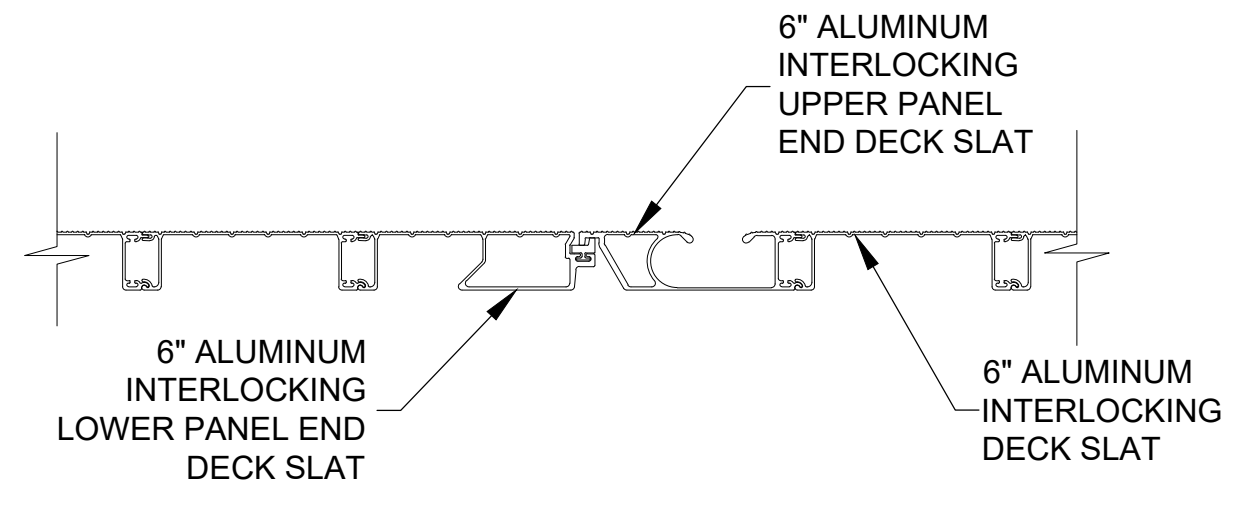
**C**  
10S401  
**ALUMINUM TRUSS SECTION**  
SCALE: NTS



**D**  
10S202  
**TRUSS SECTION**  
SCALE: NTS



**E**  
10S202  
**SECTION**  
NTS



**F**  
10S202  
**SECTION**  
NTS

**NOTES:**

- 1- THE DIMENSIONS, MATERIALS OF CONSTRUCTION, AND DETAILS OF THE COVER SHOWN ARE PROVIDED AS GUIDANCE ONLY.
- 2- ALUMINUM COVER DESIGN SHALL BE A DEFERRED SUBMITTAL.



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DRAWN	CHECKED
	NO. DATE	DESIGN	DATE
0 1/2 1	B 07-28-2023	BP	KRB
		JRL	
		REVISIONS	

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
EMERGENCY STORAGE BASIN  
STRUCTURAL SECTIONS



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DRAWING NO.  
**10S402**

SHEET 25 of 65





DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DRAWN	CHECKED
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0	1	B	07-28-2023
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1	3	EN	

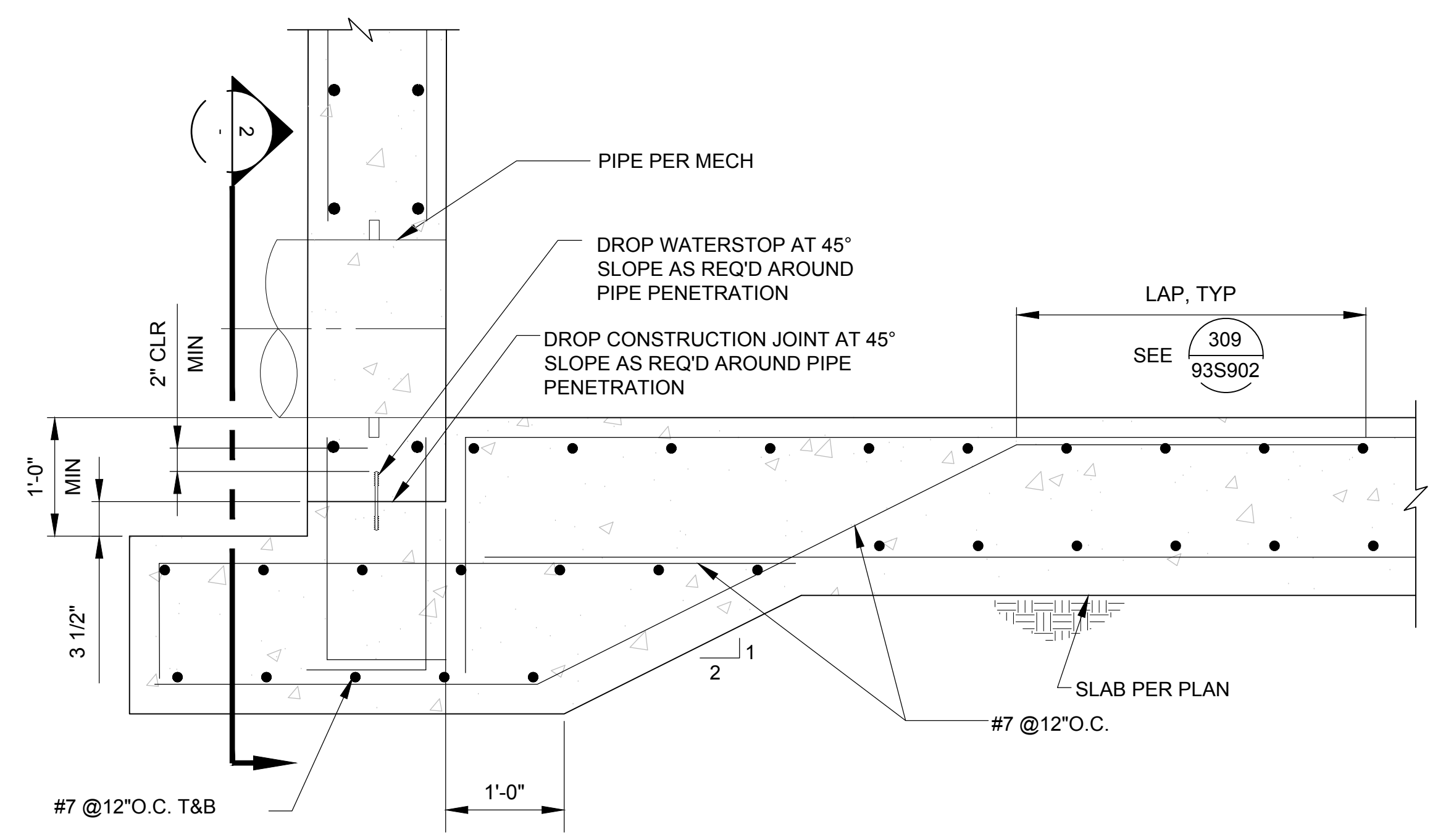
CITY OF BEAUMONT  
 MESA LIFT STATION UPGRADE  
 EMERGENCY STORAGE BASIN  
 STRUCTURAL DETAILS



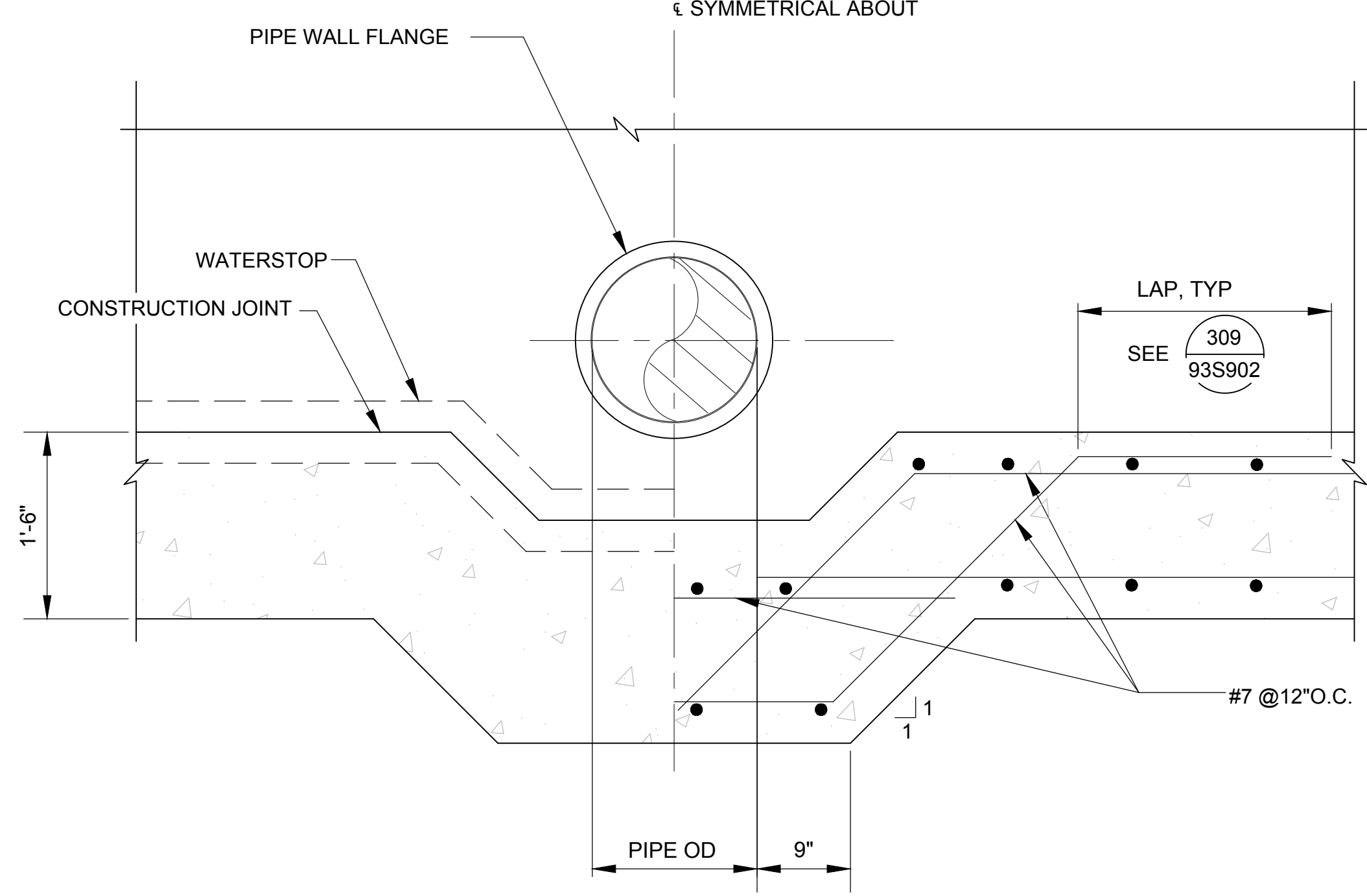
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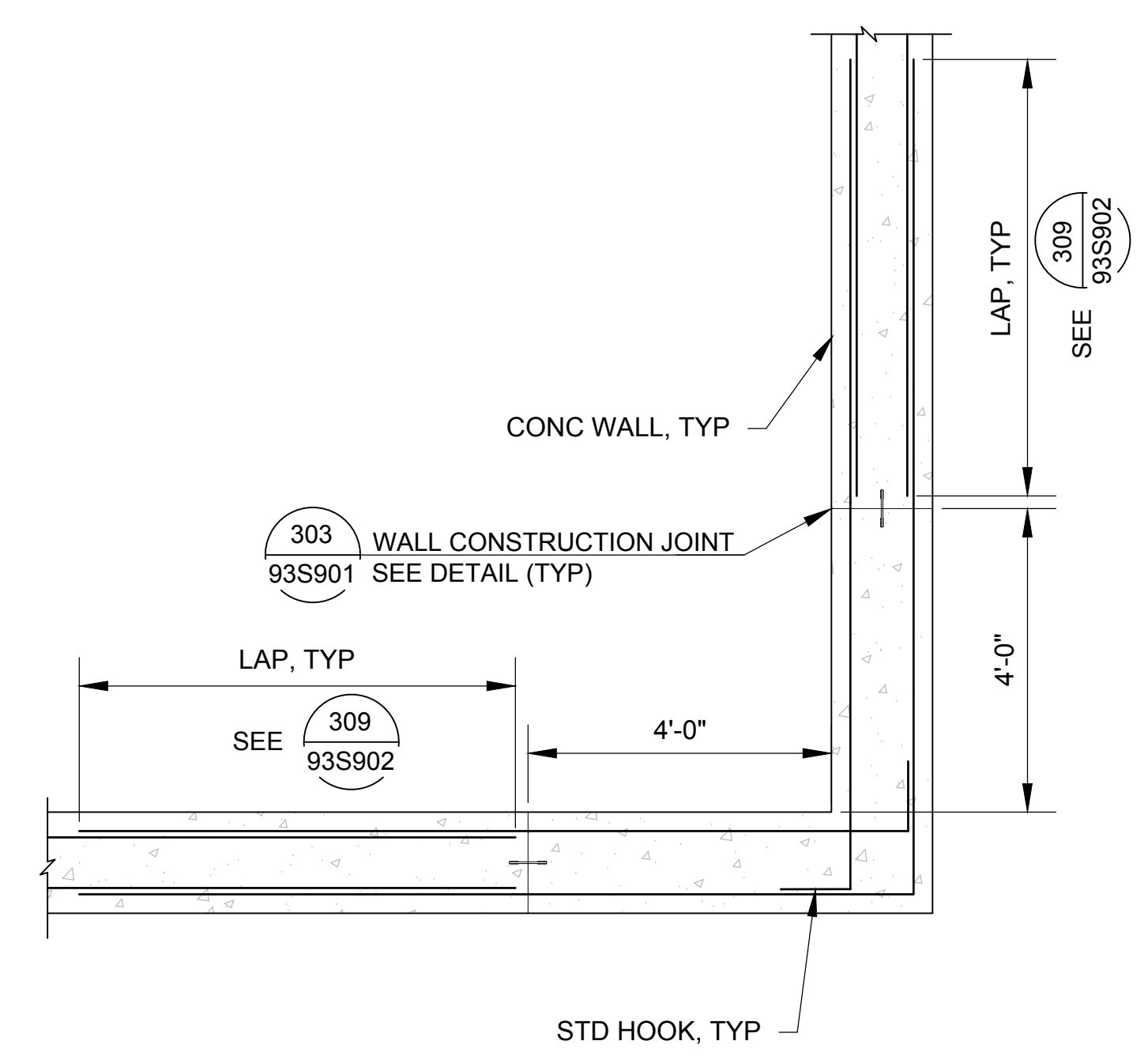
DRAWING NO.  
**10S901**  
 SHEET 26 of 65



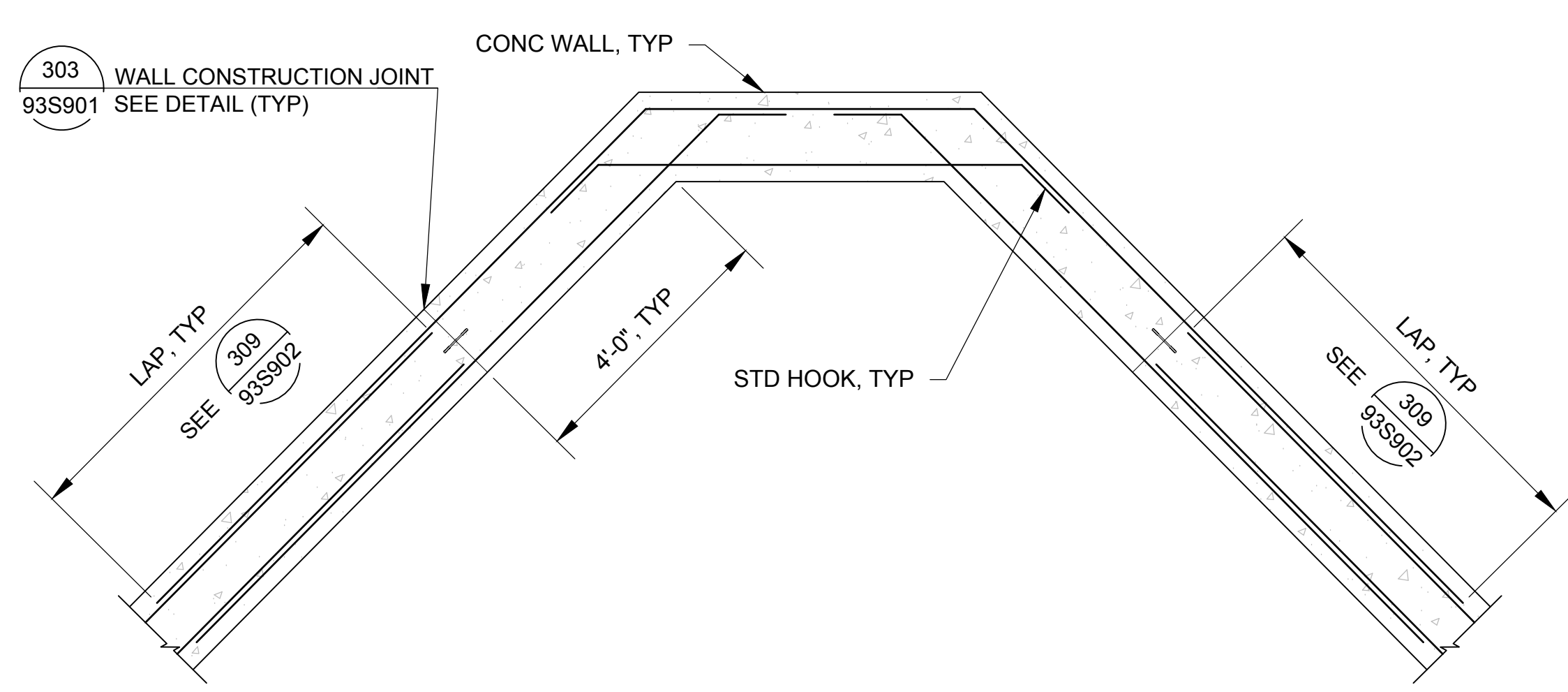
**FTG AT WALL/PIPE CONNECTION** 1  
 SCALE: 1" = 1'-0"  
 Scale in Feet



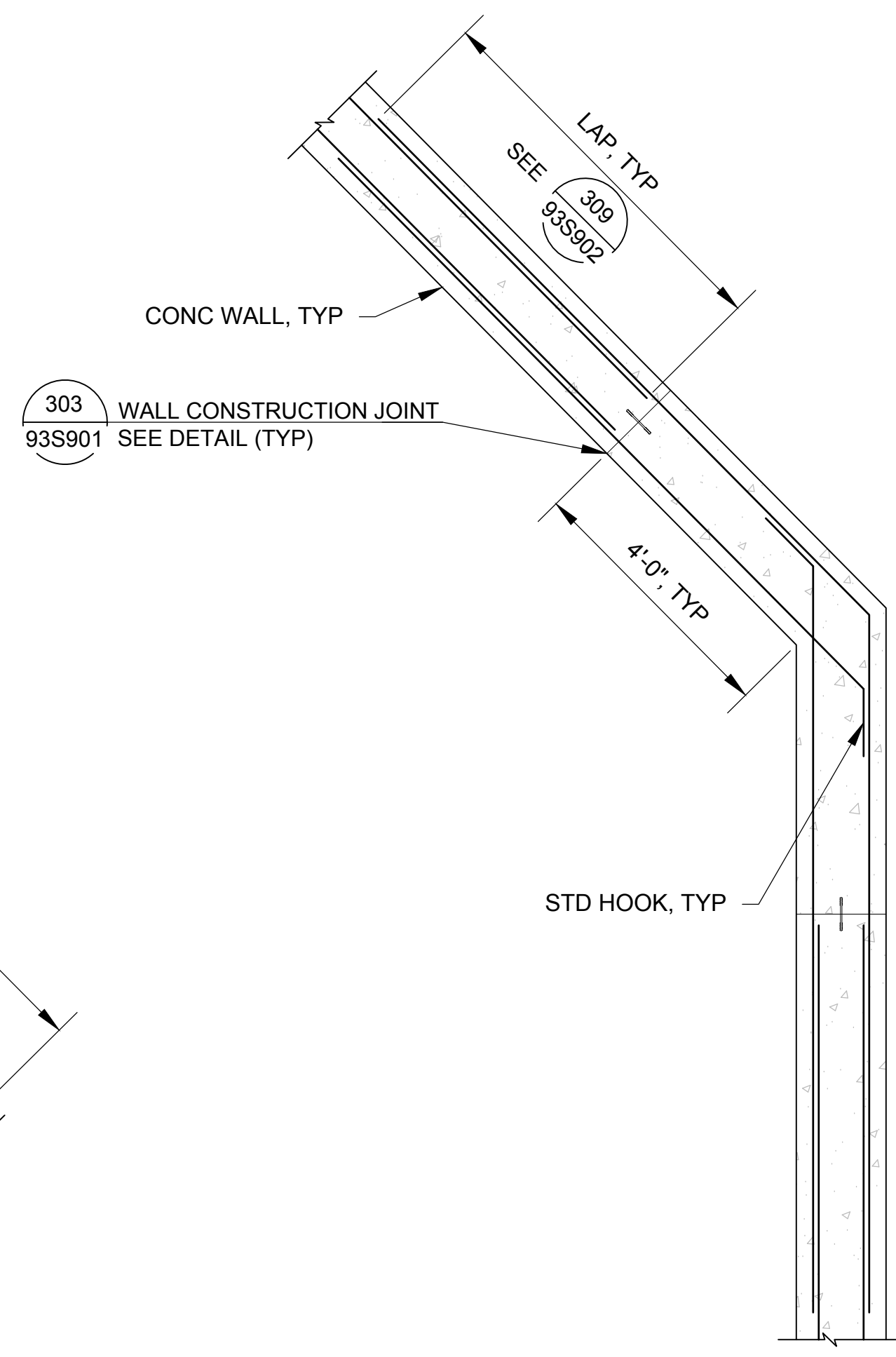
**FTG AT WALL/PIPE CONNECTION** 2  
 SCALE: 1" = 1'-0"  
 Scale in Feet



NOTE: VERTICAL BARS NOT SHOWN FOR CLARITY.  
**WALL JOINT** 3  
 SCALE: 1/2" = 1'-0"  
 Scale in Feet



NOTE: VERTICAL BARS NOT SHOWN FOR CLARITY.  
**WALL JOINT** 4  
 SCALE: 1/2" = 1'-0"  
 Scale in Feet



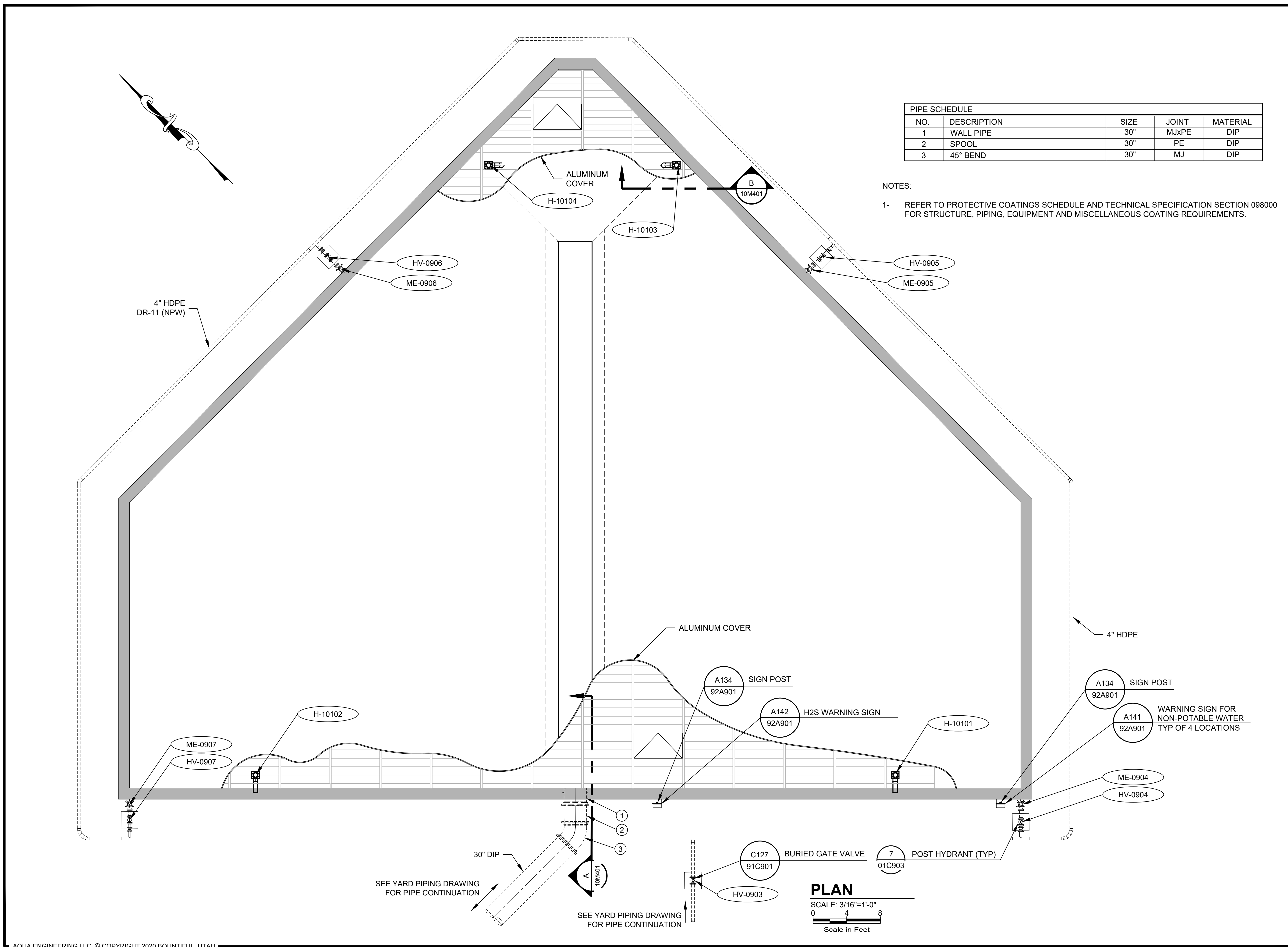
NOTE: VERTICAL BARS NOT SHOWN FOR CLARITY.  
**WALL JOINT** 5  
 SCALE: 1/2" = 1'-0"  
 Scale in Feet

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3/7/2023



PIPE SCHEDULE				
NO.	DESCRIPTION	SIZE	JOINT	MATERIAL
1	WALL PIPE	30"	MJxPE	DIP
2	SPOOL	30"	PE	DIP
3	45° BEND	30"	MJ	DIP

NOTES:  
 1- REFER TO PROTECTIVE COATINGS SCHEDULE AND TECHNICAL SPECIFICATION SECTION 098000 FOR STRUCTURE, PIPING, EQUIPMENT AND MISCELLANEOUS COATING REQUIREMENTS.

DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DESIGN	DRAWN	CHECKED	JRL
0 1/2 1	NO.	DATE	BY	REVISIONS	BY
	B	07-28-2023	BP		KRB

CITY OF BEAUMONT

**MESA LIFT STATION UPGRADE  
EMERGENCY STORAGE BASIN**

MECHANICAL COVER PLAN

**BEAUMONT**  
CALIFORNIA

**ALBERT A. WEBB ASSOCIATES**  
ENGINEERING CONSULTANTS

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PHONE (801) 299-1327 FAX (801) 299-0153

DRAWING NO.

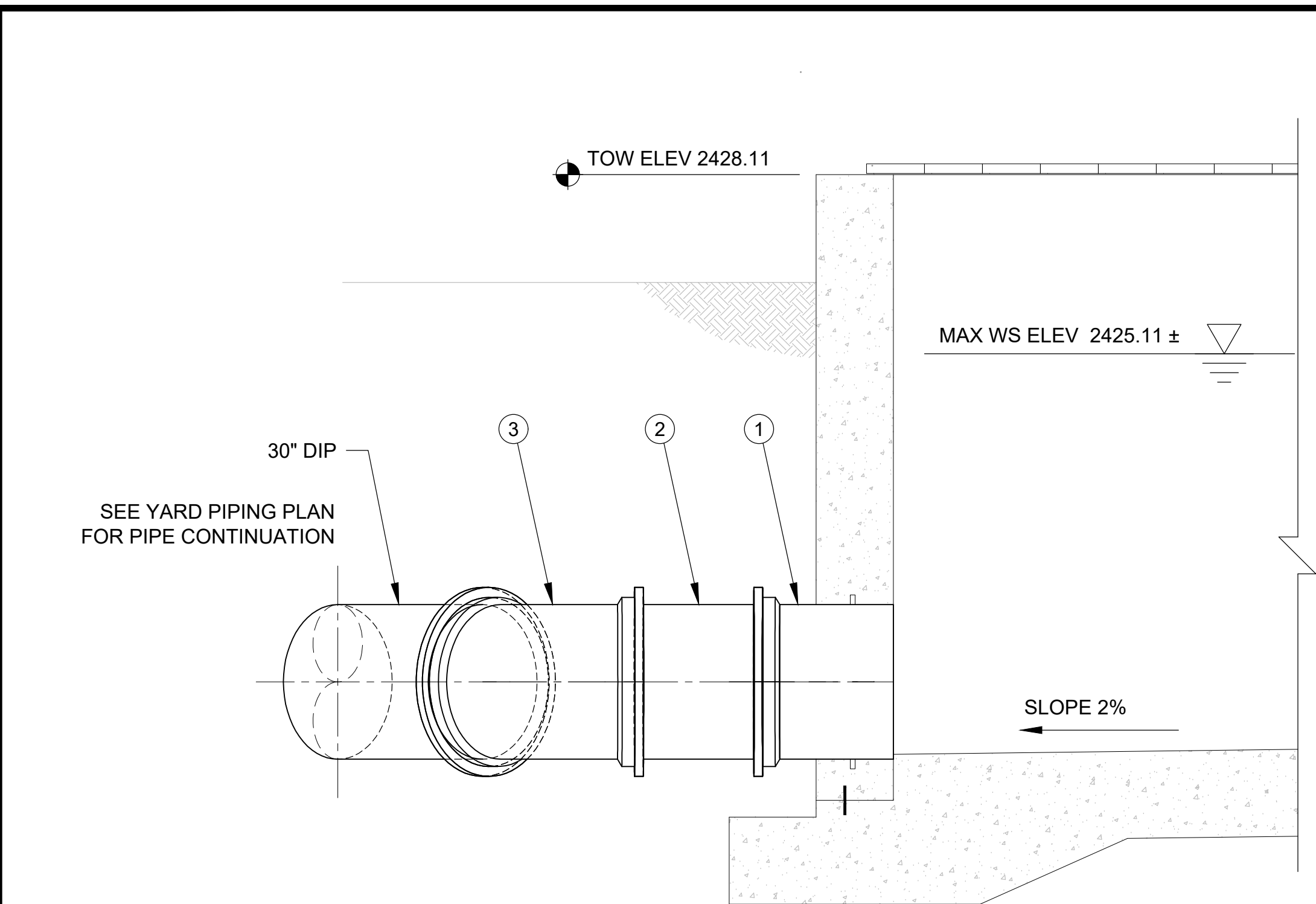
**10M201**

SHEET 27 of 65



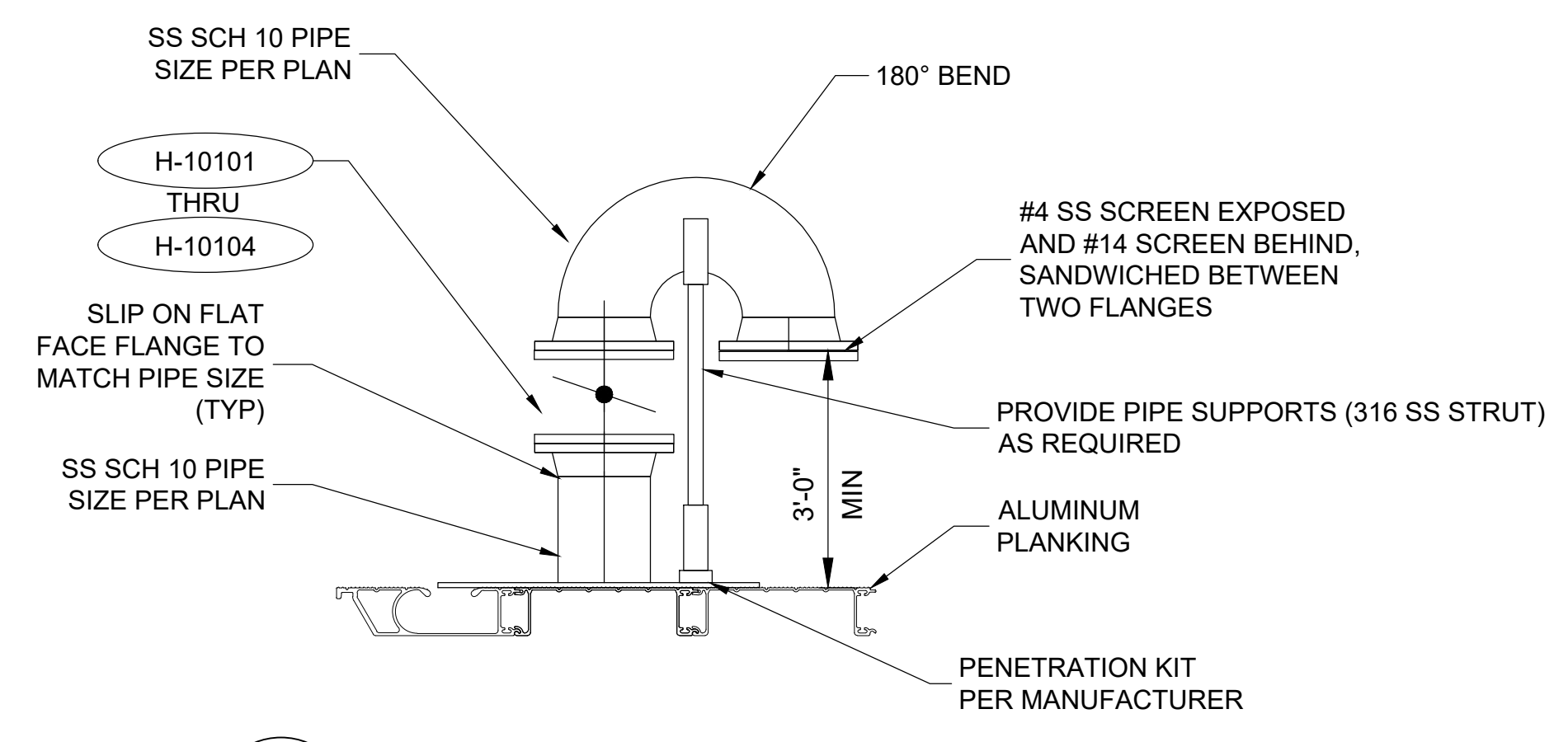
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2/28/2023



**A SECTION**  
10M201 1/4"=1'-0"  
0 2 4  
Scale in Feet

NOTE:  
1- FOR PIPE AND FITTING SCHEDULE, REFER TO DRAWING 10M201.



**B ROOF VENT DETAIL**  
10M201 NTS



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DESIGN	DRAWN	CHECKED
	NO. DATE	BP	KRB	JRL
1/2	1	07-28-2023		
0				

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
EMERGENCY STORAGE BASIN  
MECHANICAL SECTIONS



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PHONE (801) 299-1327 FAX (801) 299-0153

DRAWING NO.  
**10M401**

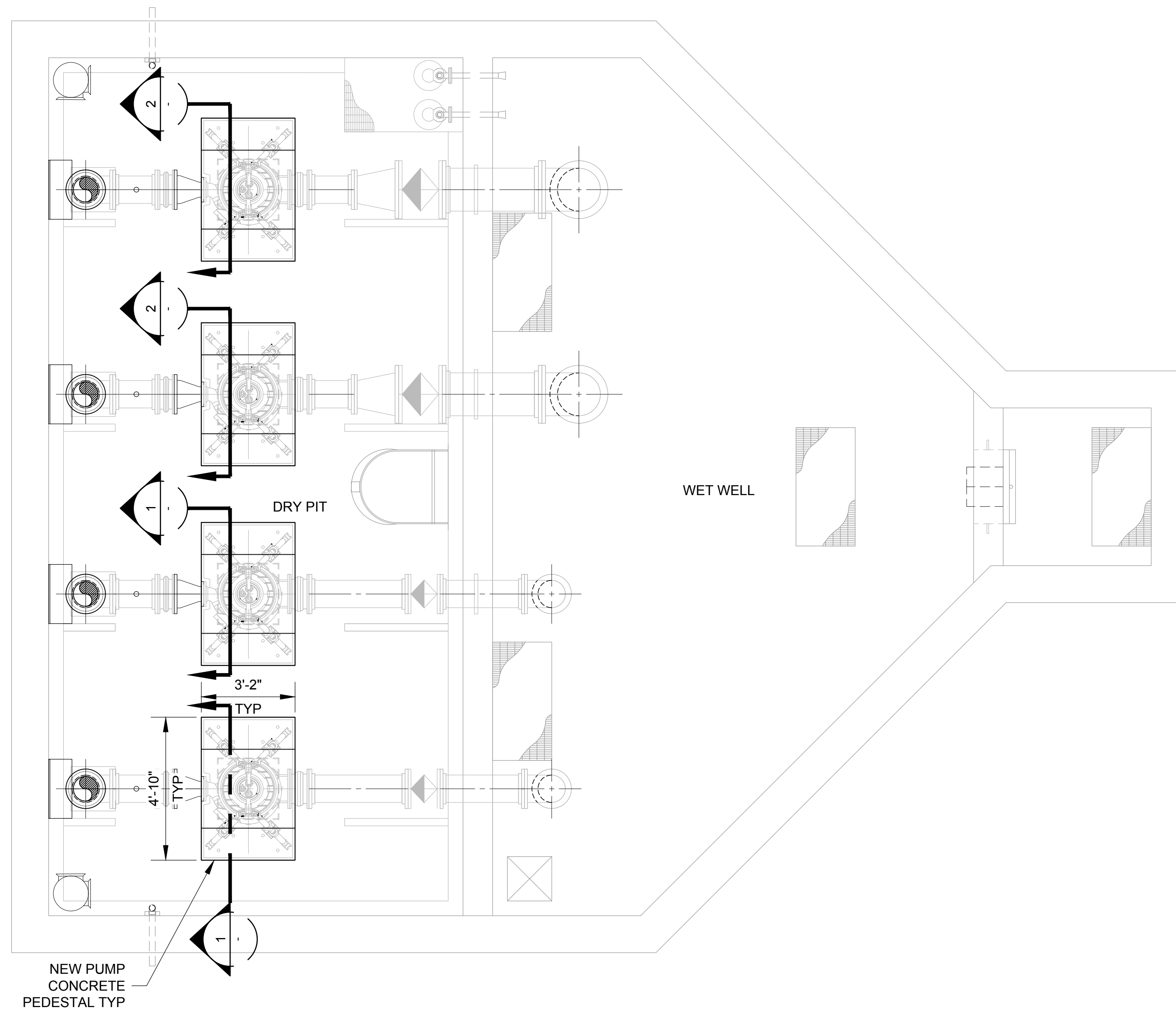
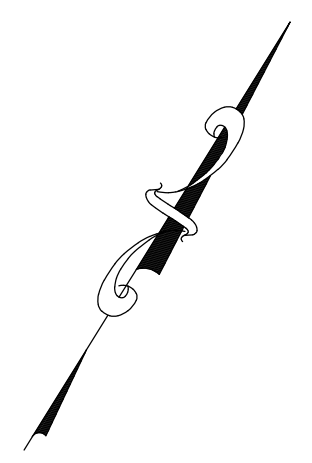
SHEET 28 of 65



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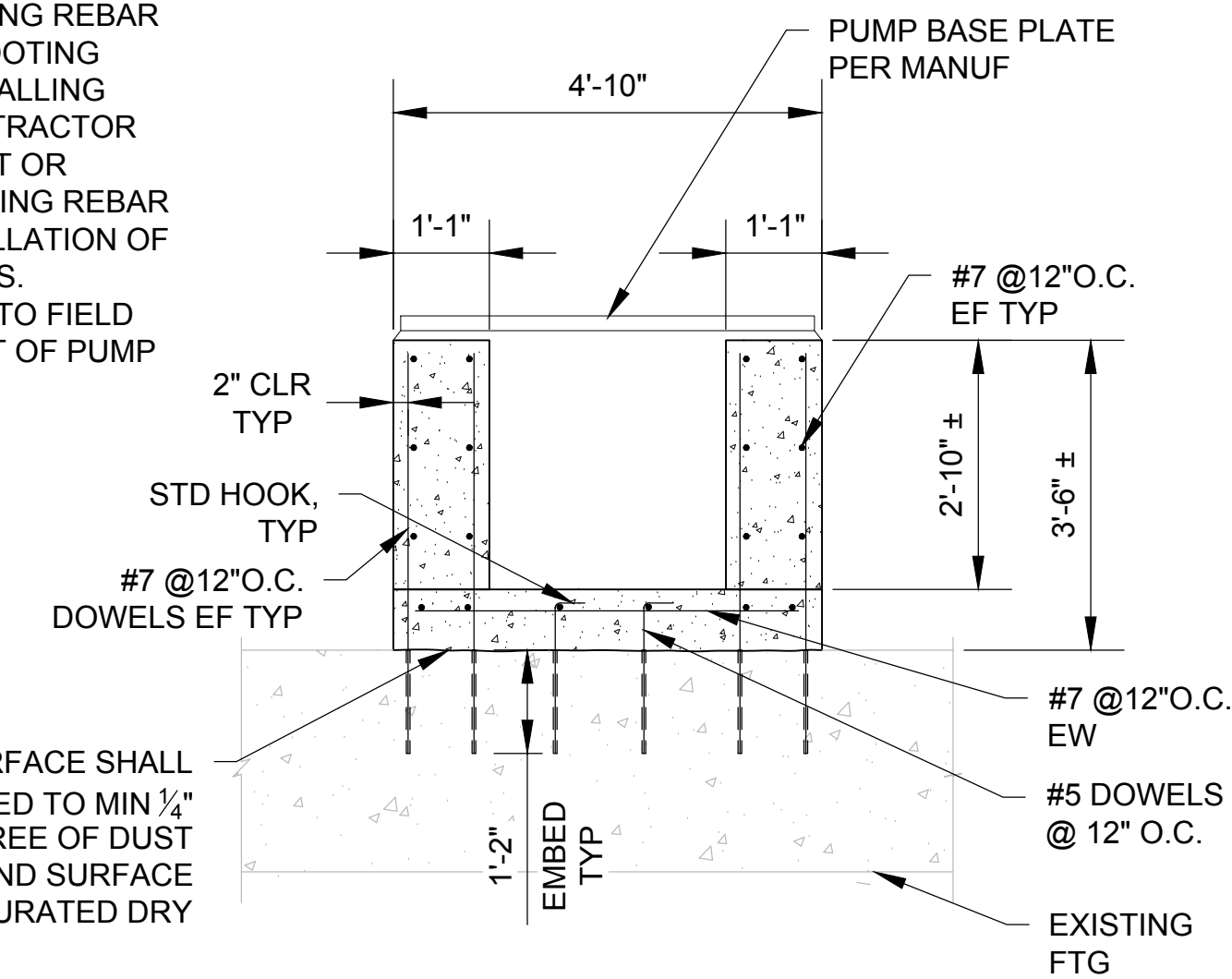
7/19/2023

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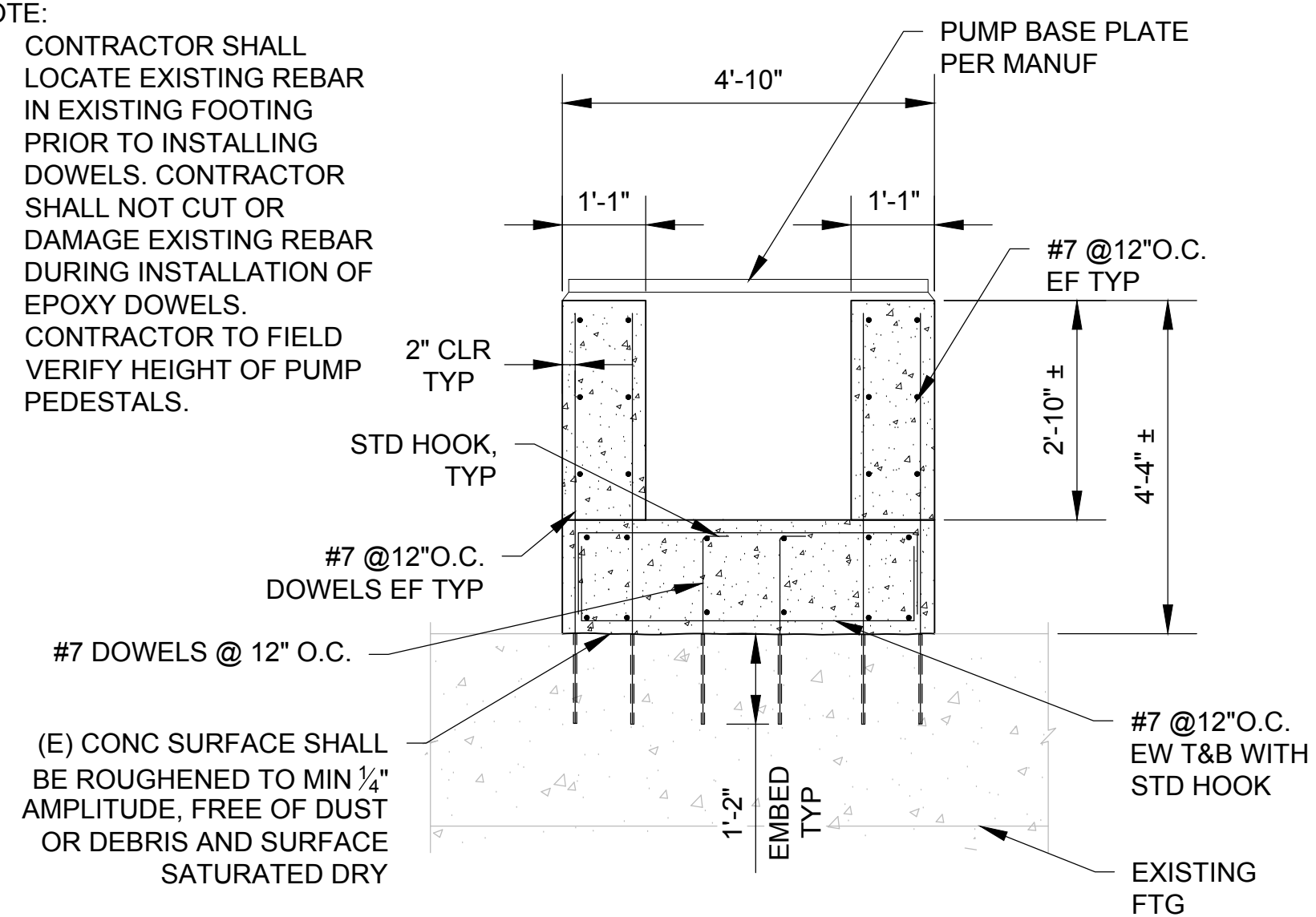
**DRY PIT PLAN**  
SCALE: 3/8"=1'-0"  
0 2 4  
Scale in Feet

- NOTE:
1. CONTRACTOR SHALL LOCATE EXISTING REBAR IN EXISTING FOOTING PRIOR TO INSTALLING DOWELS. CONTRACTOR SHALL NOT CUT OR DAMAGE EXISTING REBAR DURING INSTALLATION OF EPOXY DOWELS.
  2. CONTRACTOR TO FIELD VERIFY HEIGHT OF PUMP PEDESTALS.



**PUMP CONCRETE PEDESTAL (1)**  
SCALE: 1/2"=1'-0"  
0 2 4  
Scale in Feet

- NOTE:
1. CONTRACTOR SHALL LOCATE EXISTING REBAR IN EXISTING FOOTING PRIOR TO INSTALLING DOWELS. CONTRACTOR SHALL NOT CUT OR DAMAGE EXISTING REBAR DURING INSTALLATION OF EPOXY DOWELS.
  2. CONTRACTOR TO FIELD VERIFY HEIGHT OF PUMP PEDESTALS.



**PUMP CONCRETE PEDESTAL (2)**  
SCALE: 1/2"=1'-0"  
0 2 4  
Scale in Feet



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DRAWN	CHECKED		
	NO.	DATE	DESIGN	EN	EN
0 1/2 1	B	07-28-2023	CN	SM	EN
			REVISIONS		

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
LIFT STATION - DRY PIT / WET WELL  
STRUCTURAL - PLAN AND DETAILS



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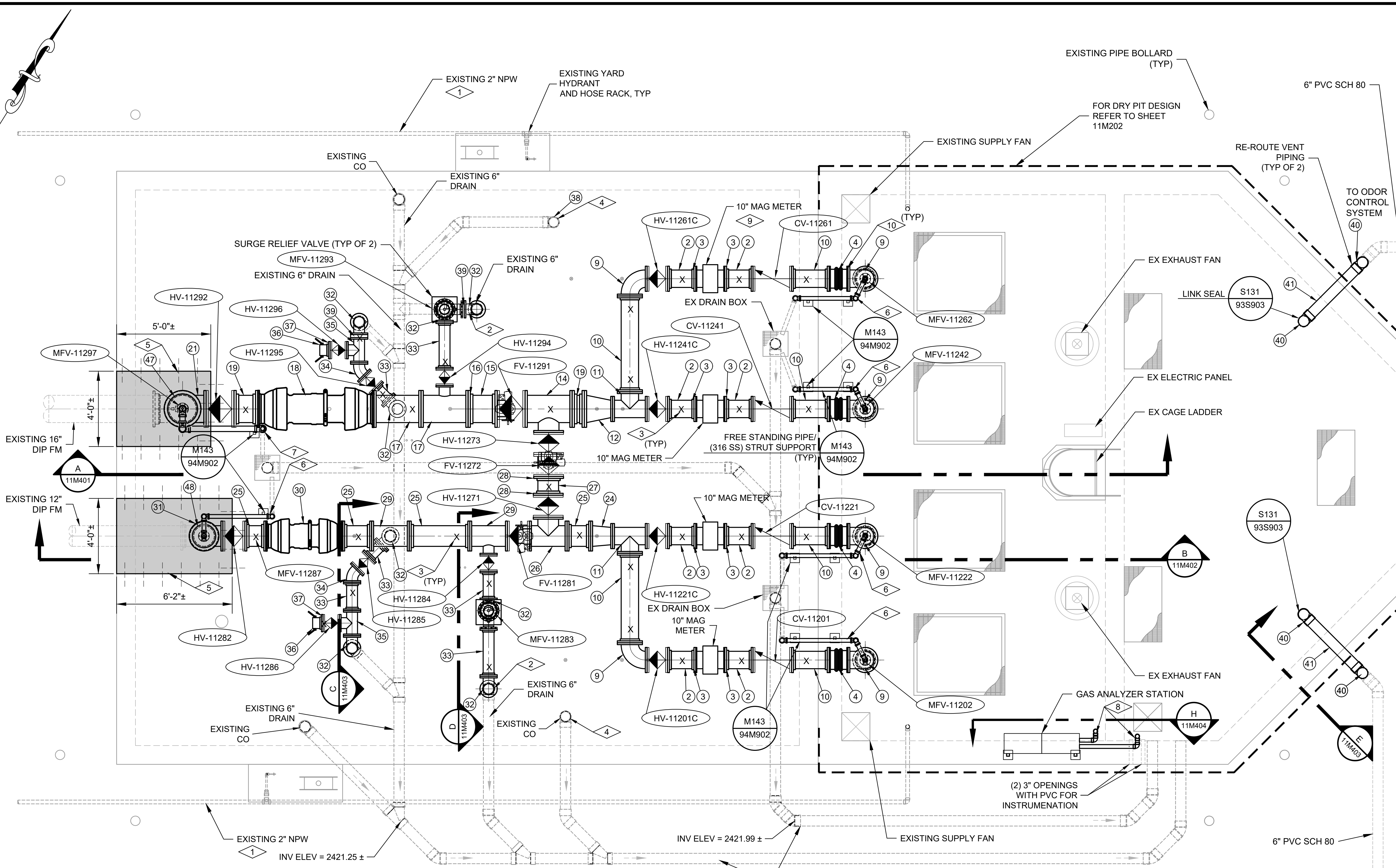
DRAWING NO.  
**11S201**  
SHEET 29 of 65



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4/21/2023

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- NOTES:
- 1- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND LOCATION OF ALL PIPE CONNECTIONS.
  - 2- FOR MECHANICAL, VALVE AND PUMP SCHEDULES, REFER TO DRAWINGS 83M801.
  - 3- FOR PIPING SCHEDULES, REFER TO DRAWING 11M801.
  - 4- REFER TO PROTECTIVE COATINGS SCHEDULE ON DRAWING 81A801 ON AND TECHNICAL SPECIFICATION SECTION 098000 FOR STRUCTURE, PIPING, EQUIPMENT AND MISCELLANEOUS COATING REQUIREMENTS.

**MECHANICAL PLAN**  
SCALE: 3/8"=1'-0"  
0 2 4  
Scale in Feet

- KEY NOTES:
- 1 CONNECTED TO NEW NPW PIPING.
  - 2 ROUTE SURGE RELIEF VALVE DRAINAGE PIPING TO NEAREST DRAIN, TYPE.
  - 3 "X" - DENOTES PIPE SUPPORT LOCATION
  - 4 INSTALL 6" CAST IRON CLEAN OUT CAP (VERIFY EXISTING OPENING SIZE)
  - 5 REMOVE AND REPLACE CONCRETE AS NEEDED TO INSTALL UNDER GROUND PIPING MATCH EXISTING REINFORCEMENT (#4 @ 12" OC) AND EPOXY DOWEL MIN 6" INTO ADJACENT CONCRETE.
  - 6 2" SCHEDULE 40 316 STAINLESS STEEL PIPE TO EXISTING DRAIN
  - 7 3" SCHEDULE 40 316 STAINLESS STEEL PIPE TO EXISTING DRAIN
  - 8 CORE THROUGH EXISTING HOLE AND INSTALL 2" SCH 80 PVC WITH LINK SEAL - DETAIL S131/93S903
  - 9 PROVIDE "O x DN" TYPE MAGMETERS, TYP.
  - 10 PROCO SERIES 232 (EPDM) WITH STAINLESS STEEL CONTROL RODS.



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	
ORIGINAL	CHECKED
NO. DATE	DESIGN DRAWN
B 07-26-2023	BP KRB
REVISIONS	
	JRL

CITY OF BEAUMONT  
**MESA LIFT STATION UPGRADE**  
LIFT STATION  
MECHANICAL UPPER LEVEL PLAN

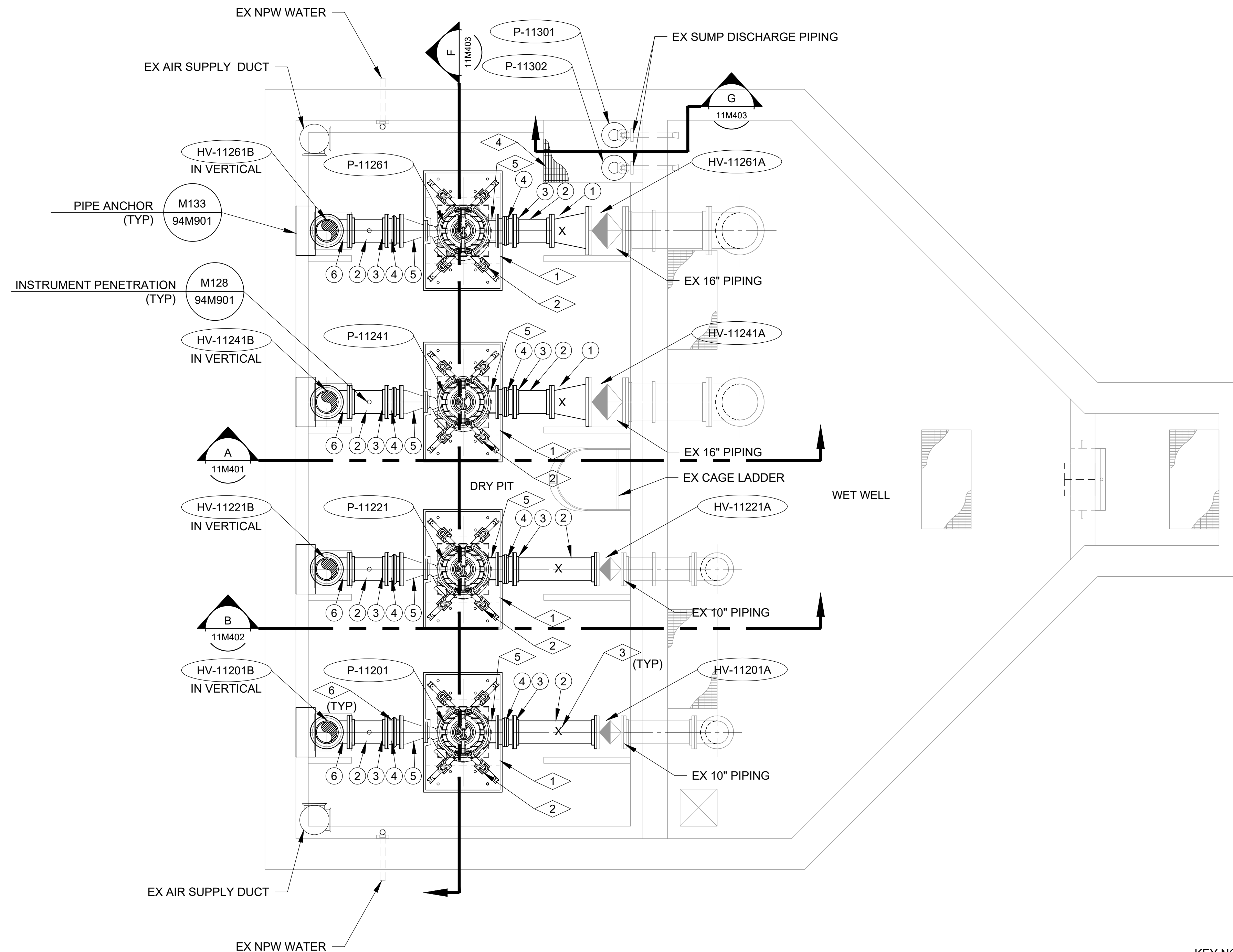
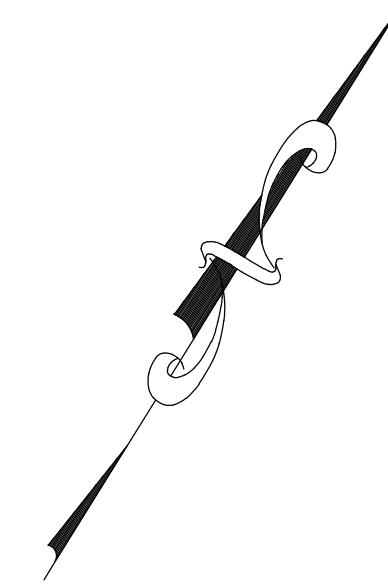


ALBERT A. **WEBB** ASSOCIATES  
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RIVERSIDE CA, 92506  
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FAX. (951) 786-1256



DRAWING NO.  
**11M201**  
SHEET 30 of 65





**MECHANICAL PLAN**  
 SCALE: 3/8"=1'-0"  
 0 2 4  
 Scale in Feet

**NOTES:**

- 1- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND LOCATION OF ALL PIPE CONNECTIONS.
- 2- FOR MECHANICAL, VALVE AND PUMP SCHEDULES, REFER TO DRAWINGS 83M801.
- 3- FOR PIPING SCHEDULES, REFER TO DRAWING 11M801.
- 4- REFER TO PROTECTIVE COATINGS SCHEDULE ON DRAWING 81A801 AND TECHNICAL SPECIFICATION SECTION 098000 FOR STRUCTURE, PIPING, EQUIPMENT AND MISCELLANEOUS COATING REQUIREMENTS.

**KEY NOTES:**

- 1 PUMP PLATE PROVIDED BY PUMP MANUFACTURER
- 2 PUMP SUPPORTS PROVIDED BY PUMP MANUFACTURER
- 3 "X" = DENOTES PIPE SUPPORT LOCATION
- 4 INSTALL NEW ALUMINUM GRATING
- 5 90° BEND WITH CLEAN OUT (TO BE SUPPLIED WITH PUMP)
- 6 PROCO SERIES 231 (EPDM), OR EQUAL



DRAWING IS TO SCALE  
 IF BAR MEASURES:  
 1" = FULL SCALE  
 1/2" = HALF SCALE

NO.	DATE	DESIGN	DRAWN	CHECKED	JRL
1	07-28-2023	BP	KRB	JRL	

ORIGINAL REVISIONS

CITY OF BEAUMONT  
 MESA LIFT STATION UPGRADE  
 LIFT STATION  
 MECHANICAL DRY PIT/WET WELL PLAN



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DRAWING NO.  
**11M202**

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2/28/2023





DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	
ORIGINAL	CHECKED
NO. DATE	DESIGN DRAWN
B 07-28-2023	BP KRB
REVISIONS	
JRL	

CITY OF BEAUMONT  
**MESA LIFT STATION UPGRADE**  
 LIFT STATION  
 MECHANICAL SECTION

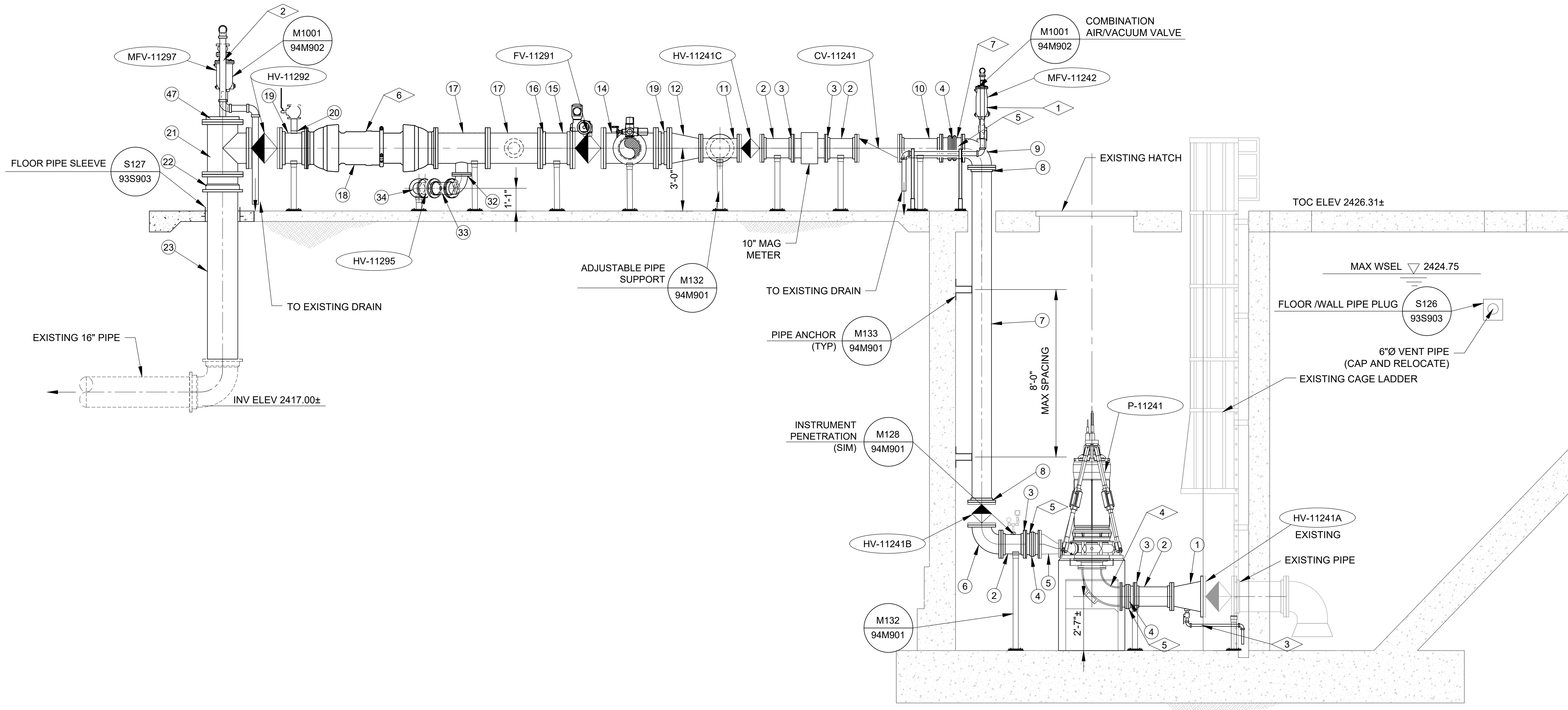


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 ASSOCIATES ENGINEERING CONSULTANTS

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DRAWING NO.  
**11M401**

SHEET 32 of 65



**A SECTION**  
 11M201 SCALE: 3/8"=1'-0"  
 Scale in Feet

**NOTES:**

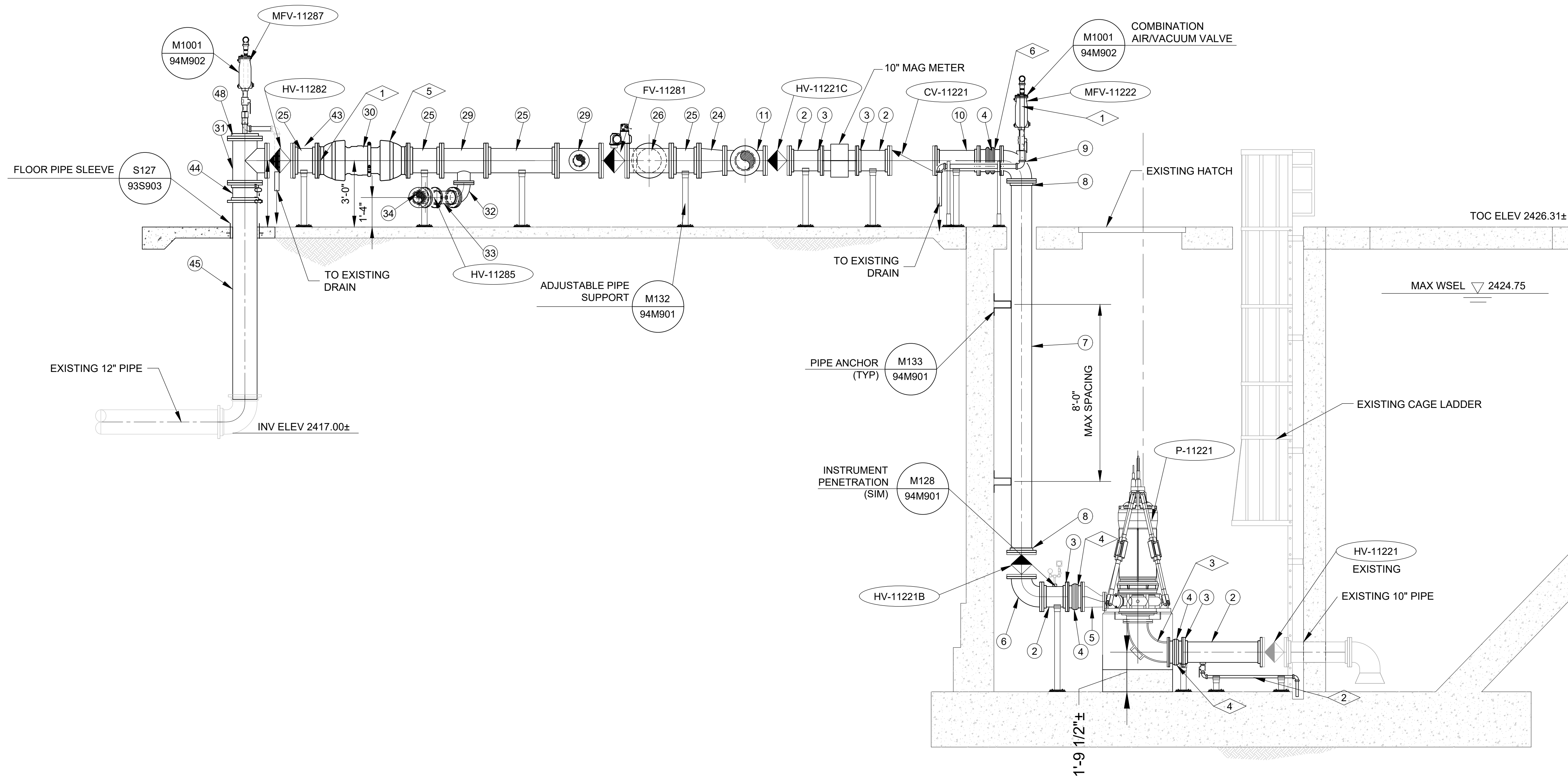
- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND LOCATION OF ALL PIPE CONNECTIONS.
- FOR MECHANICAL, VALVE AND PUMP SCHEDULES, REFER TO DRAWINGS 83M801.
- FOR PIPING SCHEDULES, REFER TO DRAWING 11M801.
- REFER TO PROTECTIVE COATINGS SCHEDULE ON DRAWING 81A801 AND TECHNICAL SPECIFICATION SECTION 098000 FOR STRUCTURE, PIPING, EQUIPMENT AND MISCELLANEOUS COATING REQUIREMENTS.

**KEY NOTES:**

- |   |  |   |  |
|---|--|---|--|
| 1 | 2" SCHEDULE 40 316 STAINLESS STEEL PIPING TO EXISTING DRAIN.                                 | 5 | PROCO SERIES 231 (EPDM) OR EQUAL                                   |
| 2 | 3" SCHEDULE 40 316 STAINLESS STEEL PIPING TO EXISTING DRAIN.                                 | 6 | EBAA FLEX-TEND OR EQUAL  |
| 3 | 1" SCHEDULE 40 316 STAINLESS STEEL PIPING WITH STAINLESS STEEL BALL VALVE TO EXISTING DRAIN. | 7 | PROCO SERIES 232 (EPDM) WITH STAINLESS STEEL CONTROL RODS OR EQUAL |
| 4 | 90° BEND WITH CLEAN OUT PROVIDED BY PUMP SUPPLIER.   |   |  |

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DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	
ORIGINAL	CHECKED
NO. DATE	DESIGN DRAWN
B 07-28-2023	BP KRB
REVISIONS	
	JRL

CITY OF BEAUMONT  
**MESA LIFT STATION UPGRADE**  
 LIFT STATION  
 MECHANICAL SECTION



**ALBERT A. WEBB** ASSOCIATES  
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 ENGINEERING CONSULTANTS



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 DRAWING NO.  
**11M402**  
 SHEET 33 of 65

**B SECTION**  
 11M201 SCALE: 3/8"=1'-0"  
 0 2 4  
 Scale in Feet

**NOTES:**

- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND LOCATION OF ALL PIPE CONNECTIONS.
- FOR MECHANICAL, VALVE AND PUMP SCHEDULES, REFER TO DRAWINGS 83M801.
- FOR PIPING SCHEDULES, REFER TO DRAWING 11M801.
- REFER TO PROTECTIVE COATINGS SCHEDULE ON DRAWING 81A801 AND TECHNICAL SPECIFICATION SECTION 098000 FOR STRUCTURE, PIPING, EQUIPMENT AND MISCELLANEOUS COATING REQUIREMENTS.

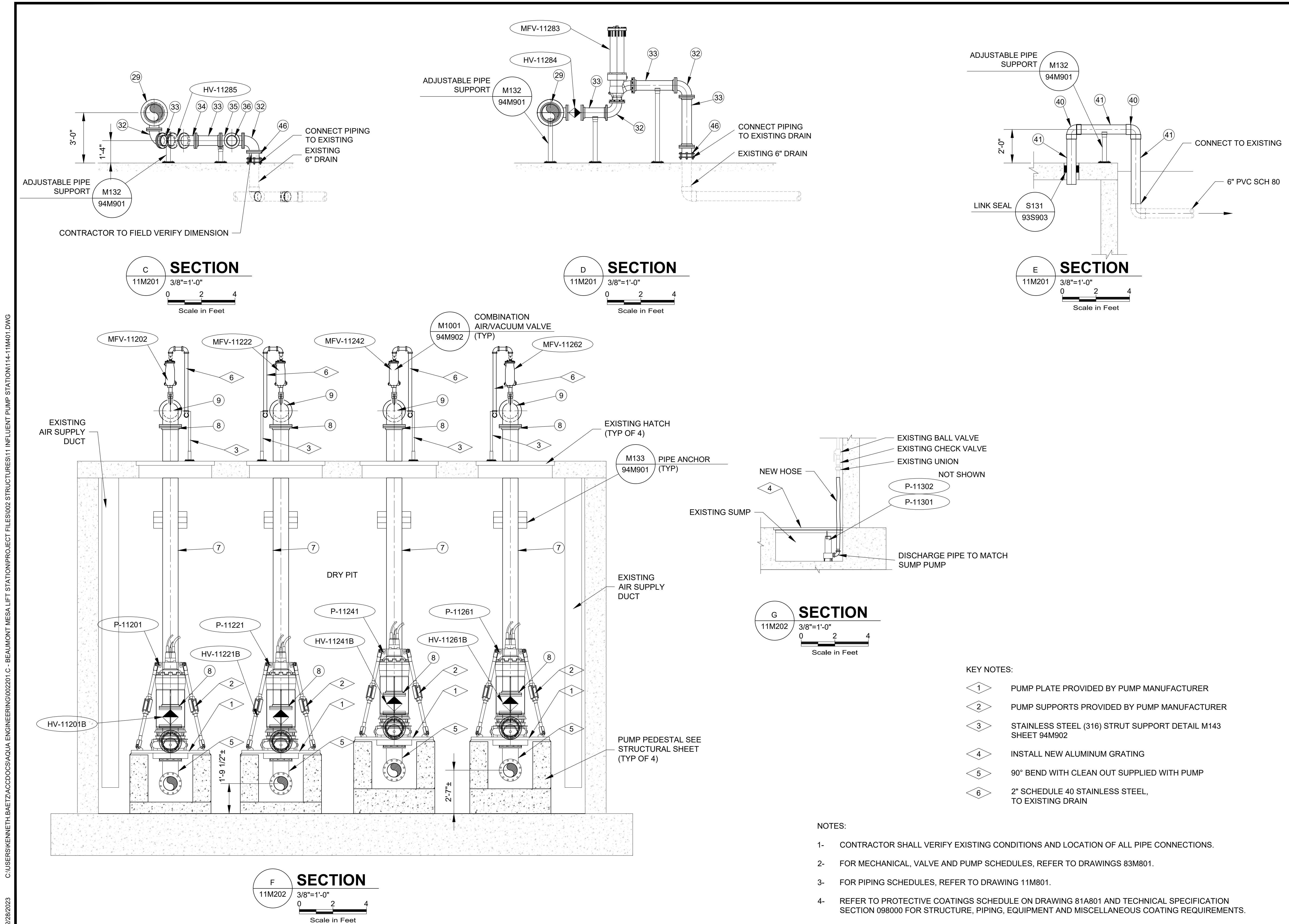
**KEY NOTES:**

- |   |   |   |  |
|---|---|---|--|
| 1 | 2" SCHEDULE 40 316 STAINLESS STEEL PIPING TO EXISTING DRAIN                                 | 4 | PROCO SERIES 231 (EPDM) OR EQUAL                                   |
| 2 | 1" SCHEDULE 40 316 STAINLESS STEEL PIPING WITH STAINLESS STEEL BALL VALVE TO EXISTING DRAIN | 5 | EBAA FLEX-TEND OR EQUAL  |
| 3 | 90° BEND WITH CLEAN OUT PROVIDED BY PUMP SUPPLIER   | 6 | PROCO SERIES 232 (EPDM) WITH STAINLESS STEEL CONTROL RODS OR EQUAL |

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- KEY NOTES:**
- 1 PUMP PLATE PROVIDED BY PUMP MANUFACTURER
  - 2 PUMP SUPPORTS PROVIDED BY PUMP MANUFACTURER
  - 3 STAINLESS STEEL (316) STRUT SUPPORT DETAIL M143 SHEET 94M902
  - 4 INSTALL NEW ALUMINUM GRATING
  - 5 90° BEND WITH CLEAN OUT SUPPLIED WITH PUMP
  - 6 2" SCHEDULE 40 STAINLESS STEEL, TO EXISTING DRAIN

- NOTES:**
- 1- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND LOCATION OF ALL PIPE CONNECTIONS.
  - 2- FOR MECHANICAL, VALVE AND PUMP SCHEDULES, REFER TO DRAWINGS 83M801.
  - 3- FOR PIPING SCHEDULES, REFER TO DRAWING 11M801.
  - 4- REFER TO PROTECTIVE COATINGS SCHEDULE ON DRAWING 81A801 AND TECHNICAL SPECIFICATION SECTION 098000 FOR STRUCTURE, PIPING, EQUIPMENT AND MISCELLANEOUS COATING REQUIREMENTS.



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE					
NO.	DATE	DESIGN	DRAWN	CHECKED	JRL
1	07-28-2023	BP	KRB		
REVISIONS					

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
LIFT STATION

MECHANICAL SECTIONS



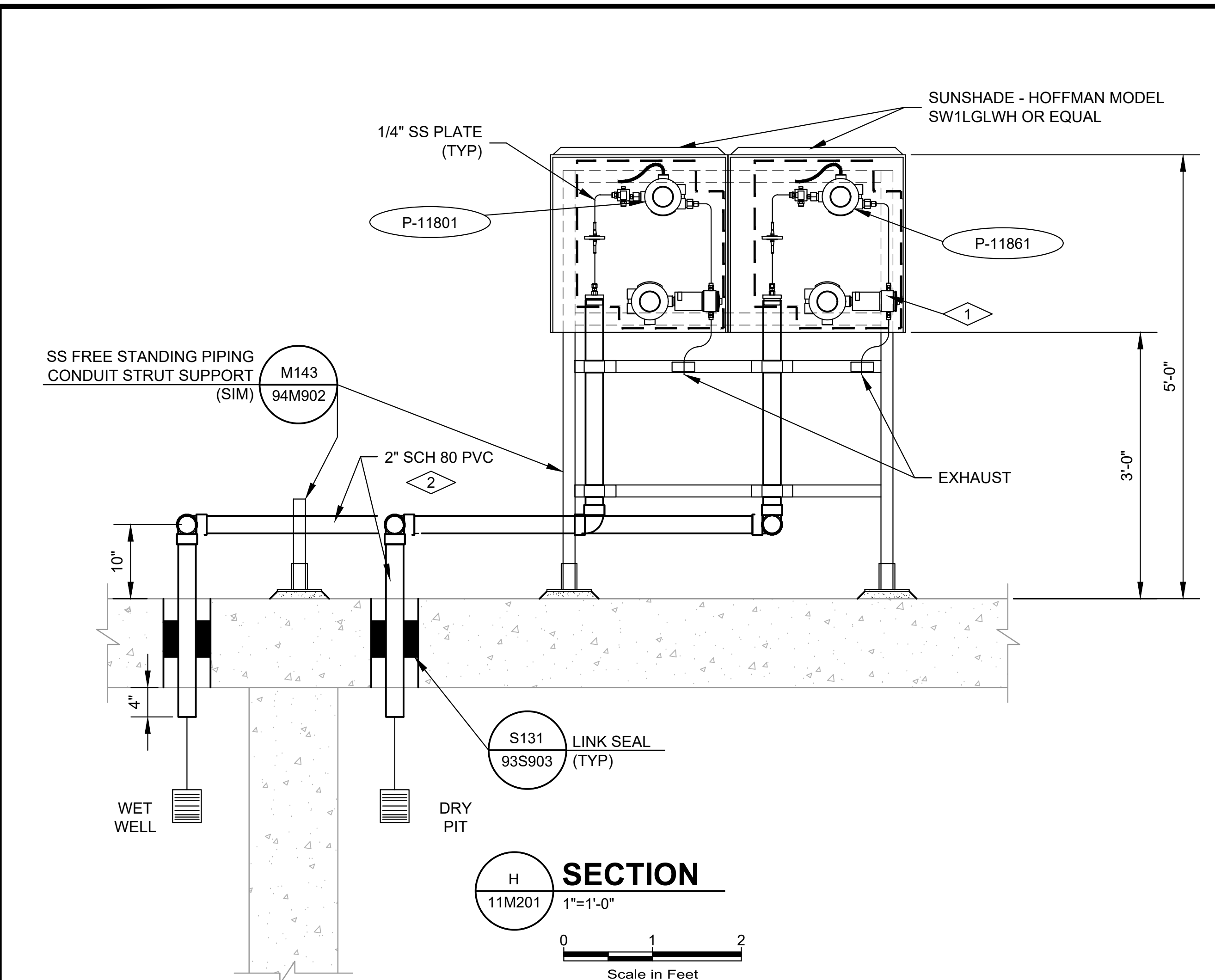
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DRAWING NO.  
**11M403**

SHEET 34 of 65





**H SECTION**  
11M201 1"=1'-0"  
Scale in Feet

**KEY NOTES:**

- 1 REFER TO INSTRUMENTATION SCHEDULE AND DETAIL 999 ON DRAWING E904 (SIM).
- 2 COAT PVC PER COATING SCHEDULE AND TECHNICAL SPECIFICATION 098000.



DRAWING IS TO SCALE  
IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

NO.	DATE	ORIGINAL		DESIGN		DRAWN		CHECKED	
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1/2									
1	07-28-2023								

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
LIFT STATION

MECHANICAL SECTION



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DRAWING NO.  
**11M404**

SHEET 35 of 65



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3/29/2023

PIPE SCHEDULE				
NO.	DESCRIPTION	SIZE	JOINT	MATERIAL
1	REDUCER WITH BOSS	16" x 10"	FLG	DIP
2	SPOOL	10"	FLG x GROOVE	DIP
3	FLANGE	10"	FLG x GROOVE	DIP
4	EXPANSION JOINT	10"	FLG	EPDM
5	ECCENTRIC REDUCER	10" x 5"	FLG	DIP
6	90° BEND	10"	FLG	DIP
7	SPOOL	10"	GROOVE	DIP
8	FLANGE	10"	GROOVE	DIP
9	90° BEND	10"	FLG	DIP
10	SPOOL	10"	FLG	DIP
11	TEE	10"	FLG	DIP
12	CONCENTRIC REDUCER	16" x 12"	FLG	DIP
13	EXPANSION JOINT	16"	FLG	DIP
14	REDUCING TEE	16" x 10"	FLG	DIP
15	SPOOL	16"	FLG x GROOVE	DIP
16	FLANGE	16"	FLG x GROOVE	DIP
17	REDUCING TEE	16" x 6"	FLG	DIP
18	FLEX JOINT (TOTAL LENGTH 74"±)	16"	FLG	DIP
19	SPOOL	16"	FLG	DIP
20	THREAD-O-LET	3"	WELD	DIP
21	TEE	16"	FLG	DIP
22	FLANGE COUPLING ADAPTOR	16"	FLG x MJ	DIP
23	SPOOL	16"	PE	DIP
24	CONCENTRIC REDUCER	12" x 10"	FLG	DIP
25	SPOOL	12"	FLG	DIP
26	TEE	12"	FLG	DIP
27	SPOOL	12"	FLG x GROOVE	DIP
28	FLANGE	12"	FLG x GROOVE	DIP
29	REDUCING TEE	12" x 6"	FLG	DIP
30	FLEX JOINT (TOTAL LENGTH 49"±)	12"	FLG	DIP
31	TEE	12"	FLG	DIP
32	90° BEND	6"	FLG	DIP
33	SPOOL	6"	FLG	DIP
34	45° BEND	6"	FLG	DIP
35	TEE	6"	FLG	DIP
36	CAM LOC WITH CAP	4"	MNTP	SS
37	COMPANION FLANGE	6" x 4"	FLG x MNTP	SS
38	CAST IRON CAP	6"	THREADED	CI
39	SPACER	6"	FLG	DIP
40	90° BEND	6"	SOCKET	PVC SCH 80
41	SPOOL	6"	PE	PVC SCH 80
42	45° BEND	6"	SOCKET	PVC SCH 80
43	THREAD-O-LET	2"	WELD	DIP
44	FLANGE COUPLING ADAPTOR	12"	FLG x MJ	DIP
45	SPOOL	12"	PE	DIP
46	FLANGE COUPLING ADAPTOR	6"	FLG x MNTP	DIP
47	COMPANION FLANGE	16" x 3"	FLG x MNTP	DIP
48	COMPANION FLANGE	12" x 2"	PE	DIP

NOTES:

- 1- PIPE FITTING SCHEDULE IS PROVIDED FOR CONVENIENCE, NOT ALL ITEMS MAY BE INCLUDED. REFER TO DRAWINGS AND TECHNICAL SPECIFICATIONS FOR ADDITIONAL DATA AND VERIFY PROJECT REQUIREMENTS.



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IF BAR MEASURES:  
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1/2" = HALF SCALE

ORIGINAL		DESIGN		DRAWN		CHECKED	
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B	07-28-2023	KRB		JRL			

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
LIFT STATION

MECHANICAL PIPE/FITTING SCHEDULE

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DRAWING NO.  
**11M801**

SHEET 36 of 65



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PROTECTIVE COATINGS SCHEDULE		
AREA	ITEM	COATING
<b>GENERAL PIPING</b>		
	BURIED DUCTILE IRON OR CAST IRON PIPE, VALVES, FITTINGS, AND APPURTENANCES	COATING SYSTEM 211
	NON-SUBMERGED EXTERIOR DUCTILE IRON OR CAST IRON PIPE, VALVES, FITTINGS, AND APPURTENANCES	COATING SYSTEM 212
	INTERIOR DUCTILE IRON OR CAST IRON PIPE, VALVES, FITTINGS, AND APPURTENANCES	COATING SYSTEM 213
	SUBMERGED EXTERIOR DUCTILE IRON OR CAST IRON PIPE, VALVES, FITTINGS, AND APPURTENANCES	COATING SYSTEM 213
	EXPOSED EXTERIOR PVC OR CPVC PIPING, VALVES, FITTINGS, AND APPURTENANCES	COATING SYSTEM 221
	EXPOSED INTERIOR PVC OR CPVC PIPING, VALVES, FITTINGS, AND APPURTENANCES	NO COATING REQUIRED
	EXPOSED INTERIOR/EXTERIOR GALVANIZED STEEL PIPING	NO COATING REQUIRED
	STAINLESS STEEL PIPE	NO COATING REQUIRED
	PIPE BOLLARDS	COATING SYSTEM 102
<b>MISC. METALS</b>		
	STRUCTURAL STEEL (NON HDG)	COATING SYSTEM 101
	ALUMINUM PLANK OR GRATING	NO COATING REQUIRED
	STRUCTURAL ALUMINUM	NO COATING UNLESS EMBEDDED OR IN CONTACT WITH CONCRETE - SYSTEM 203
<b>EMERGENCY STORAGE BASIN</b>		
	INTERIOR CONCRETE WALLS	COATING SYSTEM 307*
	INTERIOR CONCRETE FLOOR	COATING SYSTEM 307*
<b>DRY PIT WET WELL</b>		
	INTERIOR CONCRETE WALLS	NO COATING REQUIRED
	INTERIOR CONCRETE FLOOR	NO COATING REQUIRED

\* BID ALTERNATE ITEMS (REFER TO PROJECT BID FORM DOCUMENTS)

**NOTES:**

- UNLESS NOTED OTHERWISE, SURFACE PREPARATION AND COATING SHALL BE IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS SECTION 098000.
- ALL COLORS SHALL BE SELECTED BY OWNER. PIPE LABELING AND COLOR CODING SHALL BE IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS SECTION 220553.
- WHERE AN ITEM IS NOT SPECIFICALLY INCLUDED IN THIS TABLE, REFER TO TECHNICAL SPECIFICATION SECTION 098000. WHERE ONE OR MORE COATING SYSTEM APPEAR TO BE APPLICABLE, BASED ON GENERAL DESCRIPTION, THE MORE STRINGENT (ROBUST) COATING SHALL BE USED (FOLLOWING REVIEW AND APPROVAL BY THE ENGINEER).
- CONCRETE SURFACE FINISH SHALL BE IN ACCORDANCE WITH TECHNICAL SPECIFICATION SECTION 033000.



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IF BAR MEASURES:  
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1/2" = HALF SCALE

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CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
SCHEDULES

PROTECTIVE COATINGS



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DRAWING NO.

**81A801**

SHEET



MECHANICAL EQUIPMENT SCHEDULE					
ME#	LOCATION	ITEM	SERVICE	HP (KW)	REMARKS
ME-0902	YARD	POST HYDRANT	EMERGENCY STORAGE WASHDOWN	N/A	M&H COMPANY STYLE 33 POST HYDRANT OR EQUAL
ME-0903	YARD	POST HYDRANT	EMERGENCY STORAGE WASHDOWN	N/A	M&H COMPANY STYLE 33 POST HYDRANT OR EQUAL
ME-0904	YARD	POST HYDRANT	EMERGENCY STORAGE WASHDOWN	N/A	M&H COMPANY STYLE 33 POST HYDRANT OR EQUAL
ME-0905	YARD	POST HYDRANT	EMERGENCY STORAGE WASHDOWN	N/A	M&H COMPANY STYLE 33 POST HYDRANT OR EQUAL
ME-0906	YARD	POST HYDRANT	NPW FILL LOCATION	N/A	M&H COMPANY STYLE 33 POST HYDRANT OR EQUAL
ME-10201	GRINDER MANHOLE	GRINDER	RAW SEWAGE	5.00	JWC CDD 4010-XDS 2.0 W. MUFFIN MONSTER MANHOLE

VALVE SCHEDULE								
V#	LOCATION	SERVICE	TYPE	SIZE	MATERIAL	CONNECTION	ACTUATOR	REMARKS
HV-0901	YARD	NPW ISOLATION	RESILENT GATE VALVE	4"	DI	HDPE	NUT	MUELLER A-2361, W. GRIP RESTRAINT OR EQUAL
HV-0902	YARD	NPW ISOLATION	RESILENT GATE VALVE	4"	DI	HDPE	NUT	MUELLER A-2361, W. GRIP RESTRAINT OR EQUAL
HV-0903	YARD	NPW ISOLATION	RESILENT GATE VALVE	4"	DI	HDPE	NUT	MUELLER A-2361, W. GRIP RESTRAINT OR EQUAL
HV-0904	YARD	POST HYDRANT ISOLATION	RESILENT GATE VALVE	3"	DI	MJXMJ	NUT	MUELLER A-2362 OR EQUAL
HV-0905	YARD	POST HYDRANT ISOLATION	RESILENT GATE VALVE	3"	DI	MJXMJ	NUT	MUELLER A-2362 OR EQUAL
HV-0906	YARD	POST HYDRANT ISOLATION	RESILENT GATE VALVE	3"	DI	MJXMJ	NUT	MUELLER A-2362 OR EQUAL
HV-0907	YARD	POST HYDRANT ISOLATION	RESILENT GATE VALVE	3"	DI	MJXMJ	NUT	MUELLER A-2362 OR EQUAL
HV-0908	YARD	POST HYDRANT ISOLATION	RESILENT GATE VALVE	3"	DI	MJXMJ	NUT	MUELLER A-2362 OR EQUAL
HV-11201B	DRY PIT WELL	PUMP #1 DISCHARGE ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
HV-11201A	DRY PIT WELL	PUMP #1 SUCTION ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	EXISTING VALVE
CV-11201	PUMP STATION DISCHARGE PIPING	PUMP #1 DISCHARGE FLOW CHECK	SWING CHECK	10"	DI	FL X FL	N/A	VALMATIC SWING FLEX W. MECH INDICATOR OR EQUAL
HV-11201C	PUMP STATION DISCHARGE PIPING	PUMP #1 DISCHARGE ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
MFV-11202	PUMP STATION DISCHARGE PIPING	PUMP #1 DISCHARGE AIR/VAC VALVE	COMBINATION	2"	CI	THD	N/A	VALMATIC SERIES VMC-801SS W. BACKWASH ACCESSORIES OR EQUAL
HV-11221B	DRY PIT WELL	PUMP #2 DISCHARGE ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
HV-11221A	DRY PIT WELL	PUMP #1 SUCTION ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	EXISTING VALVE
CV-11221	PUMP STATION DISCHARGE PIPING	DISCHARGE FLOW CHECK	SWING CHECK	10"	DI	FL X FL	N/A	VALMATIC SWING FLEX W. MECH INDICATOR OR EQUAL
HV-11221C	PUMP STATION DISCHARGE PIPING	PUMP #2 DISCHARGE ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
MFV-11222	PUMP STATION DISCHARGE PIPING	PUMP #2 DISCHARGE AIR/VAC VALVE	COMBINATION	2"	CI	THD	N/A	VALMATIC SERIES VMC-801SS W. BACKWASH ACCESSORIES OR EQUAL
HV-11241B	DRY PIT WELL	PUMP #1 DISCHARGE ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
HV-11241A	DRY PIT WELL	PUMP #1 SUCTION ISOLATION	PLUG	16"	DI	FL X FL	WHEEL	EXISTING VALVE
CV-11241	PUMP STATION DISCHARGE PIPING	DISCHARGE FLOW CHECK	SWING CHECK	10"	DI	FL X FL	N/A	VALMATIC SWING FLEX W. MECH INDICATOR OR EQUAL
HV-11241C	PUMP STATION DISCHARGE PIPING	PUMP #3 DISCHARGE ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
MFV-11242	PUMP STATION DISCHARGE PIPING	PUMP #3 DISCHARGE AIR/VAC VALVE	COMBINATION	2"	CI	THD	N/A	VALMATIC SERIES VMC-801SS W. BACKWASH ACCESSORIES OR EQUAL
HV-11261B	DRY PIT WELL	PUMP #1 DISCHARGE ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
HV-11261A	DRY PIT WELL	PUMP #1 SUCTION ISOLATION	PLUG	16"	DI	FL X FL	WHEEL	EXISTING VALVE
CV-11261	PUMP STATION DISCHARGE PIPING	DISCHARGE FLOW CHECK	SWING CHECK	10"	DI	FL X FL	N/A	VALMATIC SWING FLEX W. MECH INDICATOR OR EQUAL
HV-11261C	PUMP STATION DISCHARGE PIPING	PUMP #1 DISCHARGE ISOLATION	PLUG	10"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
MFV-11262	PUMP STATION DISCHARGE PIPING	PUMP #1 DISCHARGE AIR/VAC VALVE	COMBINATION	2"	CI	THD	N/A	VALMATIC SERIES VMC-801SS W. BACKWASH ACCESSORIES OR EQUAL
HV-11271	PUMP STATION DISCHARGE PIPING	FORCE MAIN FLOW CONTROL	PLUG	12"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
FV-11272	PUMP STATION DISCHARGE PIPING	FORCE MAIN FLOW CONTROL	PLUG	12"	DI	FL X FL	EL. ACTUATOR (OPEN/CLOSE)	VALMATIC FULL PORT OR EQUAL
HV-11273	PUMP STATION DISCHARGE PIPING	FORCE MAIN FLOW CONTROL	PLUG	12"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
FV-11281	PUMP STATION DISCHARGE PIPING	FORCE MAIN FLOW CONTROL	PLUG	12"	DI	FL X FL	EL. ACTUATOR (OPEN/CLOSE)	VALMATIC FULL PORT OR EQUAL
HV-11282	PUMP STATION DISCHARGE PIPING	FORCE MAIN FLOW ISOLATION	PLUG	12"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
MFV-11283	PUMP STATION DISCHARGE PIPING	SURGE RELIEF VALVE	SURGE RELIEF	6"	DI	FL X FL	N/A	APCO SERIES SRA OR EQUAL
HV-11284	PUMP STATION DISCHARGE PIPING	SURGE RELIEF VALVE ISOLATION	PLUG	6"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
HV-11285	PUMP STATION DISCHARGE PIPING	DRAIN LINE ISOLATION	PLUG	6"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
HV-11286	PUMP STATION DISCHARGE PIPING	BYPASS ISOLATION	PLUG	6"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
MFV-11287	PUMP STATION DISCHARGE PIPING	12" FORCE MAIN AIR RELIEF	AIR RELIEF	2"	CI	FL X FL	N/A	VALMATIC SERIES 48A W. BACKWASH ACCESSORIES OR EQUAL
FV-11291	PUMP STATION DISCHARGE PIPING	FORCE MAIN FLOW CONTROL	PLUG	16"	DI	FL X FL	EL. ACTUATOR (OPEN/CLOSE)	VALMATIC FULL PORT OR EQUAL
HV-11292	PUMP STATION DISCHARGE PIPING	FORCE MAIN FLOW ISOLATION	PLUG	16"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
MFV-11293	PUMP STATION DISCHARGE PIPING	SURGE RELIEF VALVE	SURGE RELIEF	6"	DI	FL X FL	N/A	APCO SERIES SRA OR EQUAL
HV-11294	PUMP STATION DISCHARGE PIPING	SURGE RELIEF VALVE ISOLATION	PLUG	6"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
HV-11295	PUMP STATION DISCHARGE PIPING	DRAIN LINE ISOLATION	PLUG	6"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
HV-11296	PUMP STATION DISCHARGE PIPING	BYPASS ISOLATION	PLUG	6"	DI	FL X FL	WHEEL	VALMATIC FULL PORT OR EQUAL
MFV-11297	PUMP STATION DISCHARGE PIPING	16" FORCE MAIN AIR RELIEF	AIR RELIEF	3"	CI	FL X FL	N/A	VALMATIC SERIES 48A W. BACKWASH ACCESSORIES OR EQUAL

PUMP SCHEDULE							
P#	LOCATION	SERVICE	TYPE	HP (KW)	FLOW	TDH	REMARKS
P-11201	DRY PIT WELL	SS FORCE MAIN	DRY PIT SUBMERSIBLE	177.0	1750 GPM*	228 FT*	HIDROSTAL H5KS OR EQUAL
P-11221	DRY PIT WELL	SS FORCE MAIN	DRY PIT SUBMERSIBLE	177.0	1750 GPM*	228 FT*	HIDROSTAL H5KS OR EQUAL
P-11241	DRY PIT WELL	SS FORCE MAIN	DRY PIT SUBMERSIBLE	177.0	1750 GPM*	228 FT*	HIDROSTAL H5KS OR EQUAL
P-11261	DRY PIT WELL	SS FORCE MAIN	DRY PIT SUBMERSIBLE	177.0	1750 GPM	228 FT	HIDROSTAL H5KS OR EQUAL
P-11301	DRY PIT WELL	SUMP PUMP	SUBMERSIBLE	1.00	100 GPM	20 FT	GOULDS 2DM51E4NA OR EQUAL
P-11302	DRY PIT WELL	SUMP PUMP	SUBMERSIBLE	1.00	100 GPM	20 FT	GOULDS 2DM51E4NA OR EQUAL

\* REFER TO SPECIFICATION SECTION 432513 FOR ADDITIONAL OPERATIONAL CRITERIA.

HVAC SCHEDULE						
H#	LOCATION	SERVICE	ITEM	V / HP (KW)	CAPACITY/SIZE	REMARKS
H-10101	EMERGENCY STORAGE BASIN	AIR INTAKE/EXHAUST CONTROL	FIBERGLASS DAMPER	N/A	N/A	SWARTWOUT MODEL CBRD 912 OR EQUAL
H-10102	EMERGENCY STORAGE BASIN	AIR INTAKE/EXHAUST CONTROL	FIBERGLASS DAMPER	N/A	N/A	SWARTWOUT MODEL CBRD 912 OR EQUAL
H-10103	EMERGENCY STORAGE BASIN	AIR INTAKE/EXHAUST CONTROL	FIBERGLASS DAMPER	N/A	N/A	SWARTWOUT MODEL CBRD 912 OR EQUAL
H-10104	EMERGENCY STORAGE BASIN	AIR INTAKE/EXHAUST CONTROL	FIBERGLASS DAMPER	N/A	N/A	SWARTWOUT MODEL CBRD 912 OR EQUAL

NOTES:

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	DESIGN	BP	KRB
NO. DATE		REVISIONS	
B 07-28-2023			

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE SCHEDULES

PUMP, MECHANICAL EQUIPMENT AND VALVES



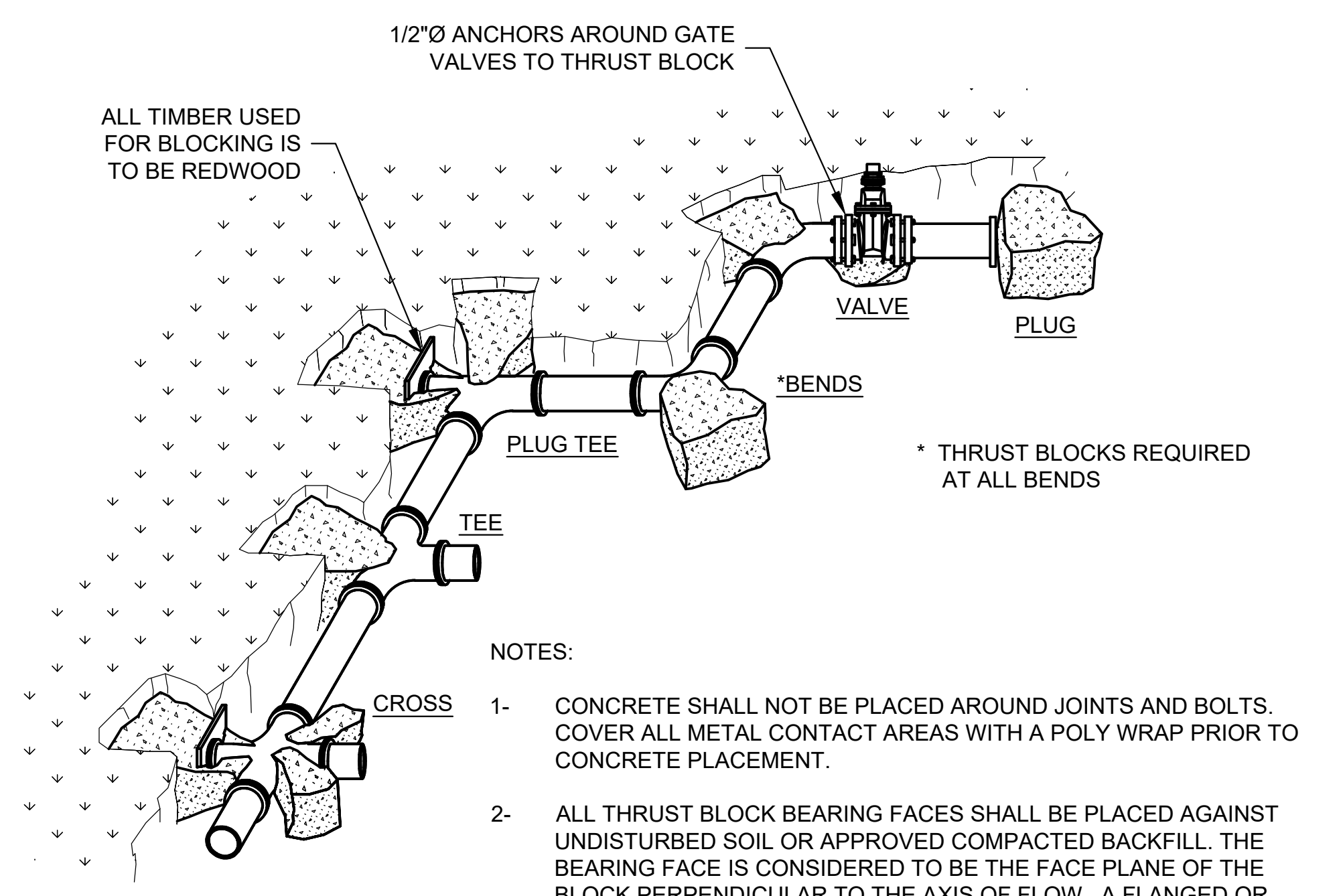
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DRAWING NO.  
**83M801**  
SHEET 38 of 65

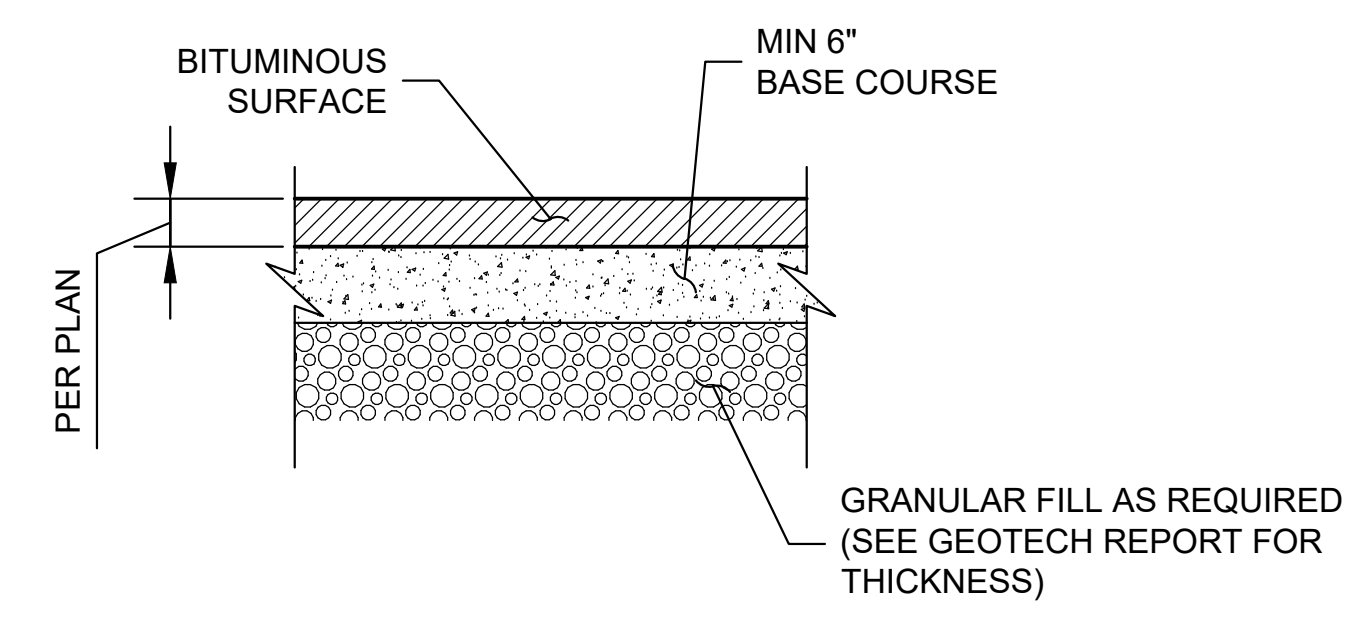


6/12/2023 C:\USERS\KENNETH.BAETZ\AQUA\ENGINEERING\02201.C - BEAUMONT MESA LIFT STATION\PROJECT FILES\990 DETAILS\CIVIL DETAILS.DWG

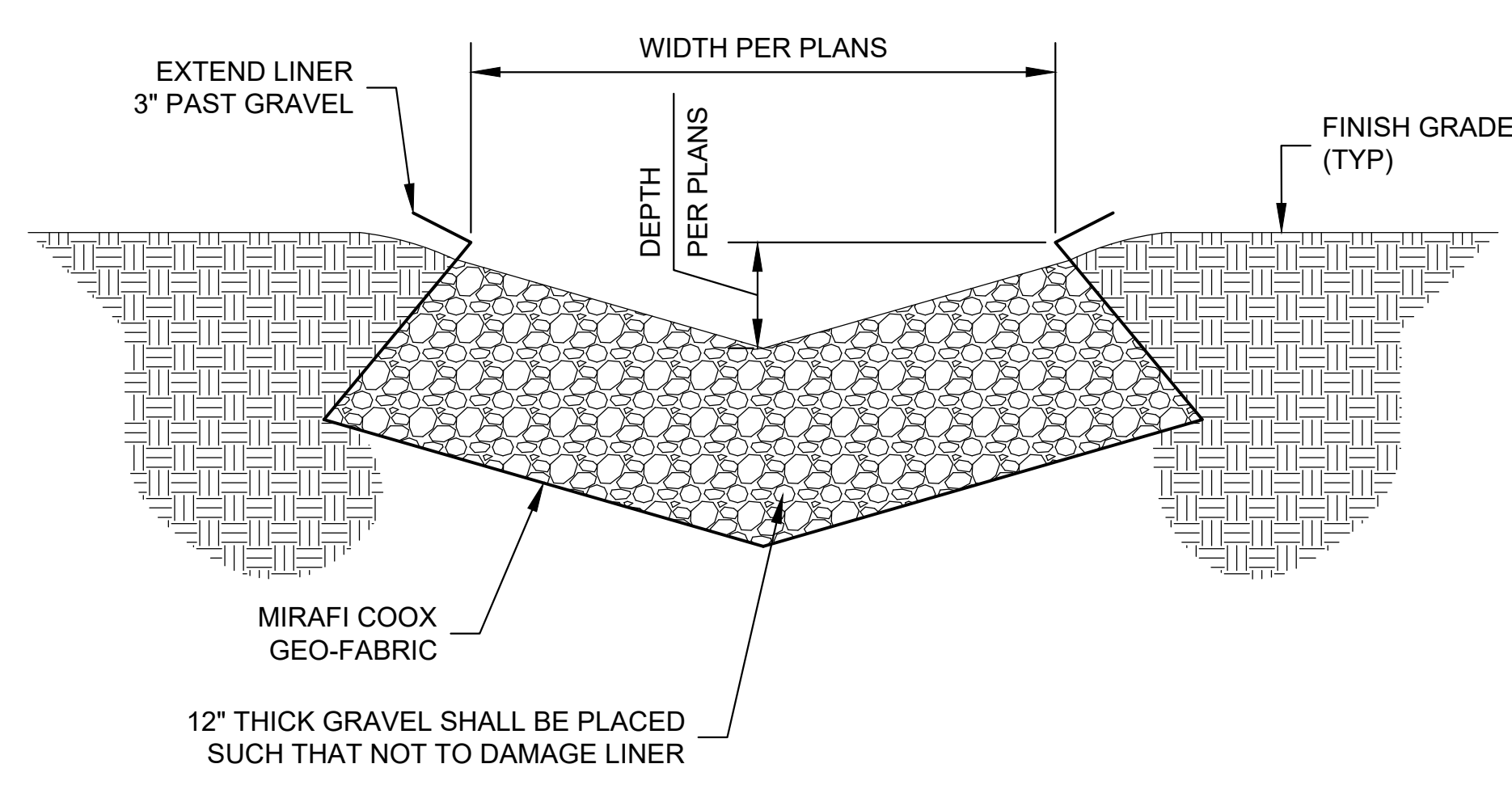


THRUST BLOCK BEARING AREA IN SQ. FT. @150 PSI WORKING PRESSURE										
PIPE SIZE	CROSS	TEE	WYE	DEAD END	VALVE	90° BEND	45° BEND	22.5° BEND	11.25° BEND	
4	2.7	1.9	1.9	1.9	1.9	2.7	1.5	1.0	1.0	
6	6.0	4.3	4.3	4.3	4.3	6.0	3.3	1.7	1.0	
8	10.7	7.6	7.6	7.6	7.6	10.7	5.8	3.0	1.5	
10	16.7	11.8	11.8	11.8	11.8	16.7	9.1	4.6	2.4	
12	24.0	17.0	17.0	17.0	17.0	24.0	13.0	6.7	3.4	
14	32.7	23.1	23.1	23.1	23.1	32.7	17.7	9.1	4.6	
16	42.7	30.2	30.2	30.2	30.2	42.7	23.1	11.8	6.0	
18	54.0	38.2	38.2	38.2	38.2	54.0	29.3	14.9	7.5	
20	66.7	47.2	47.2	47.2	47.2	66.7	36.1	18.4	9.3	
24	96.0	67.9	67.9	67.9	67.9	96.0	52.0	26.5	13.4	

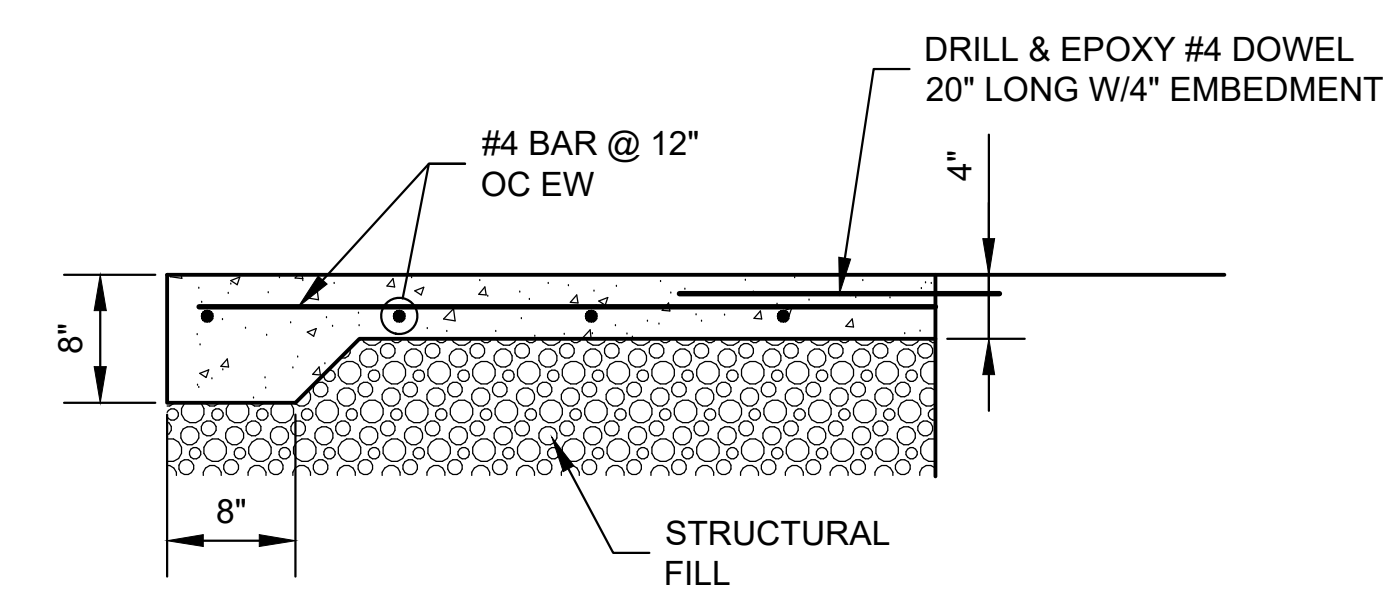
**C101 THRUST BLOCK**  
NTS



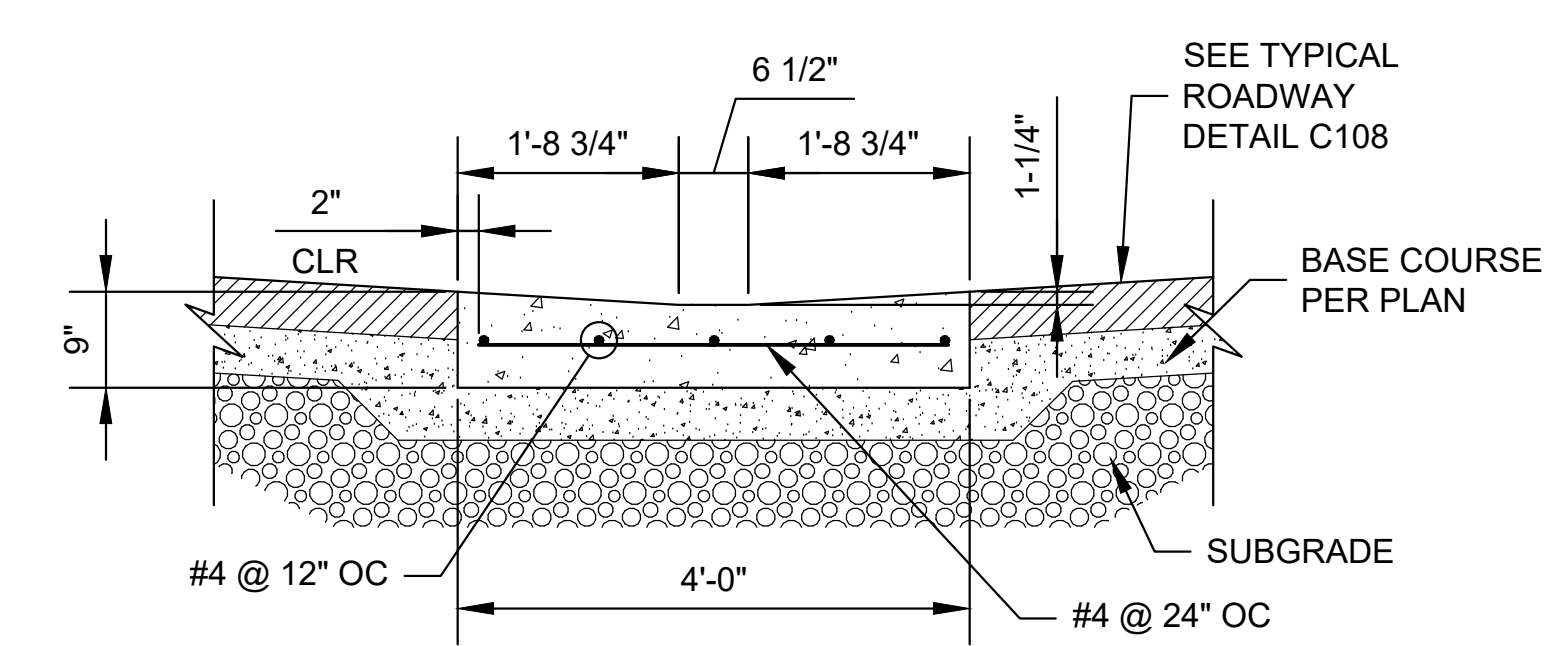
**C108 ROADWAY SECTION**  
NTS



**C115 GRAVEL SWALE**  
NTS



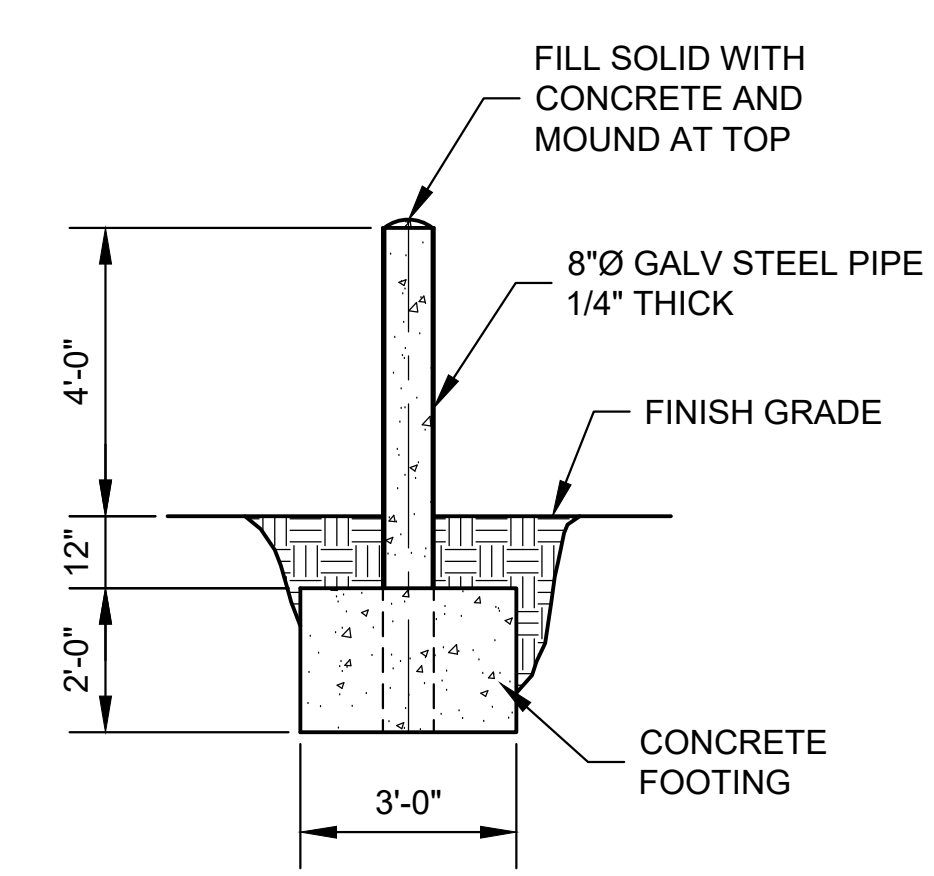
**C122 CONCRETE LANDING**  
NTS



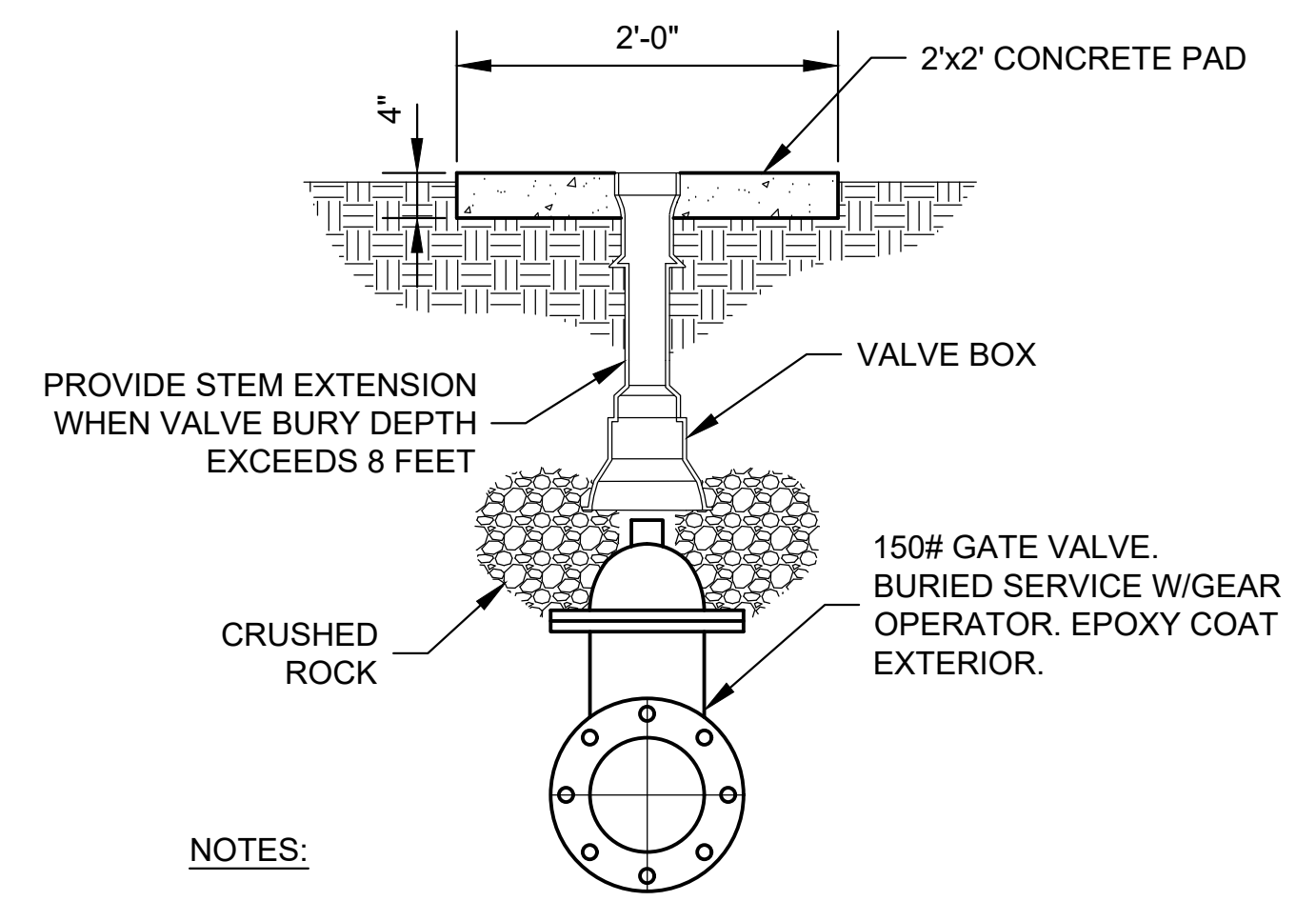
NOTE:

- 1- CONTRACTOR SHALL PROVIDE CONTROL JOINTS EVERY 10 FEET AND EXPANSION JOINTS EVERY 40 FEET.

**C114 4' CROSS GUTTER**  
NTS



**C120 PIPE BOLLARD**  
NTS



NOTES:

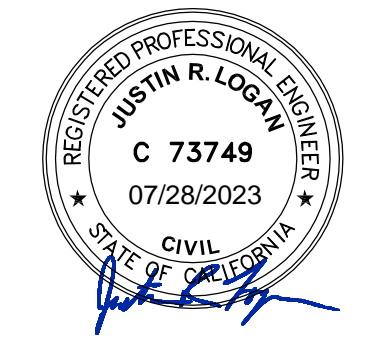
- 1- PROVIDE PROTECTIVE COATING TO EXTERIOR SURFACE OF VALVE BODY AND PROVIDE STAINLESS STEEL NUTS AND BOLTS.
- 2- VALVE BOX LID SHALL BE LABELED ACCORDING TO SERVICE.

**C127 BURIED GATE VALVE**  
NTS

BEAUMONT-CHERRY VALLEY WATER DISTRICT  
BEAUMONT, CA

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

MARK B. SWANSON  
DISTRICT ENGINEER  
RCE NO 72332



DRAWING IS TO SCALE  
IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

NO.	DATE	DESIGN	DRAWN	CHECKED	REVISIONS
B	03/03/2023	AQUA	AQUA	AQUA	

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
STANDARD DETAILS

CIVIL DETAILS



ALBERT A. WEBB ASSOCIATES  
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3788 MCCRAY STREET  
RIVERSIDE, CA 92506  
PH. (951) 686-1070  
FAX (951) 788-1256

AQUA ENGINEERING  
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PHONE (801) 299-1327 FAX (801) 299-0153

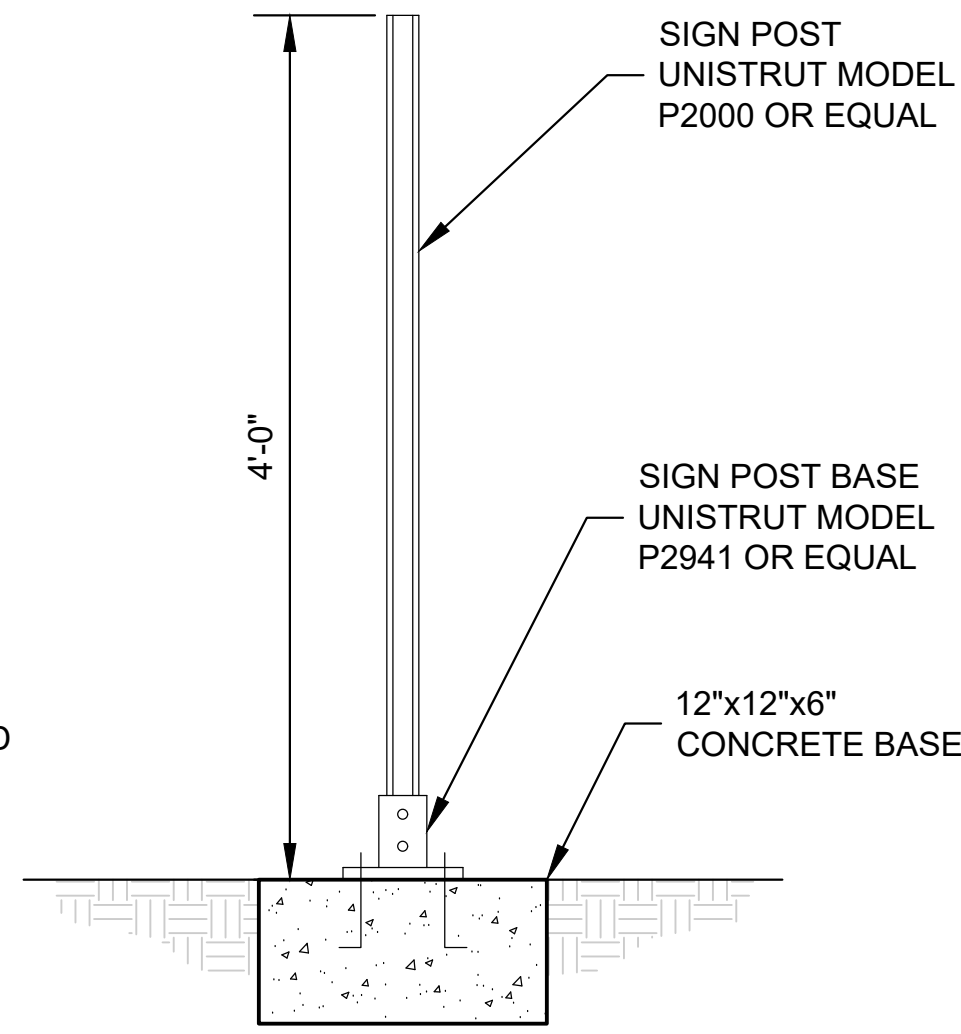
DRAWING NO.  
**91C901**  
SHEET



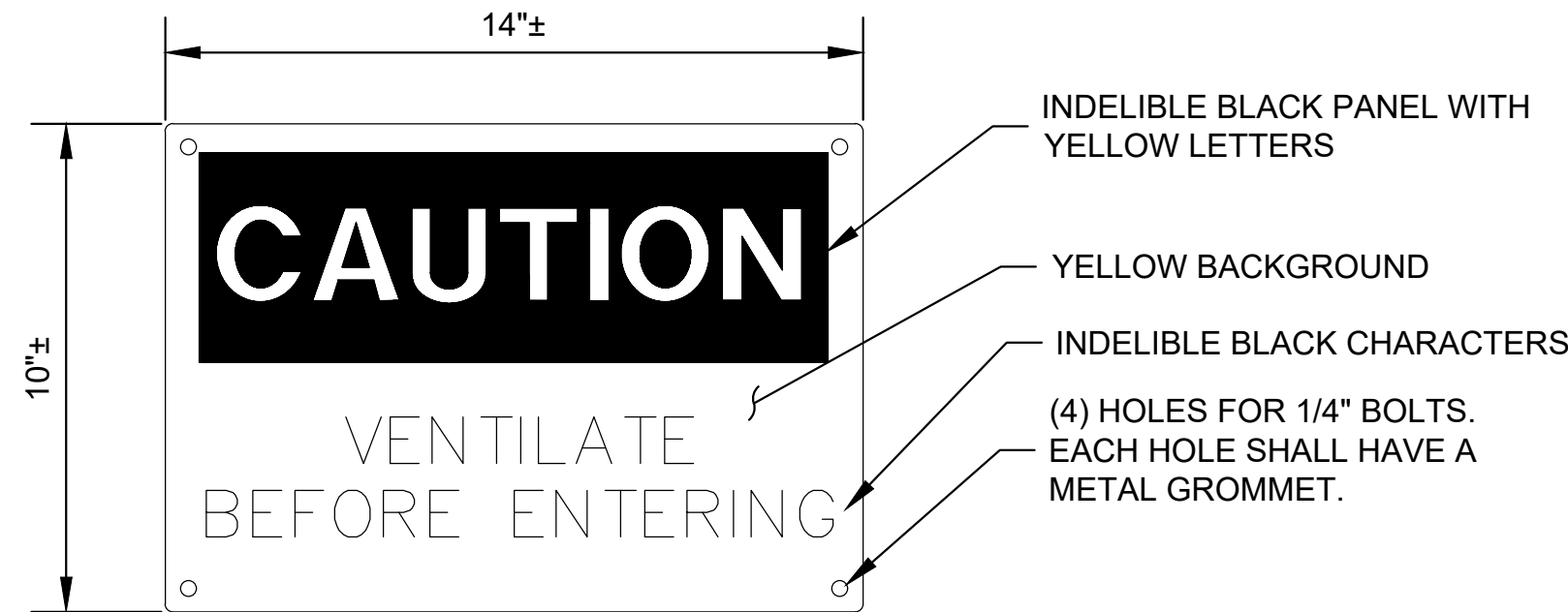
C:\USERS\KENNETH.BAETZ\ACCORDS\AQUA ENGINEERING\002201.C - BEAUMONT MESA LIFT STATION\PROJECT FILES\9890 DETAILS\ARCHITECTURAL DETAILS.DWG

NOTES:

- 1- UNISTRUT BASE AND POST TO BE STAINLESS STEEL.
- 2- ALL MOUNTING HARDWARE TO BE STAINLESS STEEL



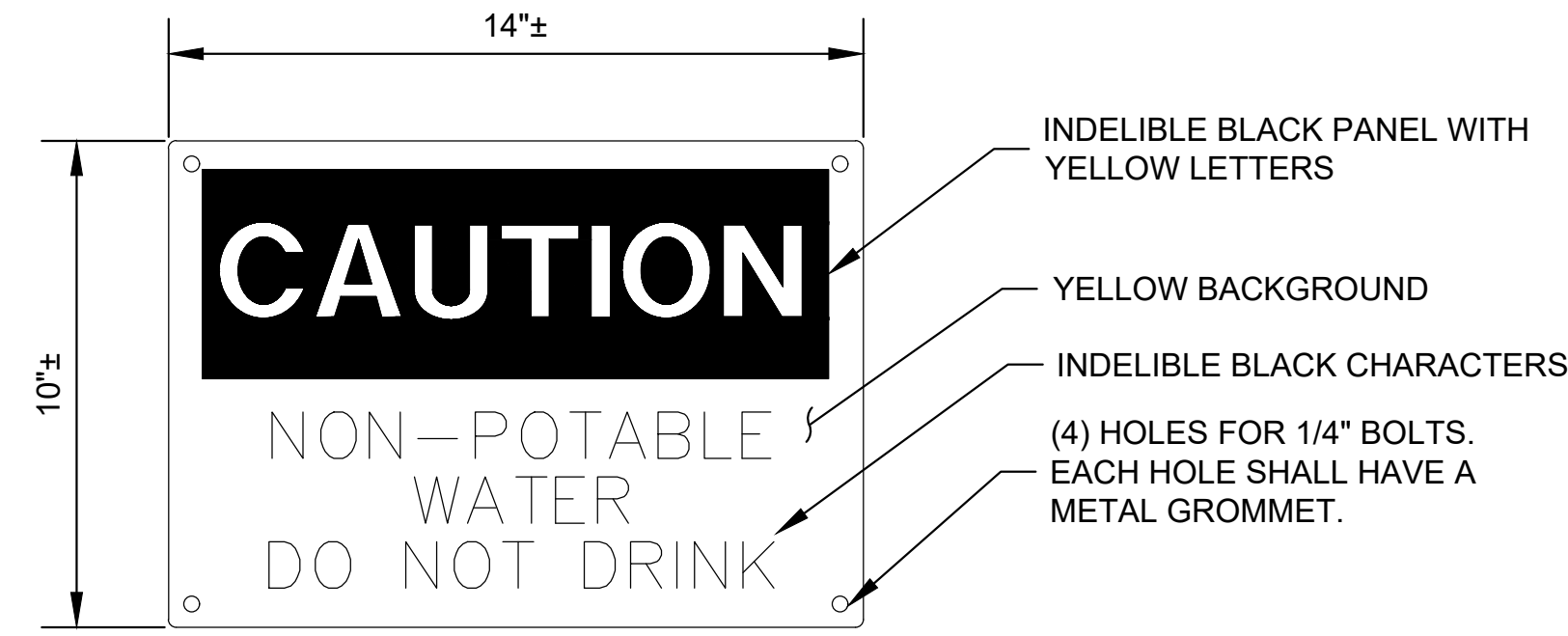
**SIGN POST**  
A134 NTS



NOTES:

- 1- MATERIAL TO BE SEMI-RIGID BUTYRATE OR APPROVED EQUAL. COLORS AND LETTER SIZES TO BEE PER OSHA STANDARDS FOR CAUTION SIGNS.
- 2- SIGN TO BE ATTACHED IN CONSPICUOUS LOCATION AT ENTRY TO UNDERGROUND STRUCTURES.

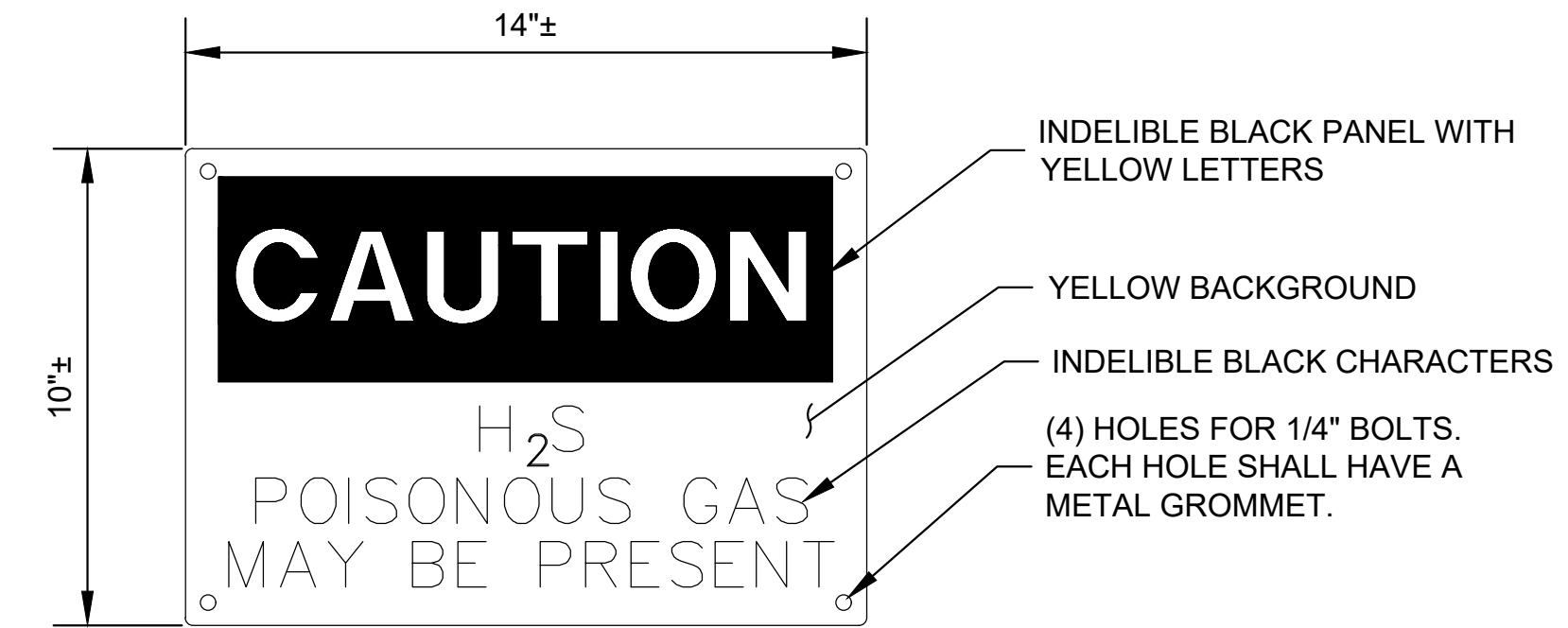
**VENTILATION WARNING SIGN**  
A144 NTS



NOTE:

MATERIAL TO BE SEMI-RIGID BUTYRATE OR APPROVED EQUAL. COLORS AND LETTER SIZES TO BE PER OSHA STANDARDS FOR CAUTION SIGNS. PROVIDE THIS SIGN AT ALL HOSE BIBB LOCATIONS WHERE WATER IS NON-POTABLE.

**WARNING SIGN FOR NON-POTABLE WATER**  
A141 NTS



NOTE:

MATERIAL TO BE SEMI-RIGID BUTYRATE OR APPROVED EQUAL. COLORS AND LETTER SIZES TO BE PER OSHA STANDARDS FOR CAUTION SIGNS.

**H2S WARNING SIGN**  
A142 NTS



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DESIGN	DRAWN	CHECKED		
		AQUA	AQUA	AQUA		
	NO. DATE		REVISIONS			
	B	07-28-2023				

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
STANDARD DETAILS

ARCHITECTURAL DETAILS

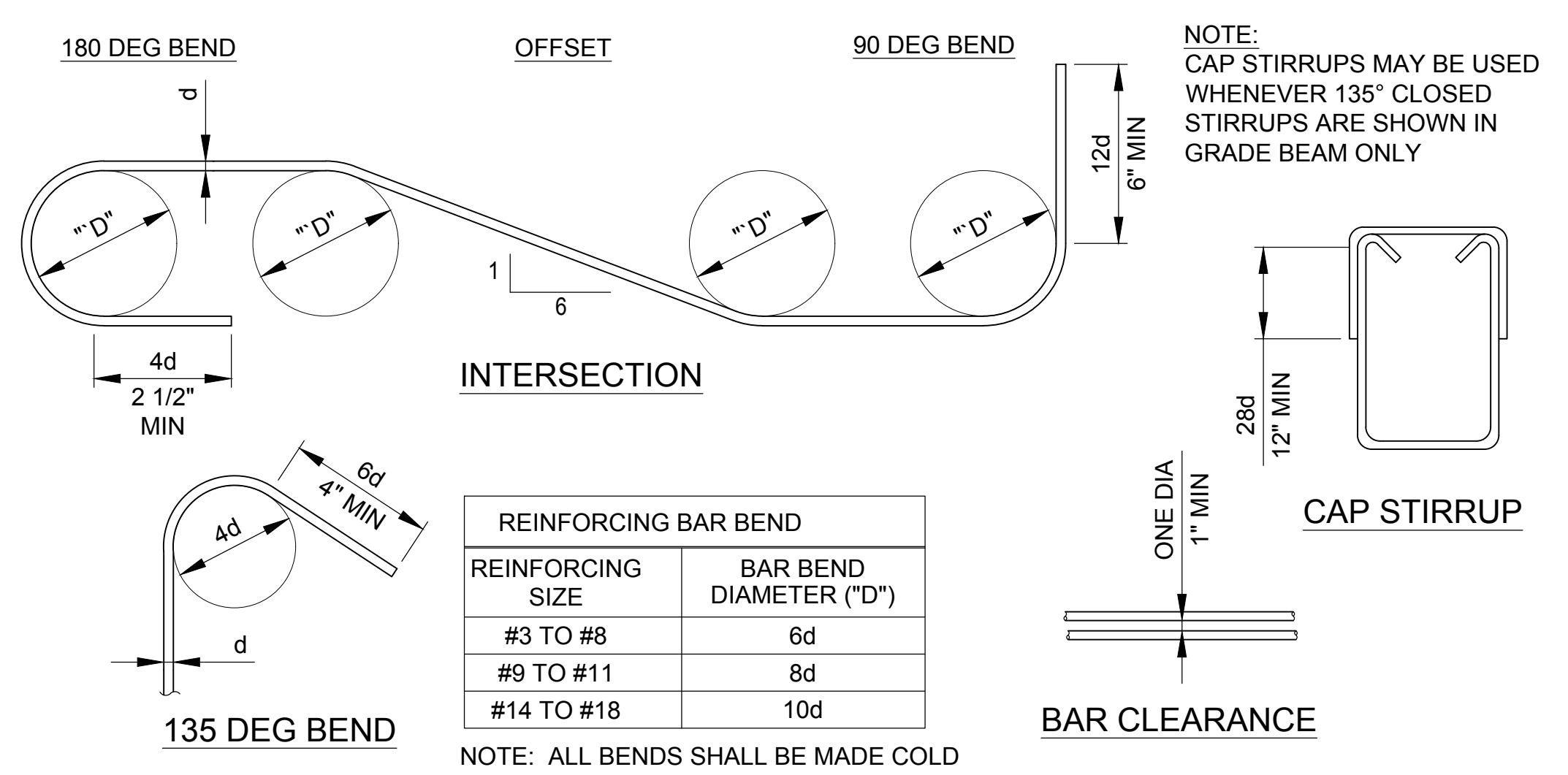


**ALBERT A. WEBB** ASSOCIATES  
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FAX (951) 788-1256

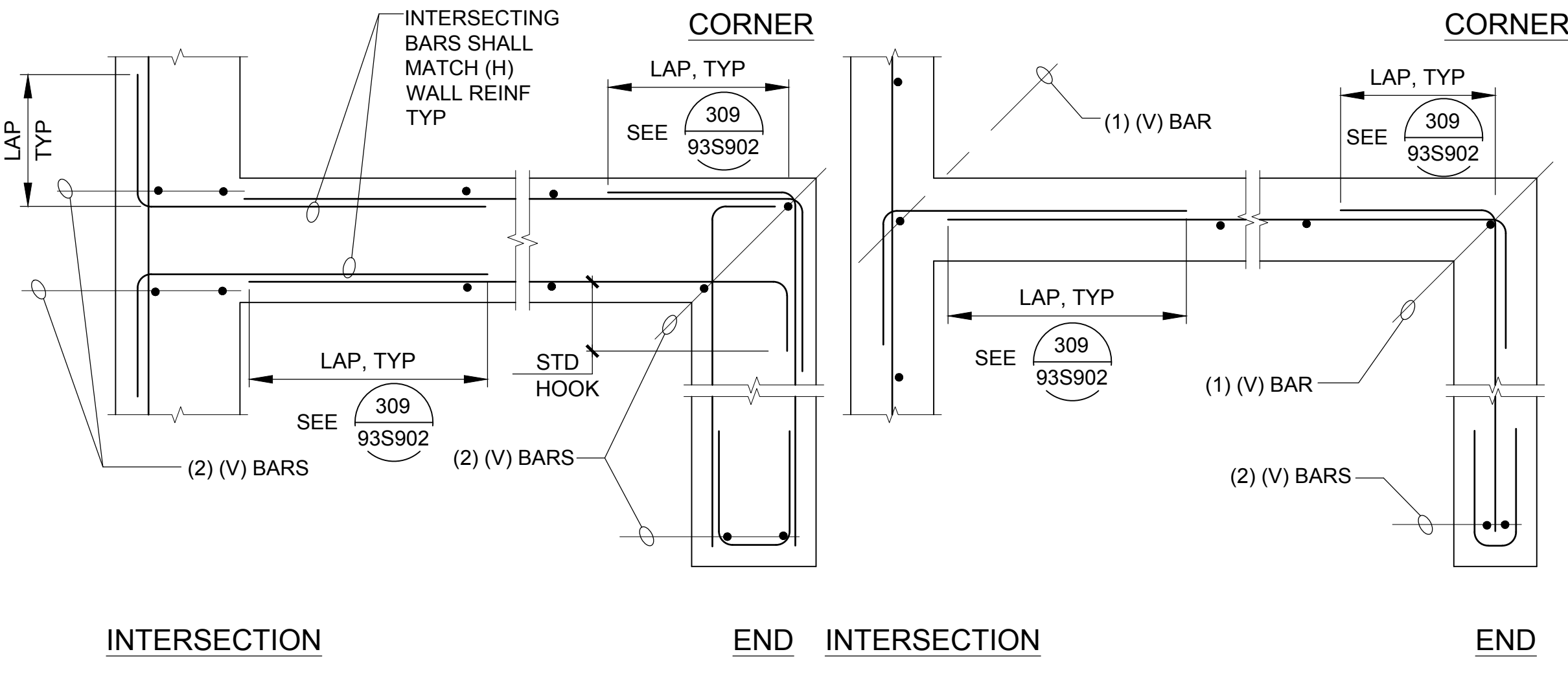
**AQUA** ENGINEERING  
533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010  
PHONE (801) 299-1327 FAX (801) 299-0153

DRAWING NO.  
**92A901**

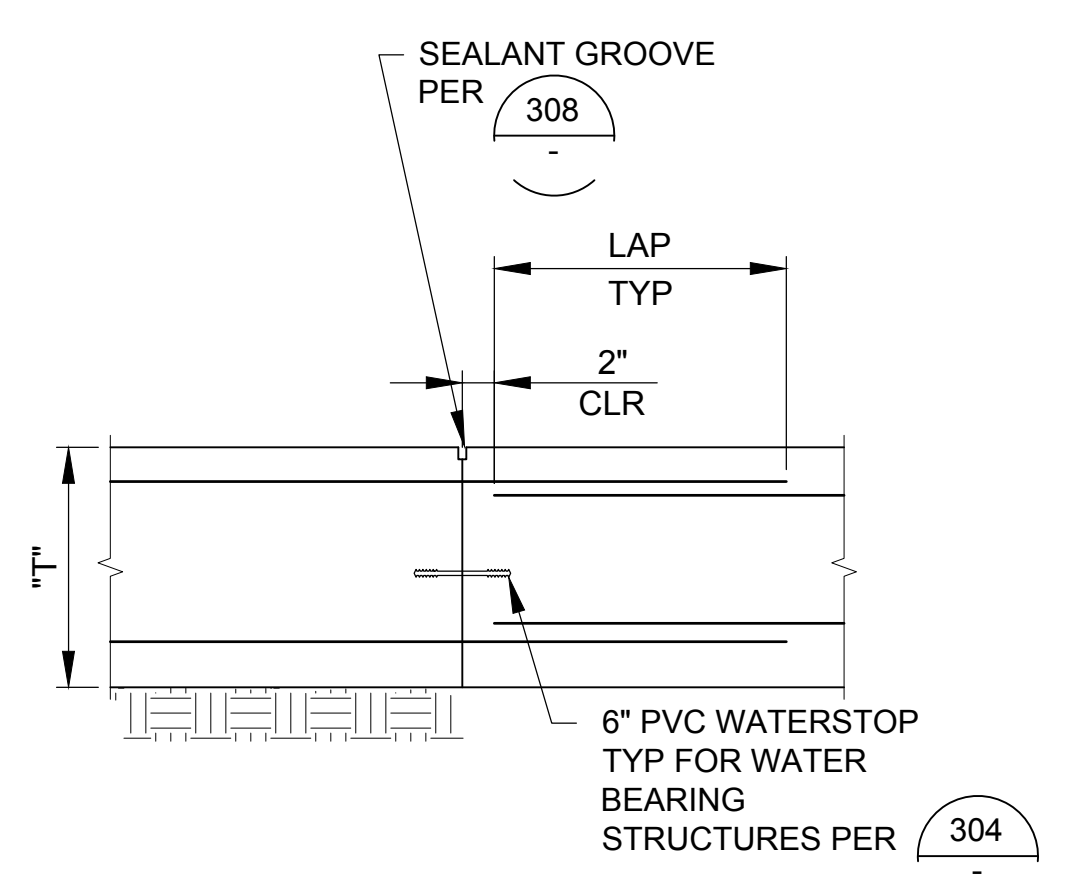




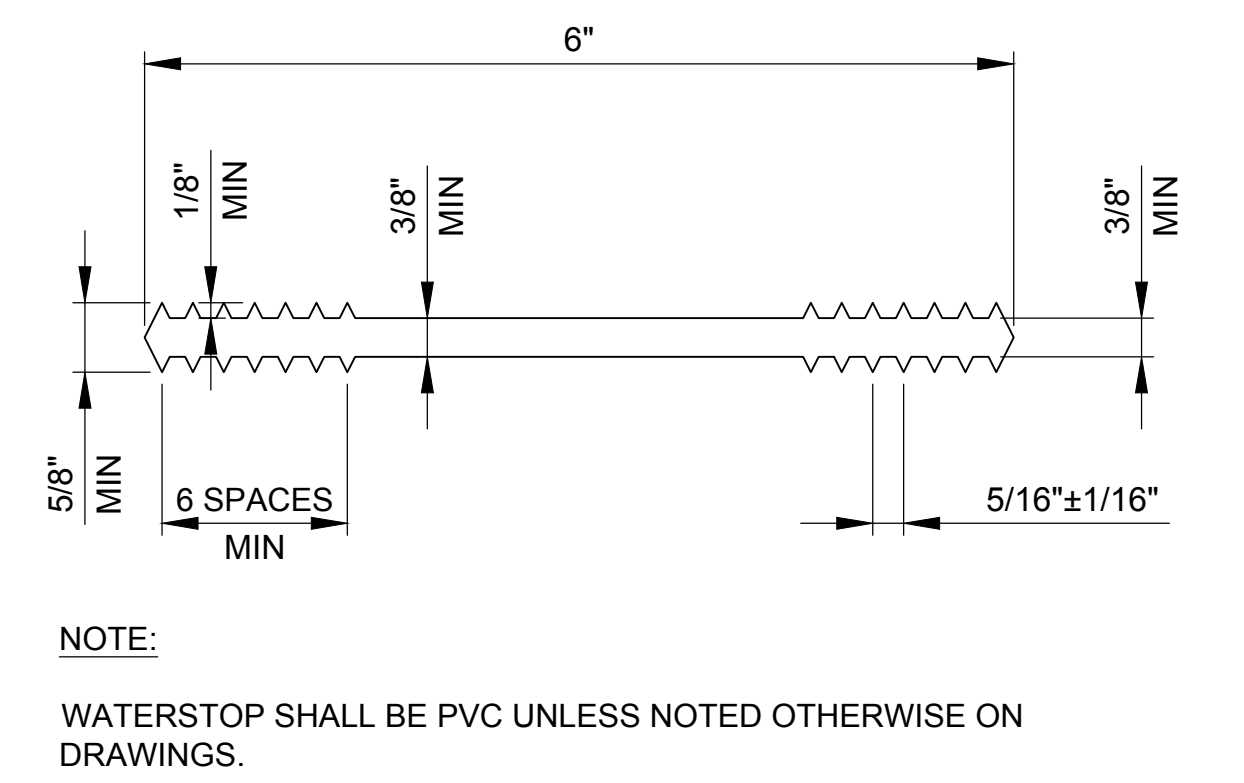
**TYPICAL REINF BAR BENDS**  
SCALE: NONE



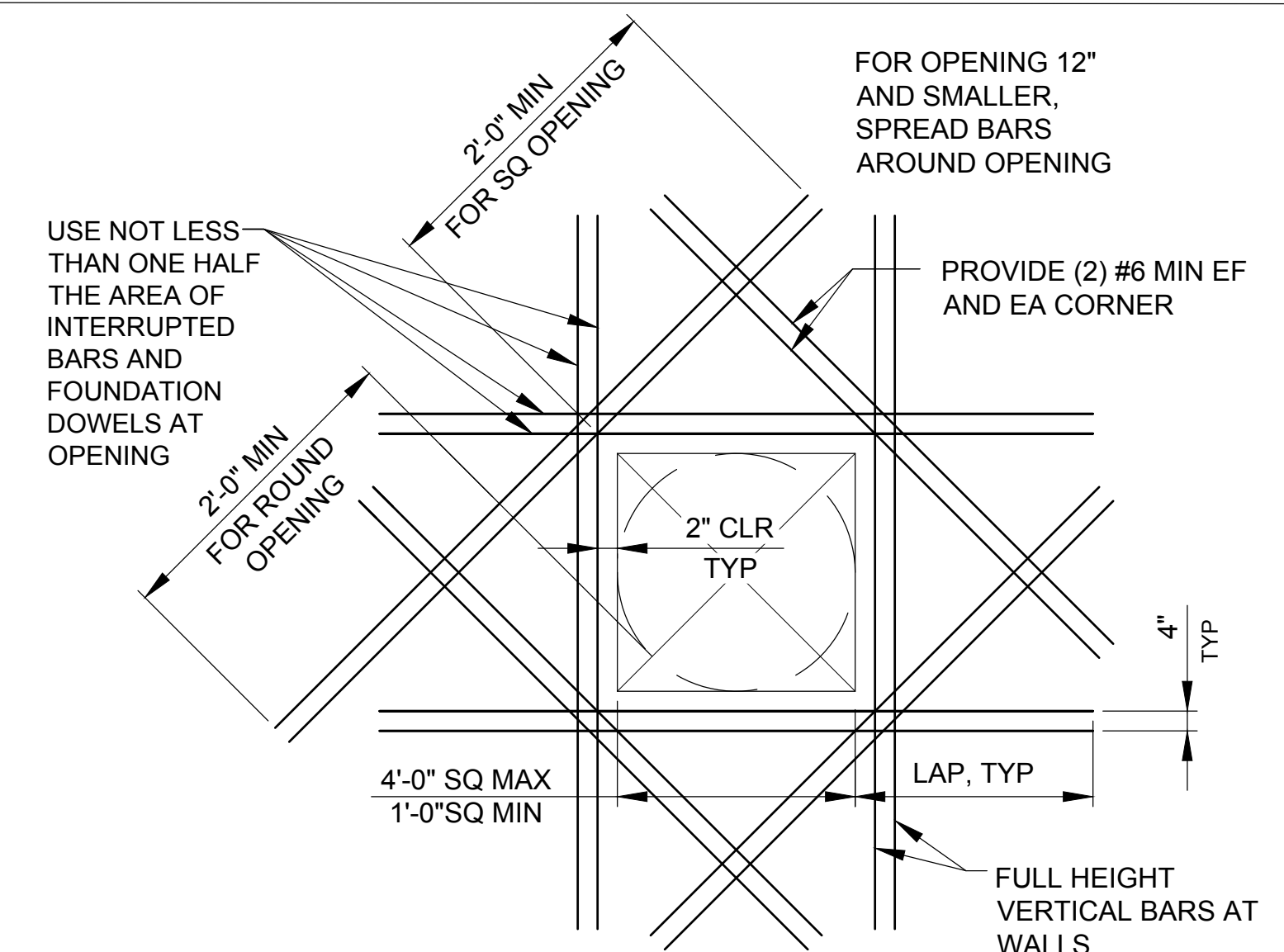
**TYPICAL CONCRETE FOOTING REINF - PLAN VIEW**  
SCALE: NONE



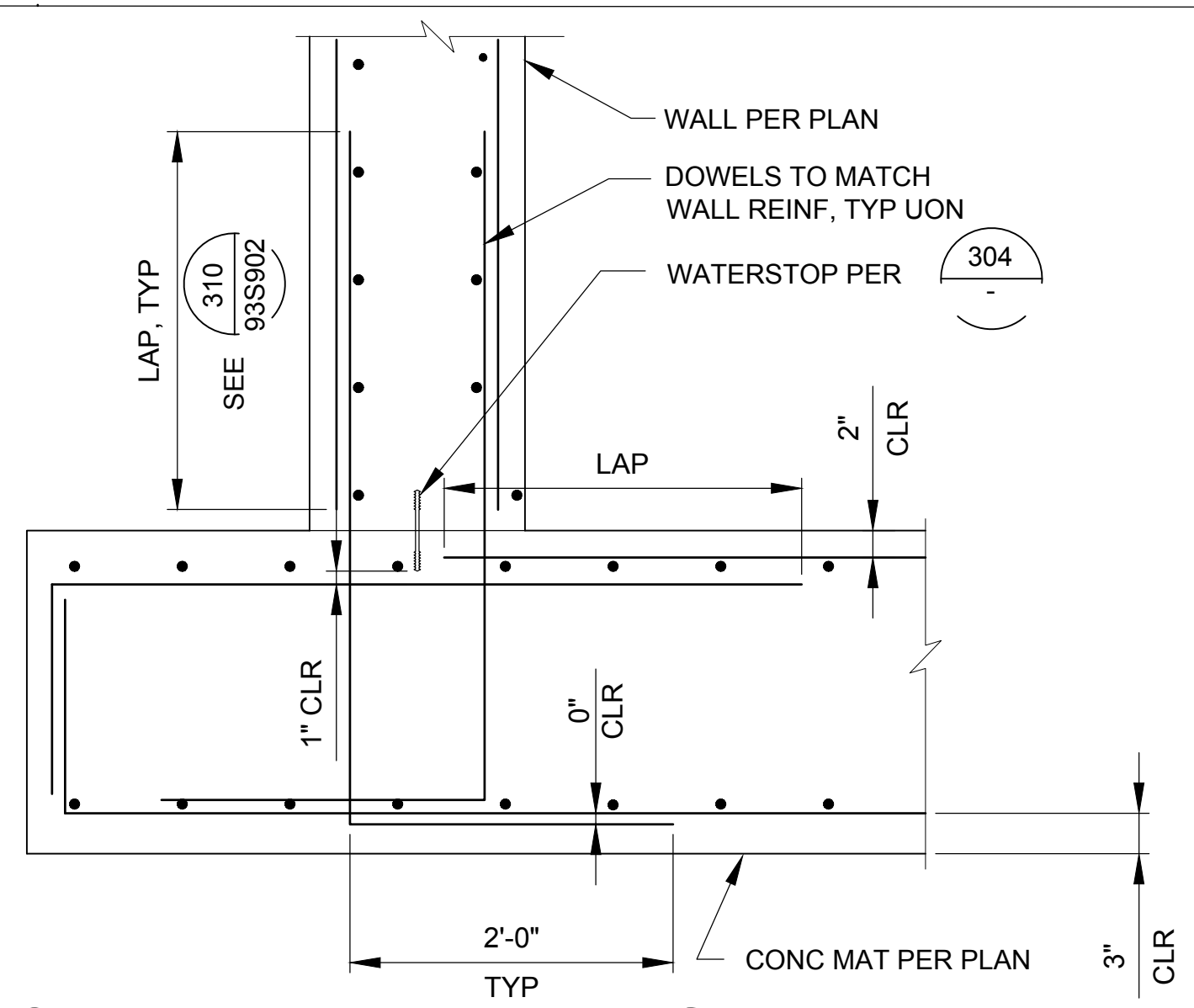
**TYPICAL SLAB/WALL JOINTS (CJ)**  
SCALE: NONE



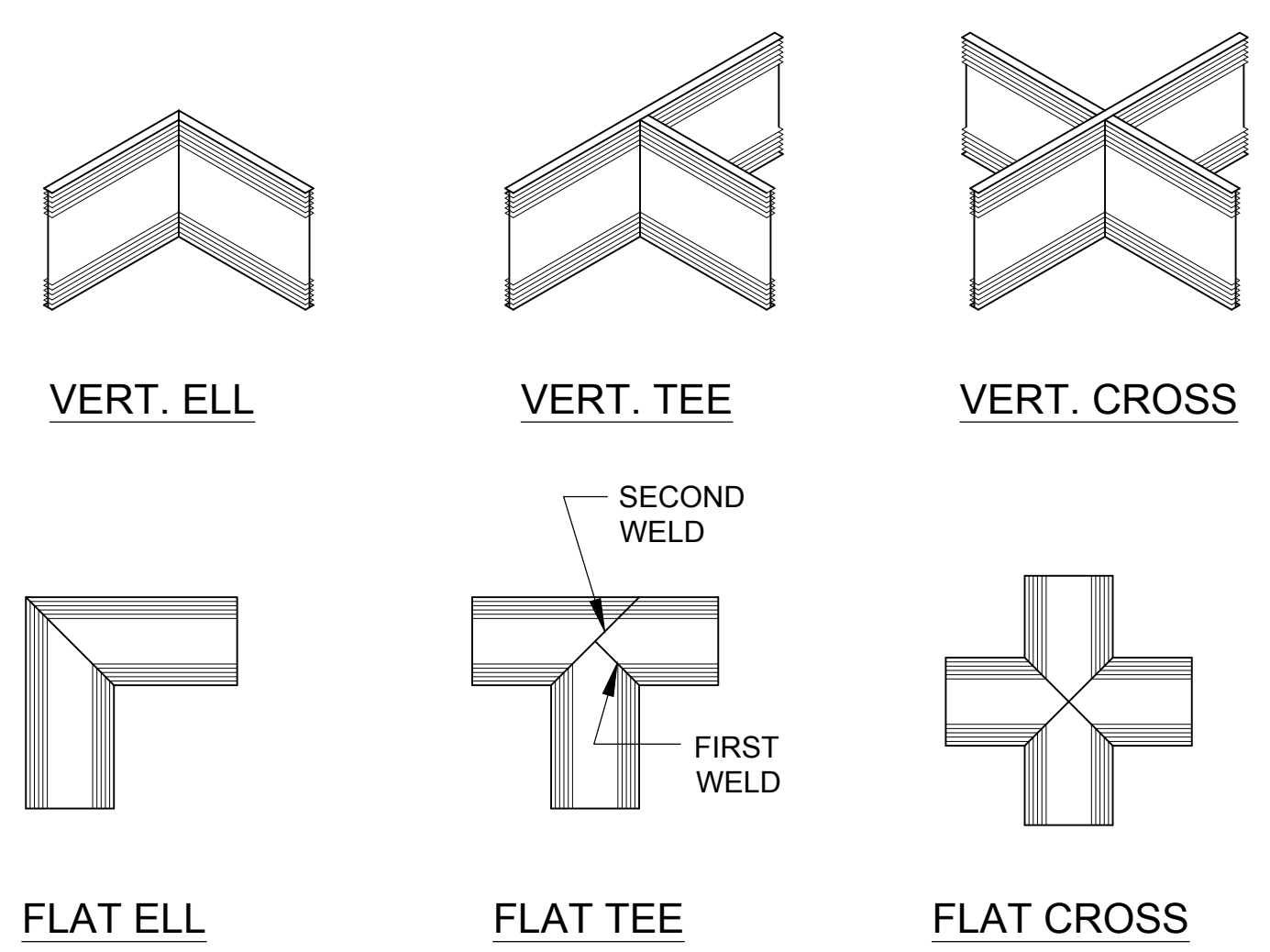
**WATERSTOP DETAIL**  
SCALE: NONE



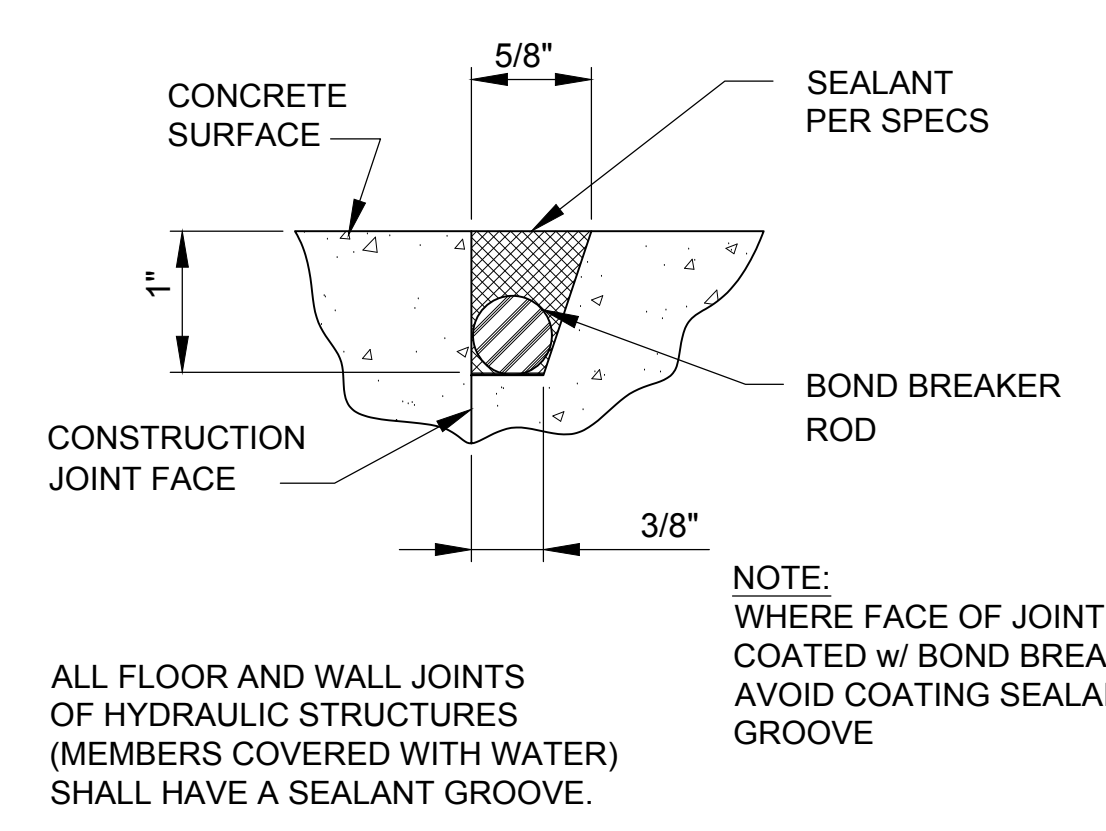
**TYPICAL REINF AT LARGE OPNG**  
SCALE: NONE



**TYPICAL REINF AT WALL FTG**  
SCALE: NONE



**FLATSTRIP WATERSTOPS PREFABRICATED JOINTS**  
SCALE: NONE



**TYP SEALANT GROOVE AT CONSTRUCTION JOINT**  
SCALE: NONE



DRAWING IS TO SCALE IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

NO.	DATE	DESIGN	DRAWN	CHECKED	REVISIONS
B	07-28-2023	CN	SM	EN	

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
GENERAL  
STRUCTURAL DETAILS



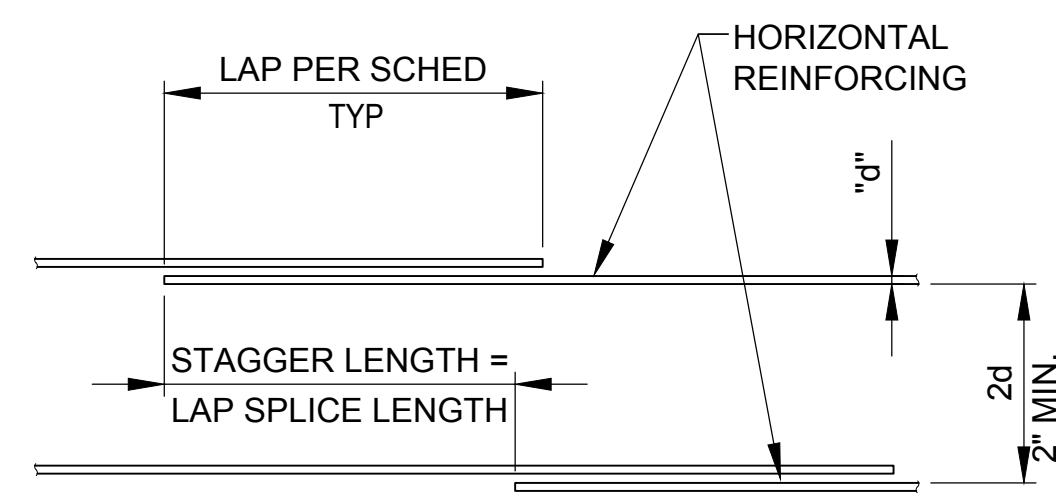
ALBERT A. WEBB ASSOCIATES ENGINEERING CONSULTANTS  
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3788 MCCRAY STREET  
RIVERSIDE, CA. 92506  
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DRAWING NO.  
**93S901**  
SHEET 41 of 65

C:\USERS\SMILEEKLEINFELDER\STRUCTURAL GROUP (KLF-SAN DIEGO DWNTN) TEAM - CAD\93S901.DWG  
2/23/2023





**NOTES:**

1. SPLICE LENGTH SHALL BE DETERMINED FROM THE SIZE OF THE SMALLER BAR SPLICED.
2. MINIMUM COVER 2", MINIMUM BAR CLEAR SPACING 2 BAR DIAMETERS.
3. TOP BARS ARE DEFINED AS BARS WITH 12" OR MORE OF FRESH CONCRETE PLACED BELOW THEM.
4. CONCRETE MASONRY UNITS LAP 48d MIN HORIZ & VERT REINF.
5. L<sub>t</sub> VALUES IN SCHEDULE SHALL BE MULTIPLIED BY 1.3 FOR LIGHT WEIGHT CONCRETE.

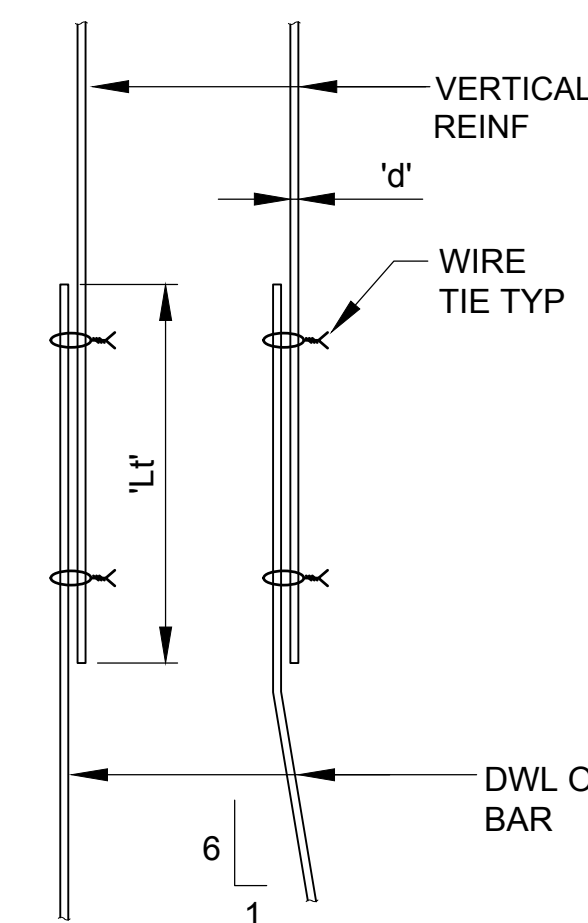
BAR SIZE	TENSION LAP "L <sub>t</sub> " (IN.)	
	TOP BARS	OTHER BARS
#3	25	20
#4	33	26
#5	41	32
#6	49	38
#7	71	55
#8	81	63
#9	91	70
#10	103	80
#11	113	87

HARDROCK CONCRETE  
F<sub>y</sub> = 60,000 P.S.I. (CLASS "B")

**TYP HORIZONTAL REINF LAP SPLICE**

SCALE: NONE

309

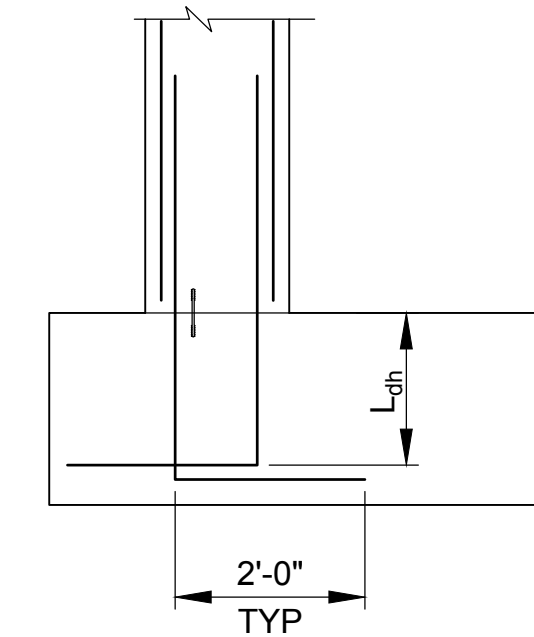


BAR SIZE	TENSION LAP "L <sub>t</sub> " (IN.)	L <sub>dh</sub> HOOK EMBED (IN)
	F <sub>c</sub> =4,000 PSI	
#3	20	6
#4	26	7
#5	32	9
#6	38	11
#7	55	12
#8	63	14
#9	70	16
#10	80	17
#11	87	19

F<sub>y</sub> = 60 KSI

**NOTES:**

1. ALL VERTICAL REINFORCING FOR COLUMN, PIERS AND WALLS SHALL BE DOWELED AS SHOWN UON.
2. MINIMUM CLEAR SPACING 2d, MINIMUM COVER 2".
3. DOWELS SHALL BE THE SAME GRADE, SIZE, QUANTITY AND/OR SPACING AS VERTICAL REINFORCING.



**TYPICAL VERTICAL REINF LAP SPLICE**

SCALE: NONE

310



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DESIGN	DRAWN	CHECKED
	NO.	DATE	CN	SM
0	1/2	B	07-28-2023	EN
REVISIONS				

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
GENERAL  
STRUCTURAL DETAILS



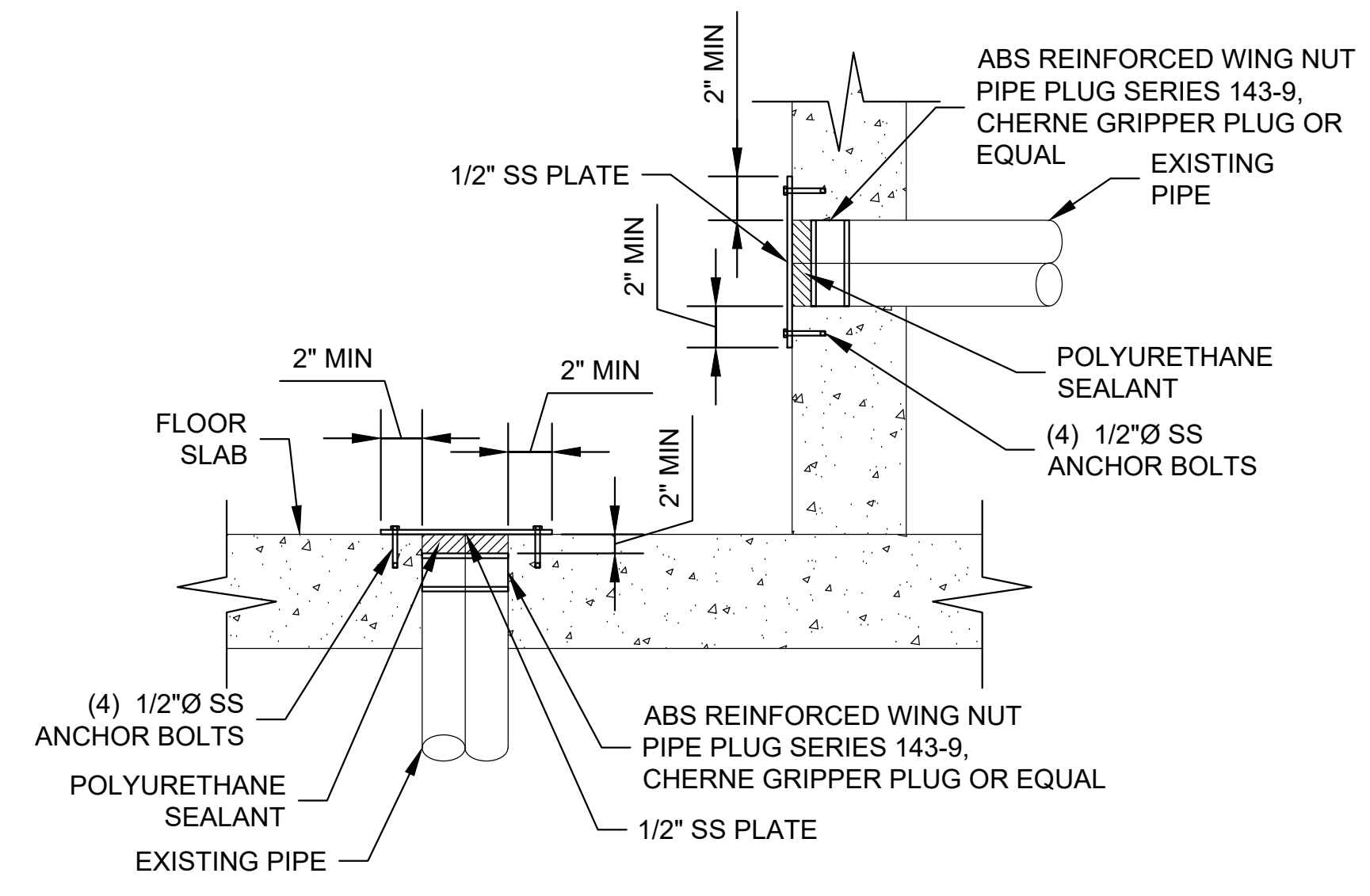
ALBERT A. WEBB ASSOCIATES  
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ENGINEERING CONSULTANTS



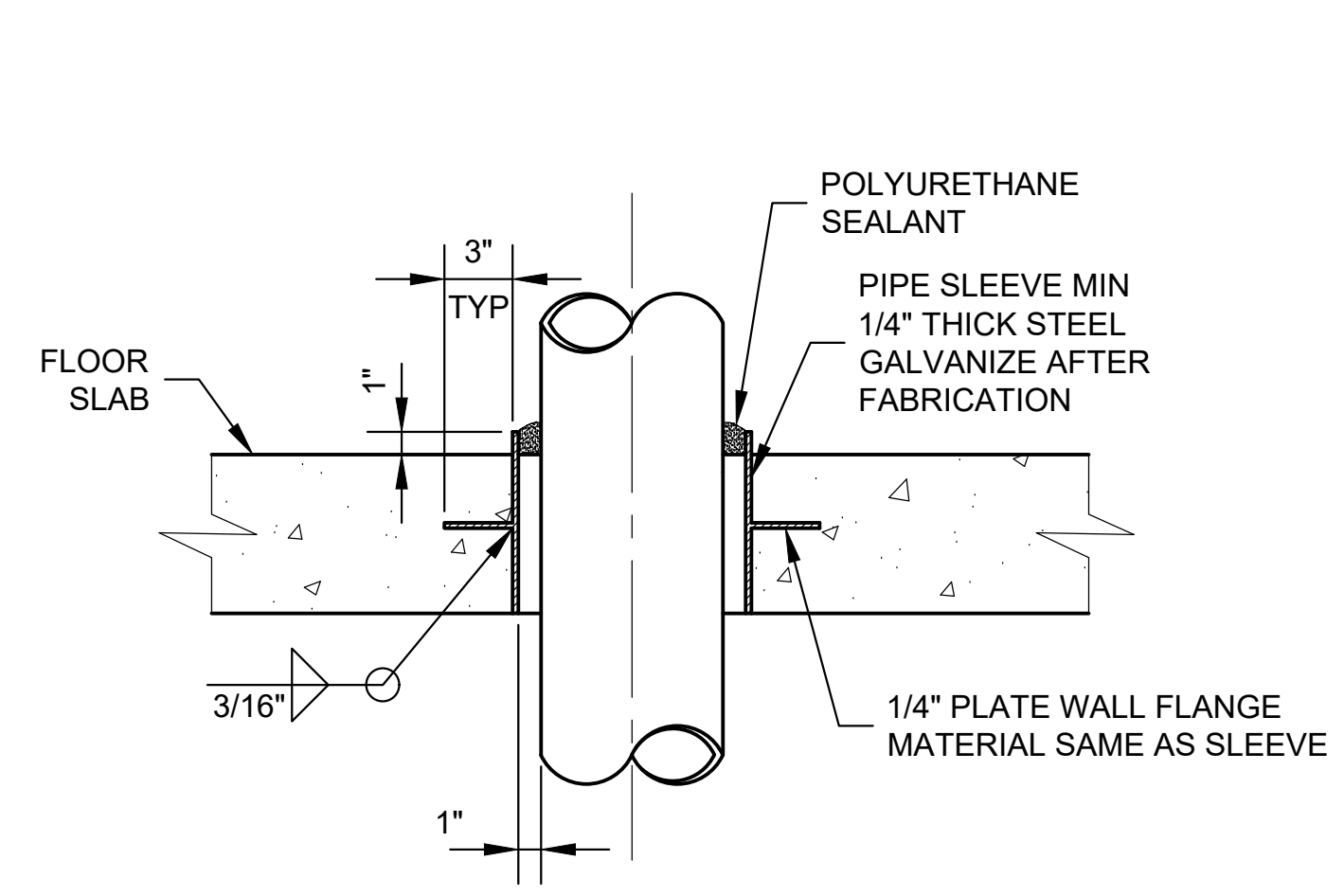
DRAWING NO.  
**93S902**

SHEET 42 of 65



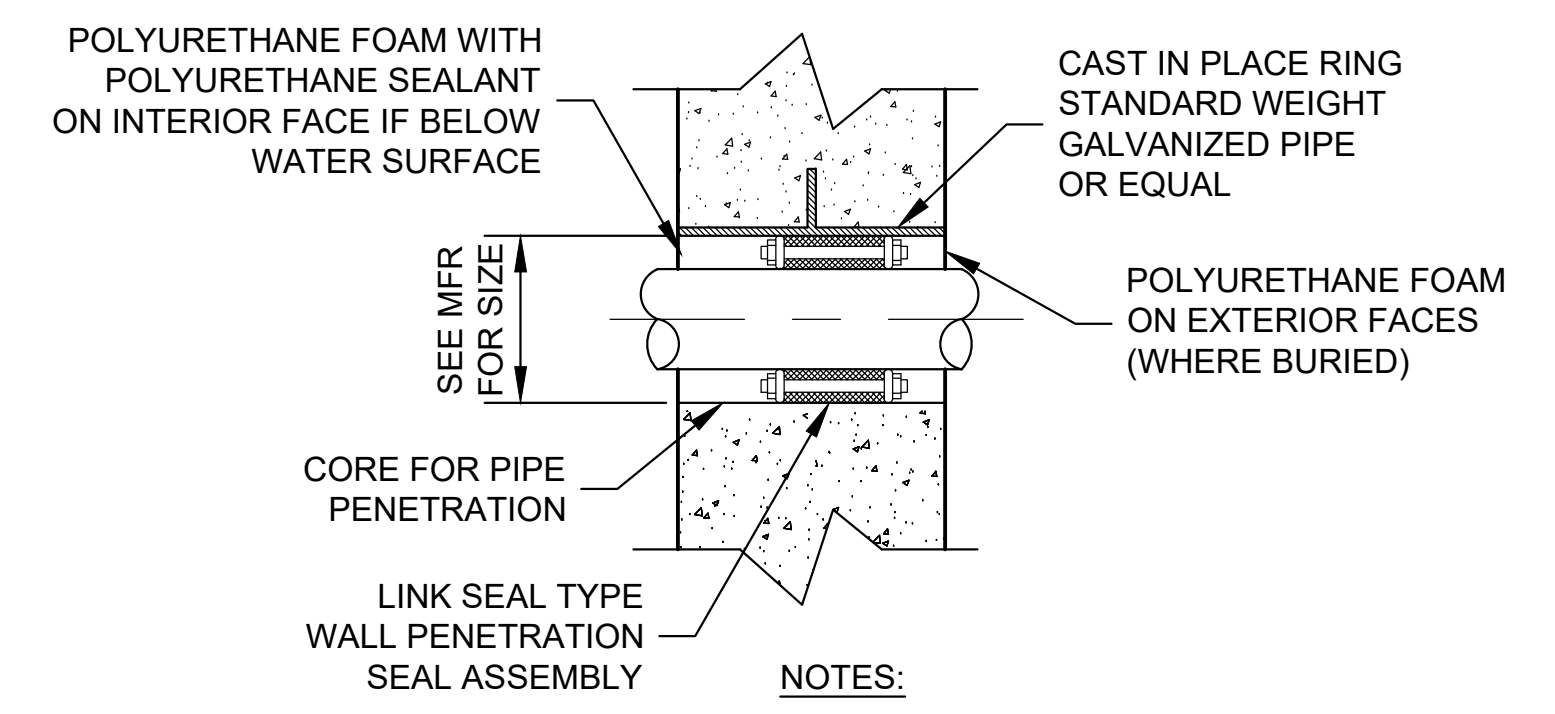


**S126 FLOOR / WALL PIPE PLUG**  
NTS



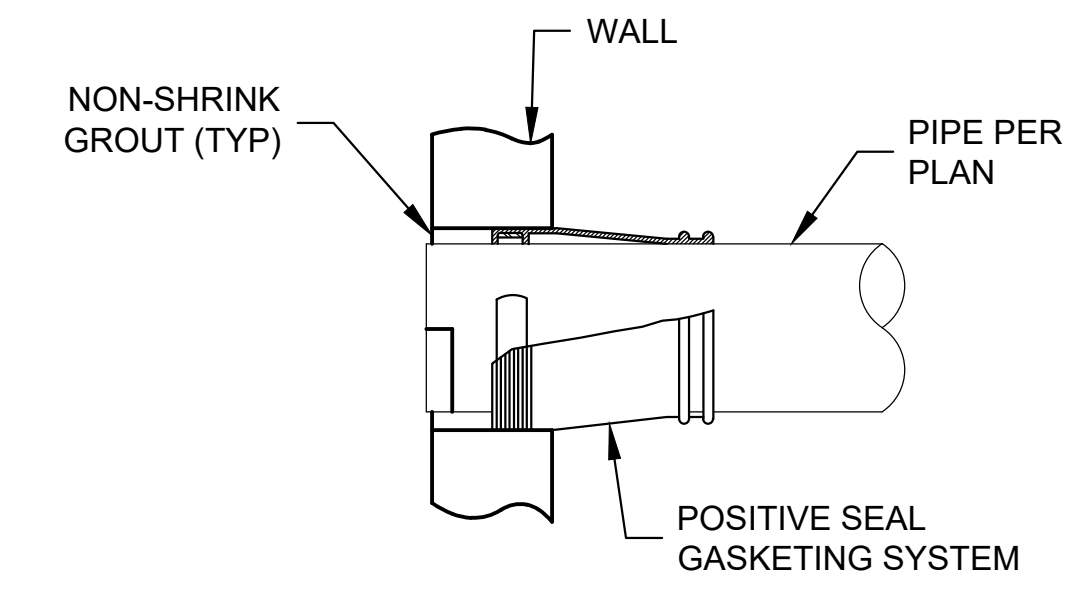
**NOTE:**  
1- ALL FLOOR PENETRATIONS FOR HARD PIPING OF EQUIPMENT SHALL HAVE A FLOOR SLEEVE.

**S127 FLOOR PIPE SLEEVE**  
NTS



**NOTES:**  
1- PIPE SLEEVE FOR WALL PENETRATION SEAL ASSEMBLY SIZED BY MANUFACTURER.  
2- BOLTS SHALL BE STAINLESS STEEL.

**S131 LINK SEAL**  
NTS



**S132 RUBBER BOOT**  
NTS

DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	CHECKED					
	DESIGN	DRAWN	AQUA	AQUA	AQUA		
NO. DATE	REVISIONS						
	B	07-28-2023					

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
STANDARD DETAILS  
STRUCTURAL DETAILS



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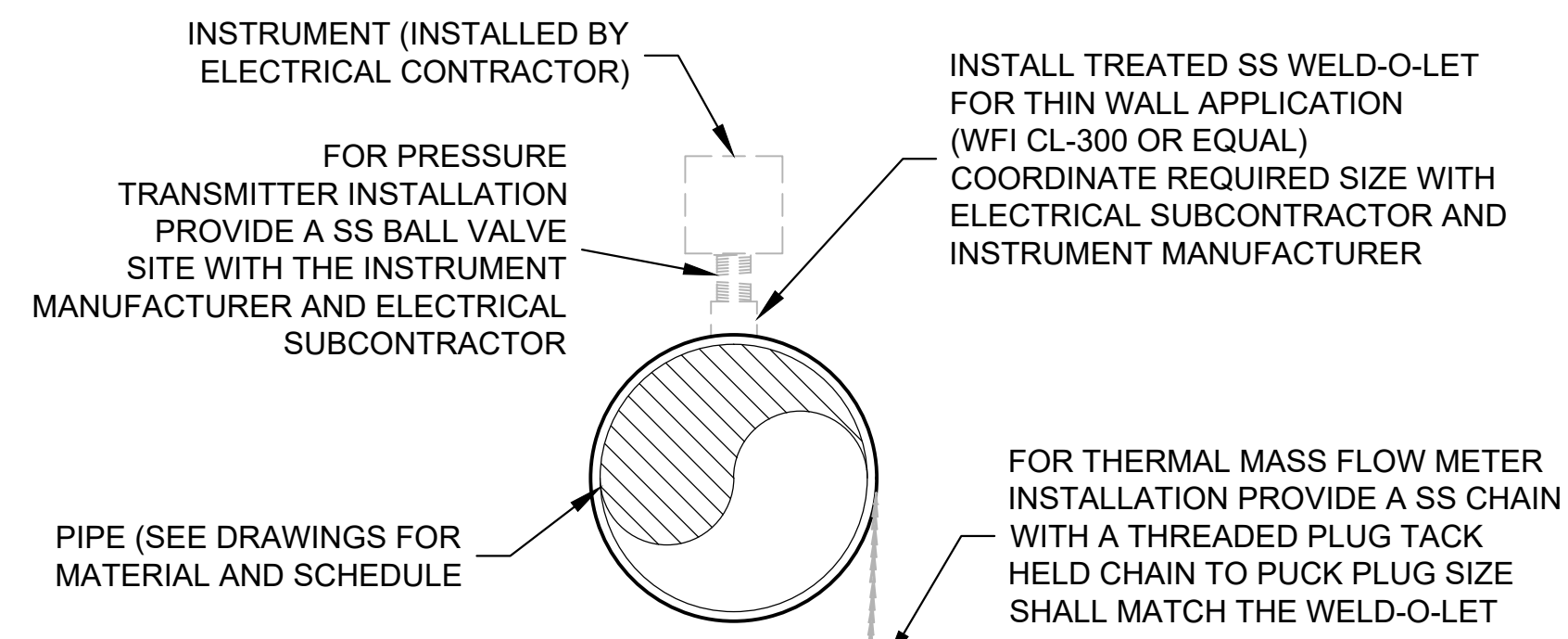
DRAWING NO.  
**93S903**

SHEET 43 of 65

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3/29/2023



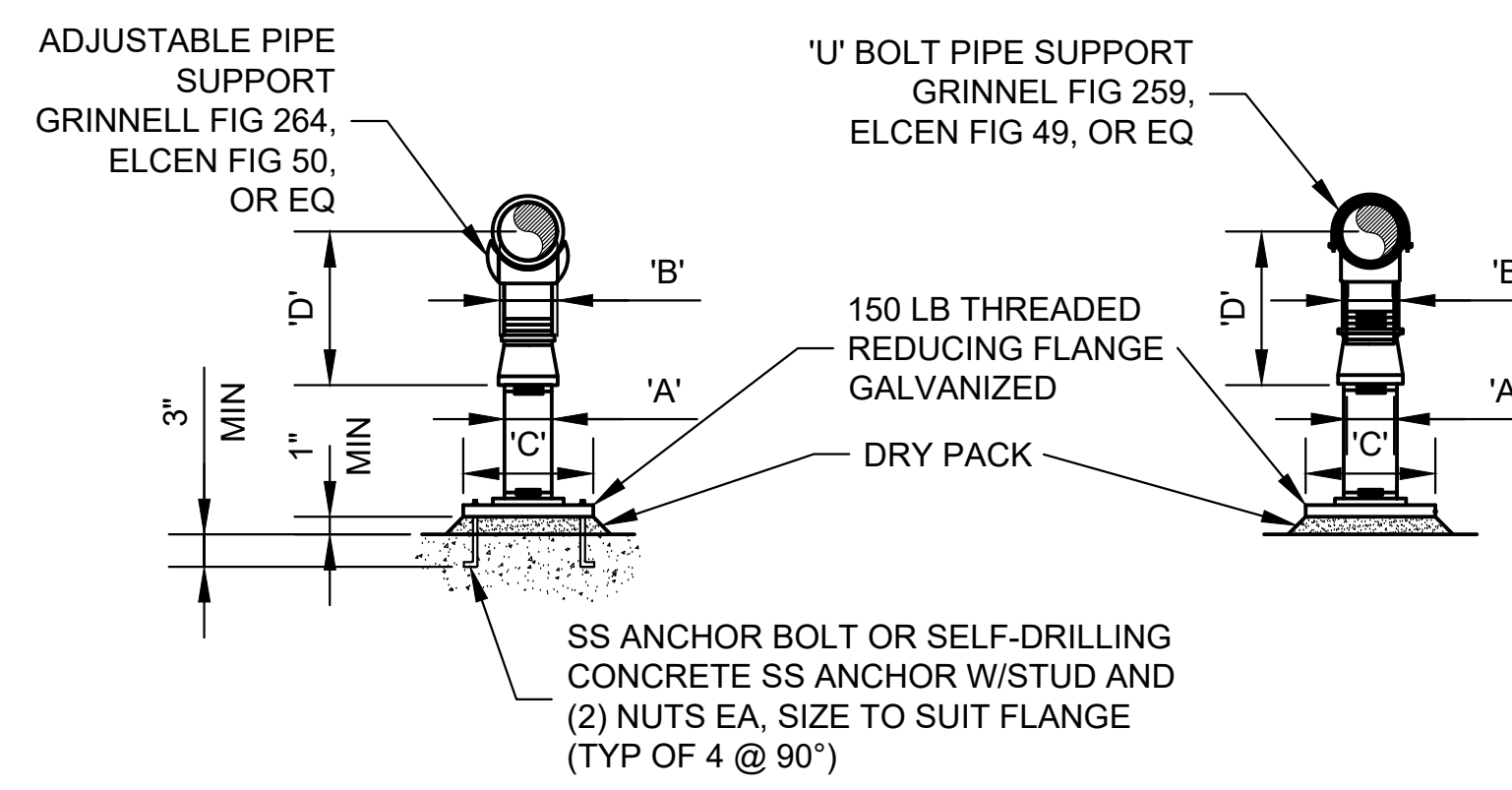
NOTES

- 1- CONTRACTOR MAY USE A SS SERVICE SADDLE (ROMAC "30T" OR EQUAL) IN LIEU OF THE THREADED WELD-O-LET.
- 2- THE SADDLE SHALL BE FURNISHED WITH AN EPDM GASKET OR OTHER GASKET MATERIAL APPROPRIATE FOR AIR SERVICE AND TEMPERATURES UP TO 230°.

**M128 INSTRUMENT PENETRATION**  
NTS

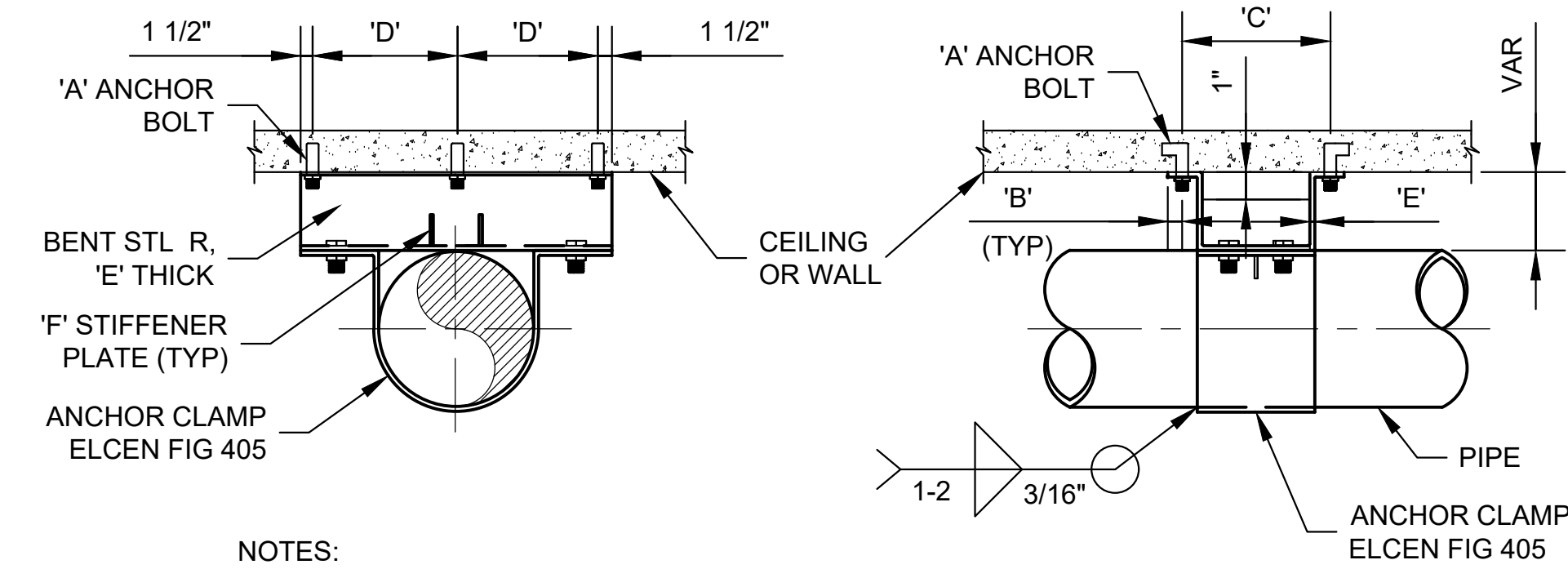
ADJUSTABLE PIPE SUPPORT APPROXIMATE DIMENSIONS IN INCHES					
PIPE DIA	'A'	'B'	'C'	'D' MINIMUM	'D' MAXIMUM
2 1/2	2 1/2	1 1/2	9	8	11 1/2
3	2 1/2	1 1/2	9	8 1/4	11 3/4
3 1/2	2 1/2	1 1/2	9	8 1/2	12
4	3	*2 1/2	9	10 1/4	14
6	3	*2 1/2	9	11 5/8	15 1/4
8	3	*2 1/2	9	13 5/8	16 1/2
10	3	*2 1/2	9	14 5/8	18 1/4
12	3	*2 1/2	9	15 5/8	19 3/4
14	4	3	11	18 7/8	20 3/4
16	4	3	11	19 7/8	22 1/4
18	6	3 1/2	13 1/2	21 1/4	24
20	6	3 1/2	13 1/2	23 1/4	25 1/2
24	6	4	13 1/2	26 1/2	28 1/1
30	6	4	13 1/2	29 5/8	31 1/2
32	6	4	13 1/2	30 5/8	32 3/4
36	6	4	13 1/2	32 5/8	34 3/4

\*SEE MFR.



**M132 ADJUSTABLE PIPE SUPPORT**  
NTS

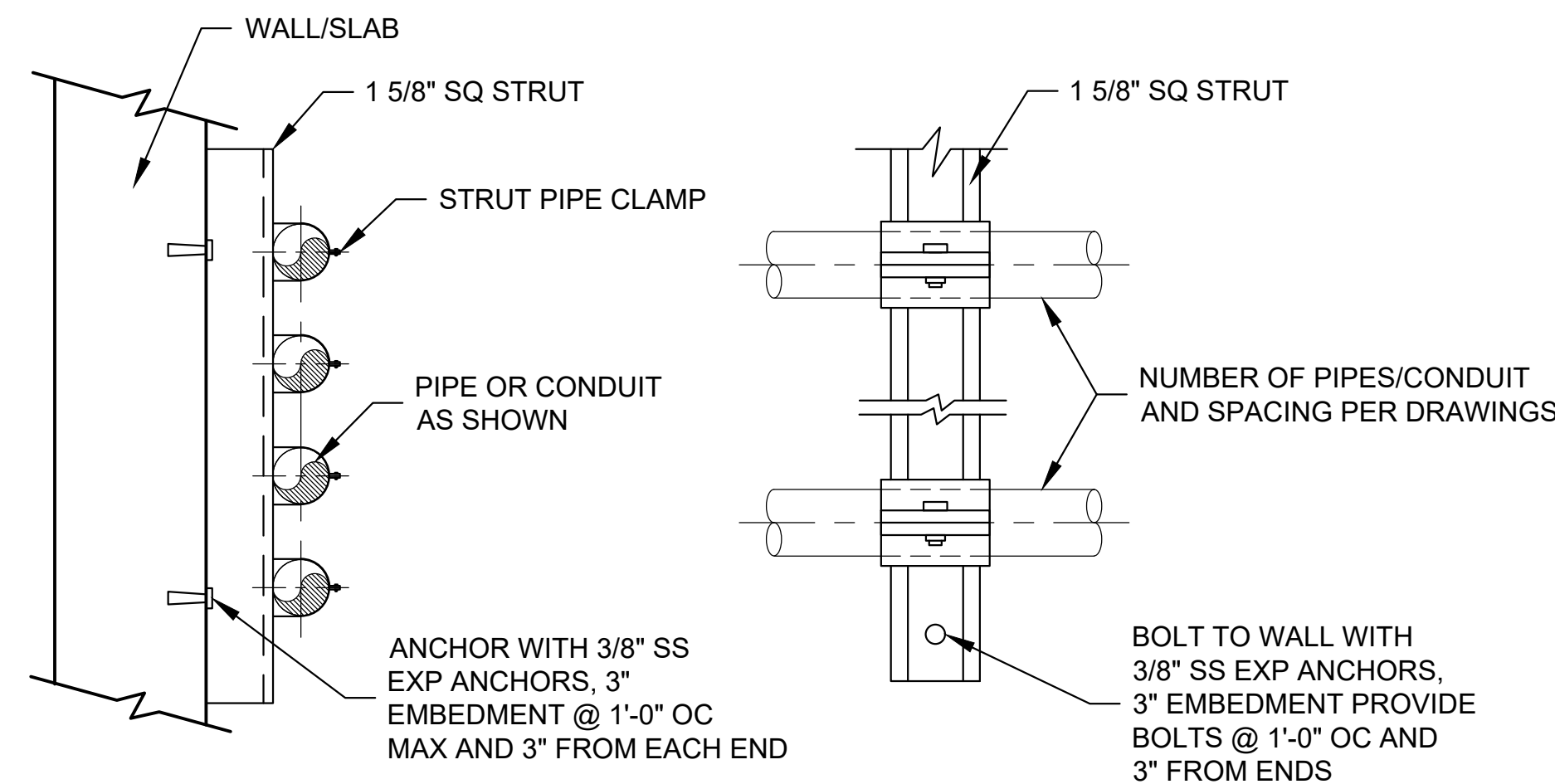
DIMENSIONS IN INCHES						
PIPE DIA	'A'	'B'	'C'	'D' (APPROX)	'E'	'F'
2 TO 4	(4) 5/8x6	1 1/4	5 3/4	8 1/2 (OMIT ONE)	3/8	1/4
6 TO 10	(4) 3/4x7	1 1/2	11	7 5/8 (OMIT ONE)	1/2	3/8
12 TO 16	(6) 7/8x8 1/2	1 1/2	13	10 1/4	1/2	3/8
18 TO 30	(6) 1x9	1 1/2	15	17 1/4	5/8	1/2



NOTES:

- 1- WHEN THICKNESS OF CONCRETE LIMITS THE USE OF ANCHOR BOLT LENGTHS AS TABULATED, SHORTER BOLTS WELDED TO REINFORCING BARS MAYBE USED.
- 2- GALVANIZE AFTER FABRICATION.

**M133 PIPE ANCHOR**  
NTS



NOTES:

- 1- UNLESS NOTED OTHERWISE, FOR INDOOR AND OUTDOOR LOCATIONS ALL MATERIAL SHALL BE STAINLESS STEEL. STRUTS SHALL BE 12 GAUGE CHANNEL (1 5/8"x1 5/8") 304 STAINLESS STEEL. PROVIDE NECESSARY STRUT ACCESSORIES TO ACCOMMODATE SUPPORT CONFIGURATION, INCLUDING CONNECTION FITTINGS AND POST BASES. UNLESS OTHERWISE NOTED, ALL NUTS, BOLTS, THREADED RODS, AND PIPE/CONDUIT STRAPS SHALL BE 304 STAINLESS STEEL.
- 2- STRUT SYSTEM, INCLUDING ALL COMPONENTS, SHALL BE AS MANUFACTURED BY UNISTRUT, B-LINE, OR EQUAL.
- 3- PROVIDE DOUBLE STRUT WHERE REQUIRED FOR LOAD OR CONFIGURATION.
- 4- ALL CUT ENDS OF STRUT SHALL BE GROUND SMOOTH.
- 5- PROVIDE PLASTIC CLOSURE CAPS WHERE INDICATED.
- 6- FOR WET WELLS AND CORROSIVE LOCATIONS AND WHERE NOTED AS PS3-CORROSION RESISTANT OR PS3-CR, STRUTS SHALL BE HEAVY DUTY CHANNEL NONMETALIC (VINYLESTER) AS MANUFACTURED BY AIKINSTRUT, B-LINE, OR EQUAL. PROVIDE NECESSARY STRUT ACCESSORIES TO ACCOMMODATE SUPPORT CONFIGURATION, INCLUDING CONNECTION FITTINGS AND POST BASES. UNLESS OTHERWISE NOTED, ALL NUTS, BOLTS, THREADED RODS, AND PIPE/CONDUIT STRAPS SHALL BE POLYURETHANE. ALL CONCRETE ANCHOR BOLTS SHALL BE 316 STAINLESS STEEL EPOXY ANCHORS.

**M142 WALL MOUNT PIPING/CONDUIT STRUT SUPPORT**  
NTS



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DESIGN	DRAWN	CHECKED
	B	07-28-2023	AQUA	AQUA
REVISIONS				

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
STANDARD DETAILS  
MECHANICAL DETAILS

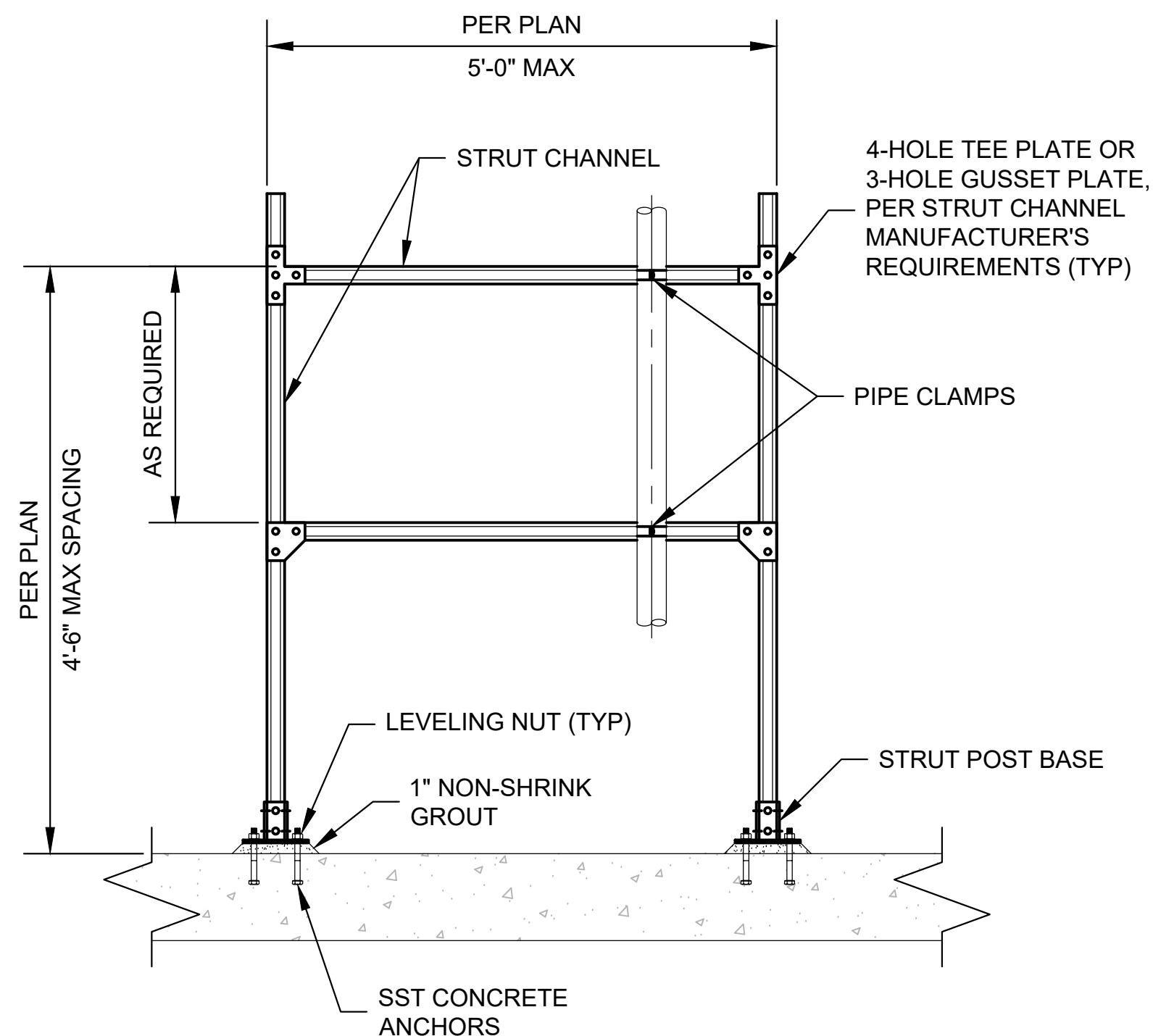


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PHONE (801) 299-1327 FAX (801) 299-0153

DRAWING NO.  
**94M901**  
SHEET 44 of 65

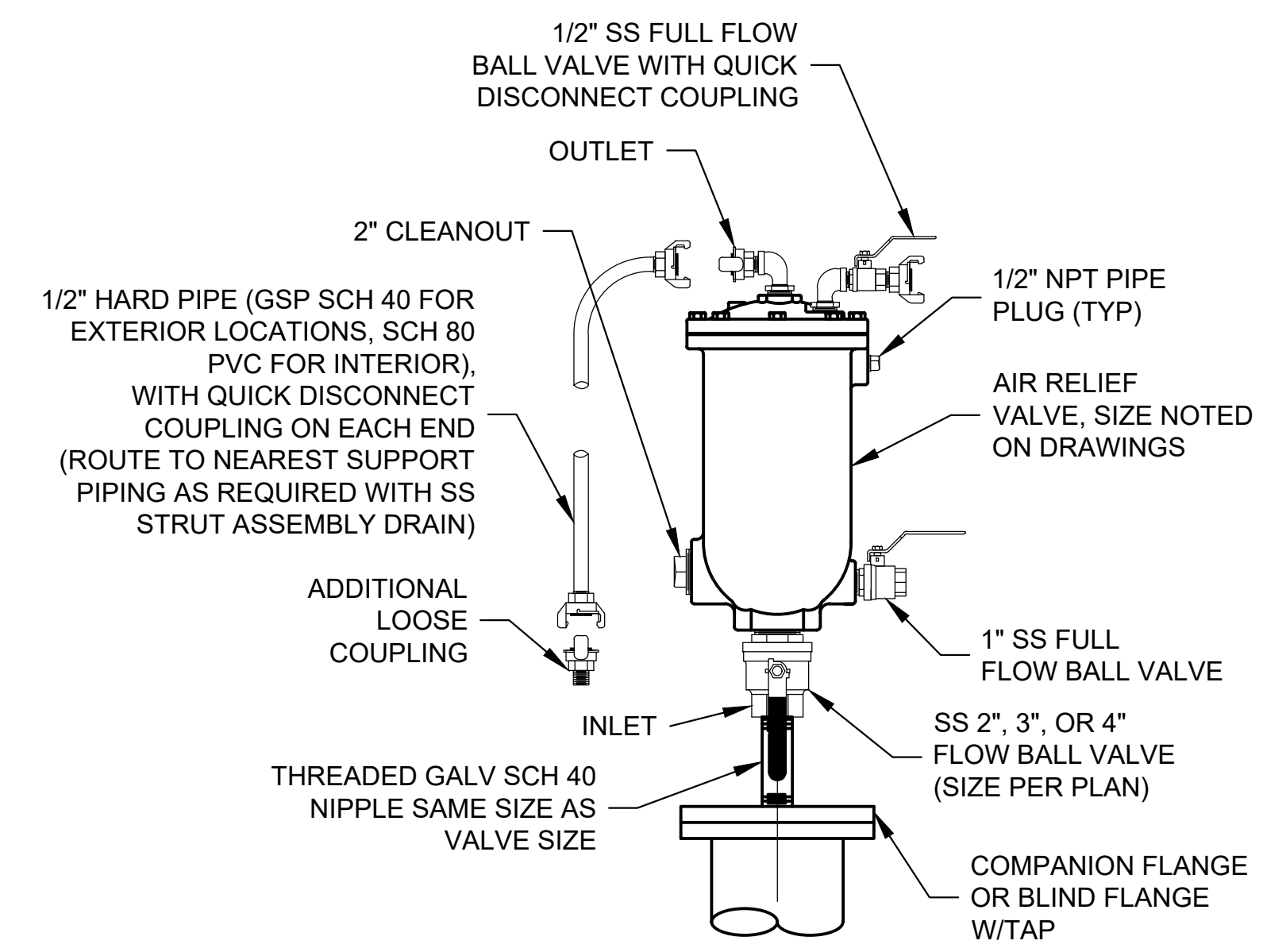




**NOTES:**

- 1- FOR PIPING INSTALLED HORIZONTALLY, ADD ADDITIONAL VERTICAL PREFORMED CHANNEL SUPPORT CENTERED BETWEEN HORIZONTAL SUPPORTS.
- 2- FOR UTILITY WATER, FOUL AIR, AND OTHER PIPING LESS THAN 4" DIAMETER (4" MAX) IS REQUIRED.
- 3- MATERIAL SHALL BE AS NOTED ON DRAWINGS.
- 4- CONTRACTOR SHALL DESIGN, AND FURNISH.
- 5- CONTRACTOR SHALL PROVIDE DESIGN AND LAYOUT SUBMITTALS FOR ENGINEERS REVIEW AND APPROVAL PER SECTION 013300.

**FREE STANDING PIPING/  
CONDUIT STRUT SUPPORT**  
M143  
NTS



**AIR RELIEF WASTEWATER SERVICE  
COMBINATION VALVE W/ BACKWASH**  
1001  
SCALE: NTS



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	
ORIGINAL	CHECKED
DESIGN	AQUA
DATE	REVISIONS
B 07-28-2023	

CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
STANDARD DETAILS  
MECHANICAL DETAILS



**ALBERT A. WEBB**  
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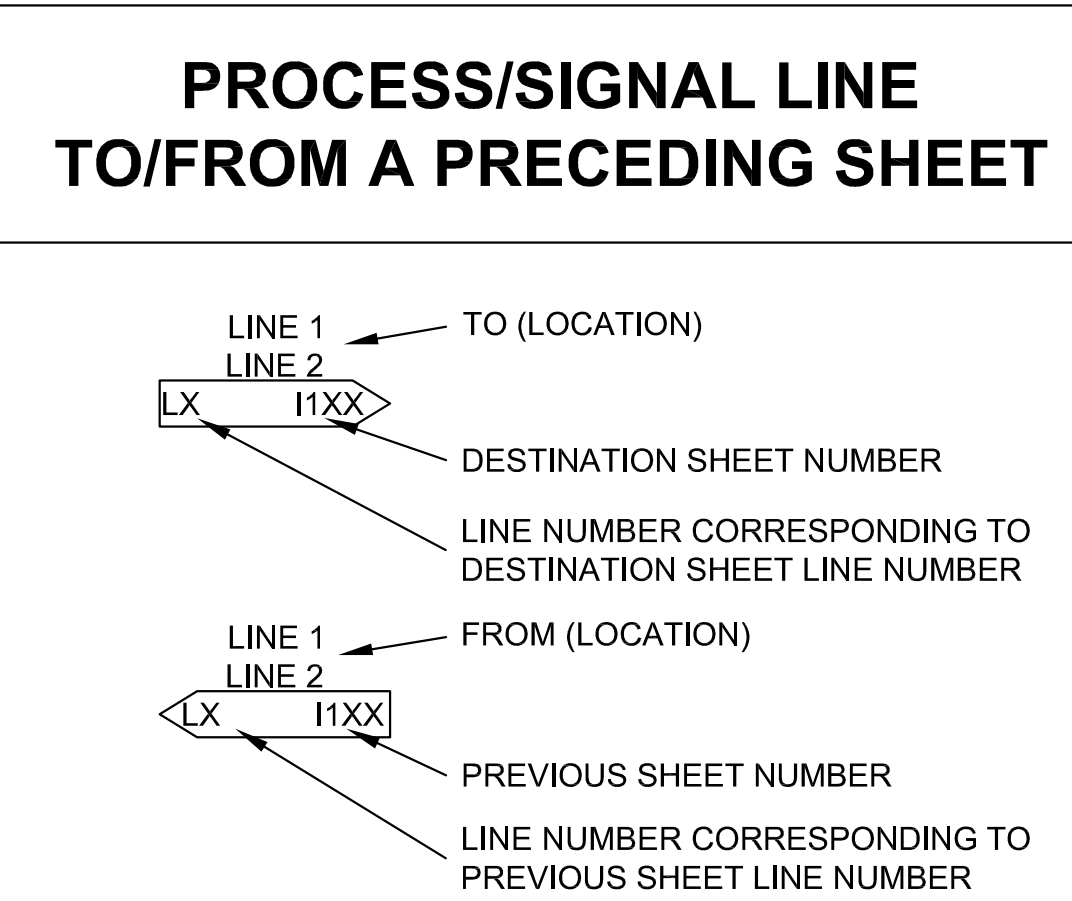
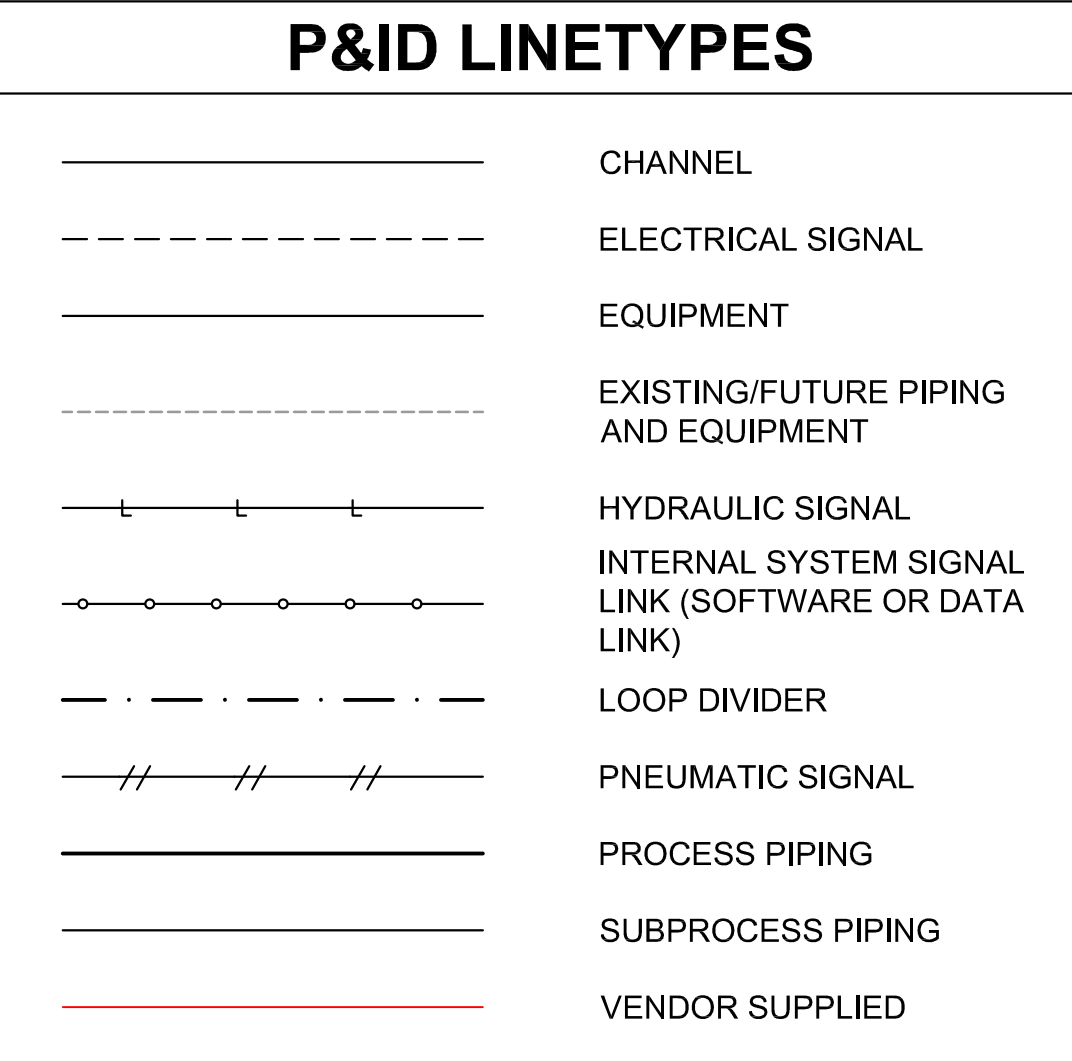
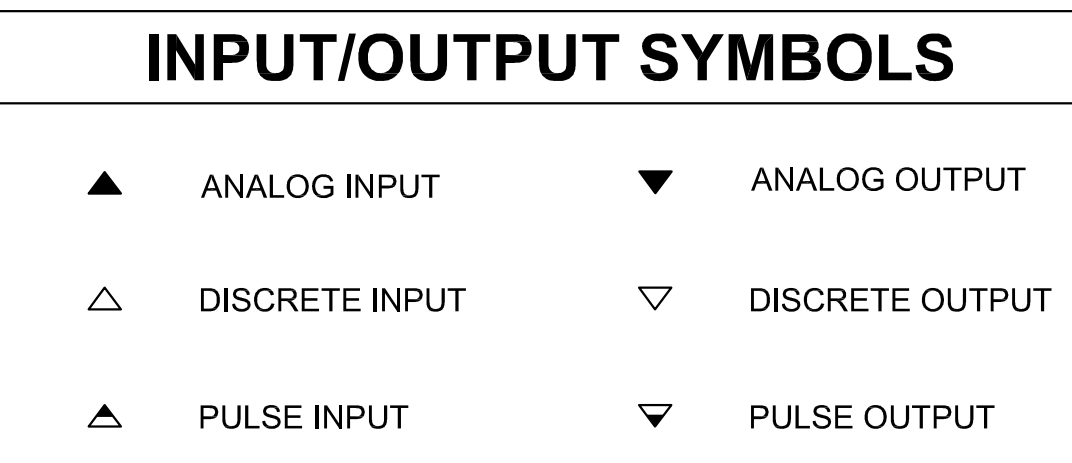
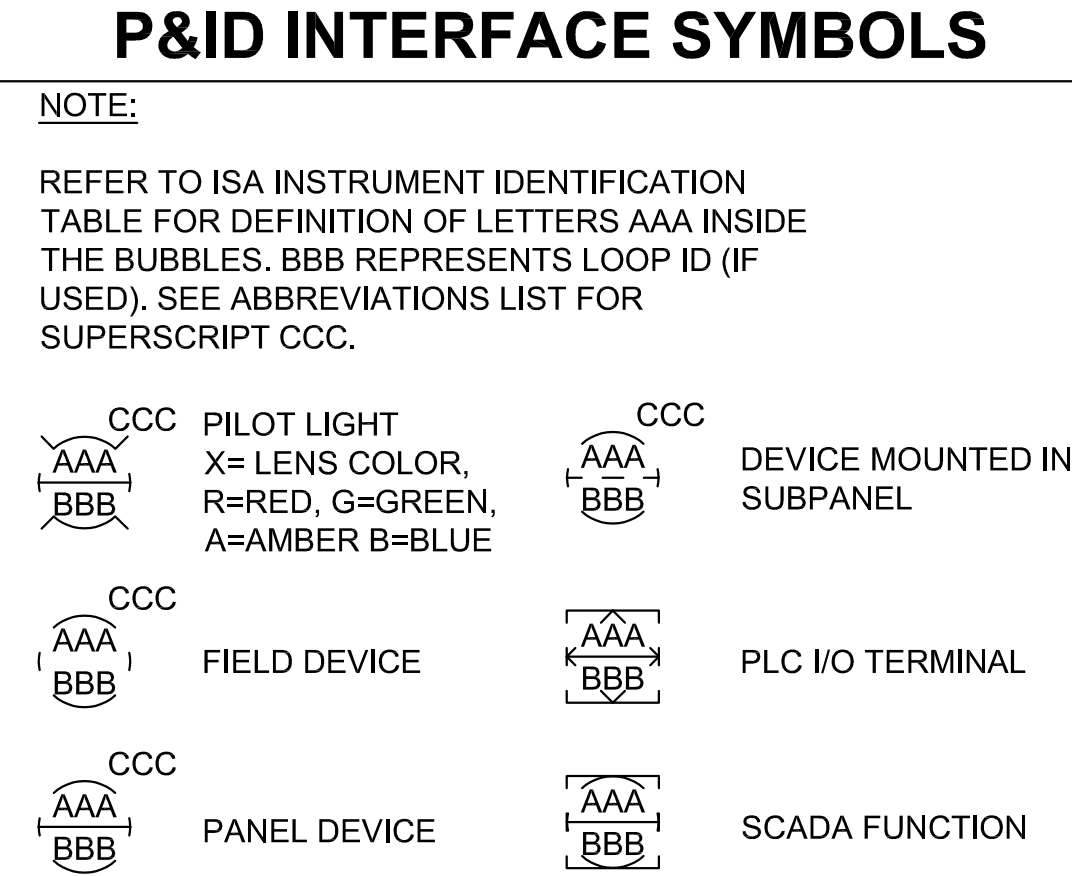
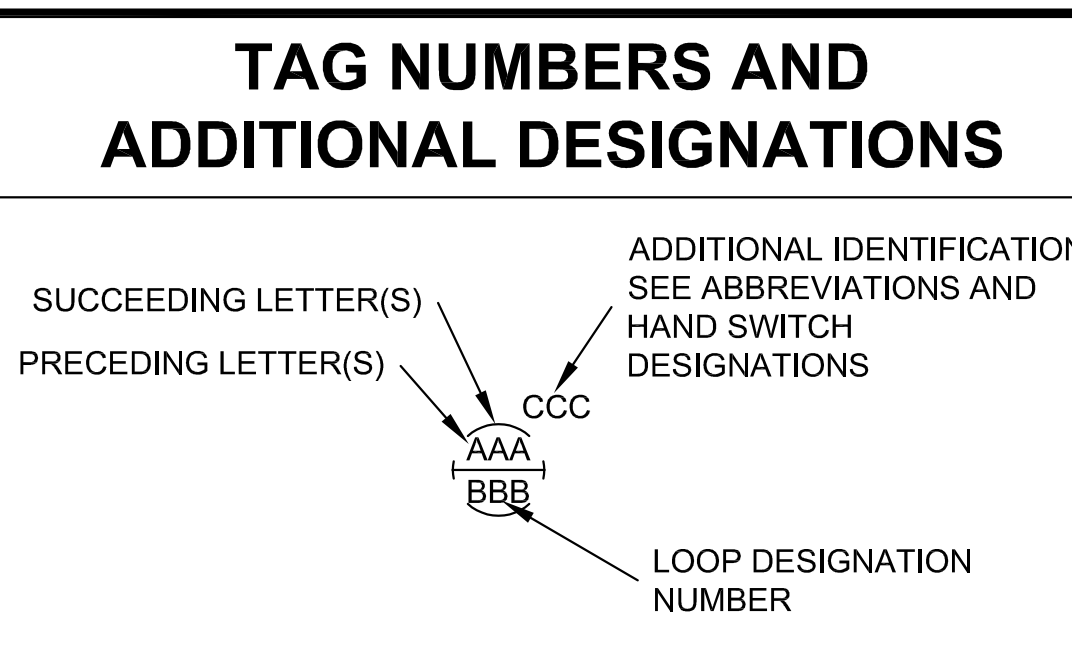
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DRAWING NO.  
**94M902**



C:\USERS\DANIELLE\APPDATA\LOCAL\AUTODESK\AUTOCAD PLANT 3D\COC\LABORATION\CACHE\BEAUMONT.MESA LIFT STATION DESIGN\IPID DWG\989-1001.DWG

ISA INSTRUMENT IDENTIFICATION TABLE				
PRECEEDING LETTERS		SUCCEEDING LETTERS		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM	
B	BURNER, COMBUSTION		EMERGENCY	USER'S CHOICE
C	CONDUCTIVITY			USER'S CHOICE
D	DENSITY OR SPECIFIC GRAVITY	DIFFERENTIAL		
E	VOLTAGE		PRIMARY ELEMENT	
F	FLOW RATE	RATIO		
G	GAUGE		GLASS, VIEWING DEVICE	
H	HAND			HIGH
I	CURRENT (ELECTRICAL)		INDICATE	
J	POWER	SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION
L	LEVEL		LIGHT	LOW
M	MOTOR	MOMENTARY	MOISTURE	MIDDLE
N	VIDEO		USER'S CHOICE	NORMAL
O	USER'S CHOICE		ORIFICE, RESTRICTION	OPEN
P	PRESSURE, VACUUM		POINT CONNECTION	STOP
Q	QUANTITY	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD, OR PRINT	
S	SPEED, FREQUENCY	SAFETY		SWITCH
T	TEMPERATURE			TRANSMIT
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, LOUVER
W	WEIGHT, FORCE		WELL	
X	UNCLASSIFIED	X-AXIS	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, OR PRESENCE	Y-AXIS		RELAY, COMPUTE, CONVERT
Z	POSITION, DIMENSION	Z-AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT



### P&ID ABBREVIATIONS

AI	ANALOG INPUT
AO	ANALOG OUTPUT
ARV	AIR RELIEF VALVE
AS	AIR SUPPLY
BWL	BOTTOM WATER LEVEL
CL2	CHLORINE
CV	CONTROL VALVE/CONTROL VARIABLE
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DISCRETE INPUT
DO	DISSOLVED OXYGEN
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
ETM	ELAPSED TIME METER
ETMf	ELAPSED TIME METER (FAST SPEED)
ETMs	ELAPSED TIME METER (SLOW SPEED)
ES	EMERGENCY STOP
FA	FOUL AIR
FC	FAIL CLOSED
FE	FLOW ELEMENT
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
GA	GALLONS
GCP	GENERATOR CONTROL PANEL
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
IO	INPUT/OUTPUT
ISB	INTRINSICALLY SAFE BARRIER
LAN	LOCAL AREA NETWORK
LCP	LOCAL CONTROL PANEL
M	MOTOR
MA	MILLIAMPER
MCC	MOTOR CONTROL CENTER
MFR(S)	MANUFACTURER(S)
MGD	MILLION GALLONS PER DAY
MGL	MILLIGRAMS PER LITER
MLR	MIXED LIQUOR RETURN
MO	MOISTURE
MOD	MODULATING
MTU	MASTER TELEMETRY UNIT
NTU	TURBIDITY
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
PER	PERMISSIVE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
POS	POSITION
POT	POTENTIOMETER
PPM	PARTS PER MILLION
PR	PAIR
PSI	POUNDS PER SQUARE INCH
PV	PROCESS VARIABLE
RF	RADIO FREQUENCY
RIO	REMOTE INPUT OUTPUT
RST	RESET
RTU	REMOTE TELEMETRY UNIT
RVSS	REVERSE VOLTAGE SOFT START
SB	SLUDGE BLANKET
SD	SMOKE DETECTOR
SLC	SINGLE LOOP CONTROLLER
SO2	SULFUR DIOXIDE
SP	SET POINT/SPARE
SPD	SPEED
SV	SOLENOID OPERATED VALVE
TM	TEMPERATURE AND/OR MOISTURE
TSS	TOTAL SUSPENDED SOLIDS
TWL	TOP WATER LEVEL
UG	UNDERGROUND
VFD	VARIABLE FREQUENCY DRIVE
VTP	VERTICAL TURBINE PUMP

### PROCESS IDENTIFIERS

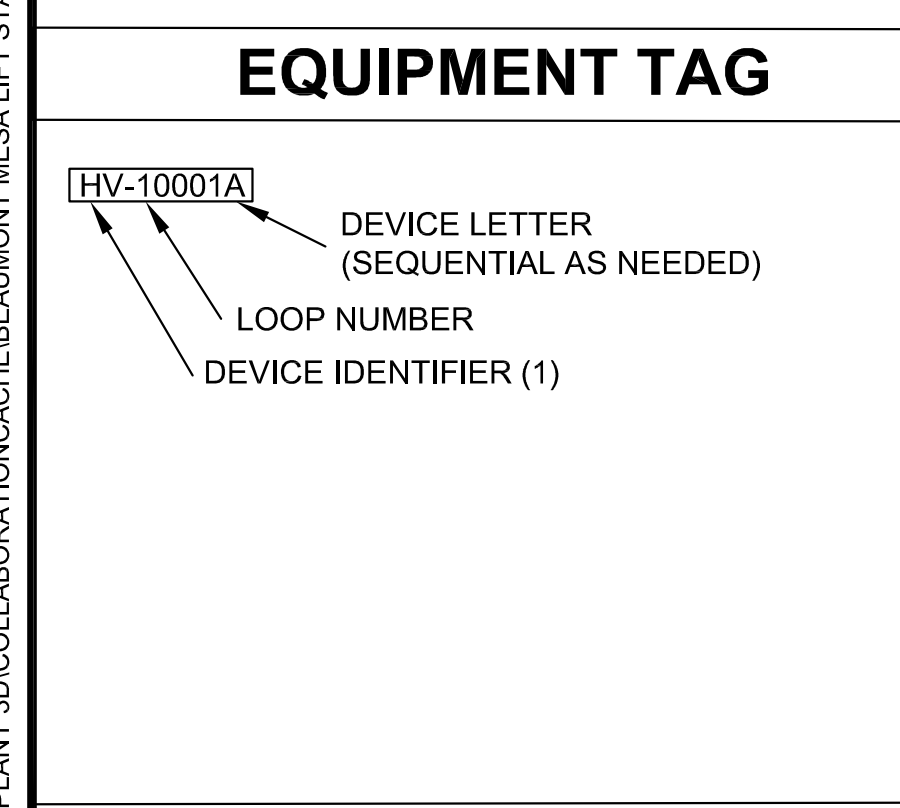
A	AERATION
AIR	COMPRESSED AIR
AS	AIR SUPPLY
BD	BOTTOM DRAIN
BS	BENDED SLUDGE
C	CONDENSATE
CD	CHEMICAL DRAIN AND VENT
CL	CHLORINE (GAS OR LIQUID STATE)
CLS	CHLORINE SOLUTION
CLV	CHLORINE GAS UNDER VACUUM
CSL	CIRCULATED SLUDGE
CV	CHLORINATOR VENT AND DETECTION LINE
DN	DECANT
DSL	DIGESTED SLUDGE
DW	DEMINEALIZED WATER
EE	ENGINE EXHAUST
EV	EVAPORATIVE COOLING
EWR	ENGINE COOLING WATER RETURN
EWS	ENGINE COOLING WATER SUPPLY
EX	AIR EXHAUST
FA	FOUL AIR
FE	FINAL EFFLUENT
FM	FORCE MAIN
FOR	FUEL RETURN
FOS	FUEL SUPPLY
FS	FROTH SPRAY
FSP	FIRE PROTECTION SPRINKLER SYSTEM
FW	FINISHED WATER
G	GRIT
H	HYPOCHLORITE
HR	HEATING WATER RETURN
HS	HEATING WATER SUPPLY
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HY	HYDRAULIC
IA	INSTRUMENT AIR
LO	LUBE OIL
LSP	LANDSCAPING SPRINKLER SYSTEM
ML	MIXED LIQUOR
NG	NOT USED NATURAL GAS
NPW	NON-POTABLE WATER
OF	OVERFLOW
PA	PLANT AIR
PD	PLANT DRAIN
PEA	POLYMER-ANIONIC
PEC	POLYMER-CATIONIC
PEF	PRIMARY EFFLUENT
PEN	POLYMER-NONIONIC
PI	PLANT INFILTRANT
PW	POTABLE WATER
RAS	RETURN ACTIVATED SLUDGE
RSL	RAIN SLUDGE
RW	RAW WATER
RWL	RAINWATER LEADER
S	SCUM
SA	SAMPLE LINE (SEE LIST AT RIGHT)
SB	SODIUM BISULFITE
SD	SANITARY DRAIN AND VENT
SDR	STORM DRAIN
SE	SECONDARY EFFLUENT
SF	SLUDGE FILTRATE
SG	SLUDGE GAS
SN	SUBNATANT
SPD	SUMP PUMP DISCHARGE
SS	SANITARY SEWER
ST	STEAM
SU	STRUCTURE UNDERDRAIN
SUC	STRUCTURE UNDERDRAIN COLLECTOR
TSL	THICKENED SLUDGE
UW	UTILITY WATER
WAS	WASTE ACTIVATED SLUDGE
WLO	WASTE LUBE OIL
WW	WASTEWATER

### GENERAL NOTES

- ADDITIONAL INSTRUMENTATION AND CONTROL SYMBOLS MAY BE USED AS REQUIRED. SYMBOLS AND NOMENCLATURE ARE BASED ON ISA STANDARD S-5.1.
- SEE ASSOCIATED ELECTRICAL SYMBOL SHEETS FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.

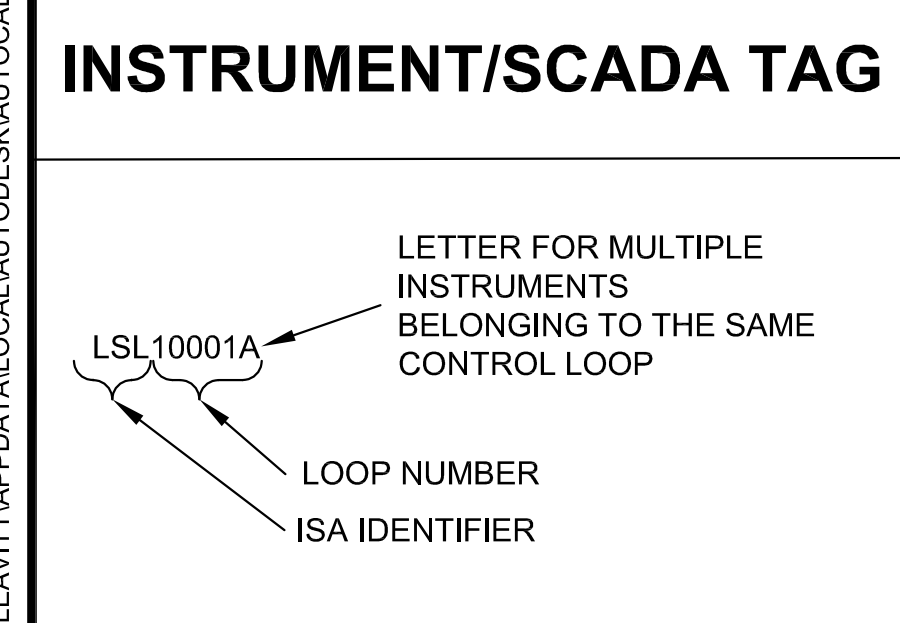
### HAND SWITCH DESIGNATIONS

ES	EMERGENCY STOP
FOR	FORWARD-OFF-REVERSE
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HORA	HAND-OFF-REMOTE-AUTO
IOE	INTERNAL-OFF-EXTERNAL
JOA	JOG-OFF-AUTO
LOAR	LOCAL-OFF-AUTO-RAISE
LOR	LOCAL-OFF-REMOTE
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MOA	MANUAL-OFF-AUTO
MOR	MOMENTARY-OFF-RUN
OC	OPEN-CLOSE
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOC	ON-OFF-CLOSE
OOR	ON-OFF-REMOTE
OSC	OPEN-STOP-CLOSE
POT	POTENTIOMETER
ROO	RESET-OFF-ON
RST	RESET PUSHBUTTON
SS	START-STOP



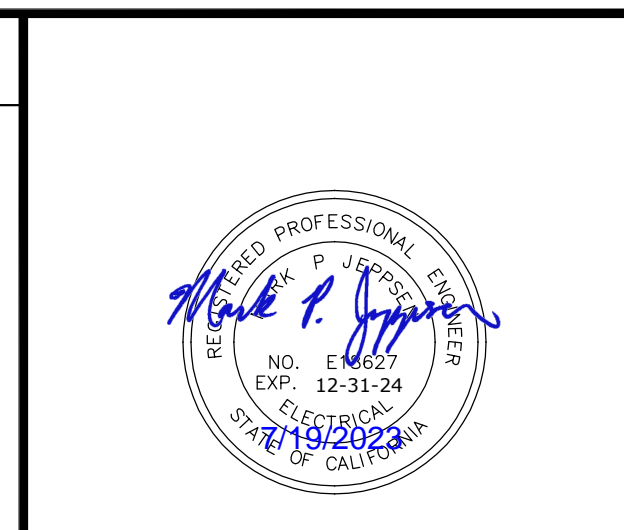
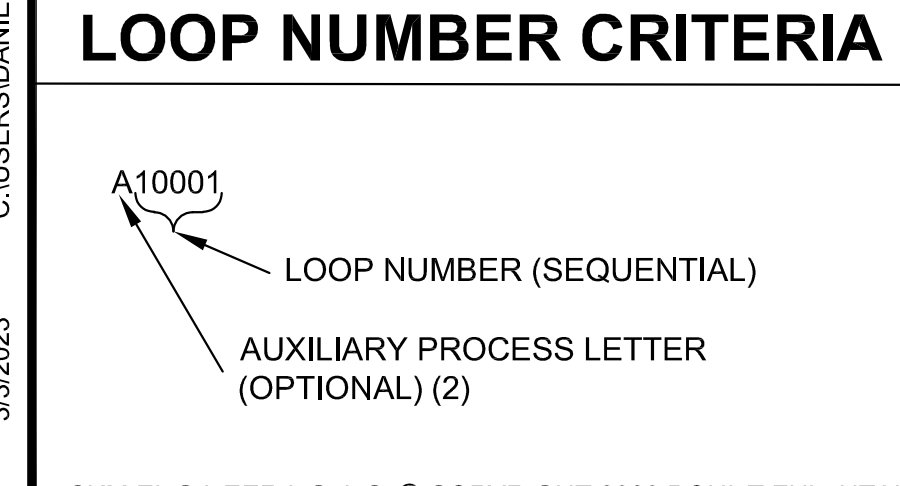
### (1) DEVICE IDENTIFIERS

CNV	CONVEYANCE EQUIPMENT
CV	CHECK VALVE
FV	AUTOMATIC VALVE (ACTUATED VALVE)
G	GATE
H	HVAC/ODOR
HV	HAND VALVE
M	METERING
ME	CHEMICAL/MECHANICAL EQUIPMENT
MFV	MULTIFUNCTION VALVE
P	PUMP
SPV	SAMPLE VALVE
SV	SOLENOID VALVE



### (2) AUXILIARY PROCESS LETTERS

A	ACCESS CONTROL SYSTEMS
C	COLLECTIONS SYSTEM
F	FIRE SYSTEMS
H	HVAC SYSTEMS
P	POWER SYSTEMS



NO.	DATE	DESIGN	DRAWN	CHECKED	MPJ	DCL	MPJ
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CITY OF BEAUMONT

MESA LIFT STATION UPGRADE INSTRUMENTATION - P&ID

LEGEND



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DRAWING NO.  
**1001**  
SHEET 46 of 65



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3/9/2023

VALVES		ACTUATORS		FLOW ELEMENTS		MISCELLANEOUS		PRIMARY ELEMENT SYMBOLS	
	3 WAY VALVE		ACTUATOR: H=HYDRAULIC, M=MOTOR, P=PNEUMATIC, S=SOLENOID		MAGNETIC FLOW ELEMENT		SCREEN & GRINDER		ANALYZER ELEMENT
	4 WAY VALVE		MANUAL		MASS FLOW ELEMENT ANNUBAR (INSERTION)		VENT		DO ANALYZER
	ANGLE VALVE		PNEUMATIC DIAPHRAGM		MASS FLOW ELEMENT ANNUBAR (SPOOL)		RED PILOT LIGHT		DO SENSOR
	BACK PRESSURE RELIEF VALVE		PNEUMATIC DIAPHRAGM WITH POSITIONER		PROPELLER FLOW ELEMENT (INSERTION)		STROBE & HORN		FLOAT SWITCH
	BALANCING VALVE	<b>PIPING</b>			PROPELLER FLOW ELEMENT (SPOOL)		VFD KEYPAD		ORP ANALYZER
	BALL VALVE		BLIND FLANGE		ROTAMETER		BIOCUBE ODOR CONTROL TANK		ORP SENSOR
	BUTTERFLY VALVE		CAPPED OR PLUGGED END		THERMAL MASS FLOW ELEMENT (INSERTION)				pH ANALYZER
	CHECK VALVE		DRAIN		THERMAL MASS FLOW ELEMENT (SPOOL)				pH SENSOR
	DIAPHRAGM VALVE		QUICK CONNECT/DISCONNECT		ULTRASONIC FLOW ELEMENT (INSERTION)				ULTRASONIC LEVEL TRANSDUCER
	ECCENTRIC PLUG VALVE		REDUCER		ULTRASONIC FLOW ELEMENT (SPOOL)				RADAR LEVEL TRANSDUCER
	GATE VALVE		Y-STRAINER						
	GLOBE VALVE		FLEXIBLE CONNECTOR						
	KNIFE VALVE	<b>PUMPS</b>							
	LUBRICATED PLUG VALVE		CENTRIFUGAL PUMP						
	MIX VALVE		MECHANICAL DIAPHRAGM PUMP						
	MUD VALVE		METERING PUMP						
	NEEDLE VALVE		MIXED FLOW PUMP						
	PINCH VALVE		PERISTALTIC PUMP						
	PRESSURE REDUCING VALVE		PROGRESSIVE CAVITY PUMP						
	PRESSURE RELIEF VALVE		ROTARY LOBE PUMP						
	SLEEVE VALVE		SUBMERSIBLE PUMP						
	TELESCOPING VALVE		VERTICAL TURBINE PUMP						
	VACUUM VALVE		AIR DIAPHRAGM PUMP						
<b>HVAC</b>									
	AIR COMPRESSOR								
	AIR FILTER								
	DAMPER								
	FILTER								
	GUIDE VANES								
	HEAT EXCHANGER								
	LOUVER WITH HOOD								
	SILENCER								
	UNIT HEATER								
<b>GATES</b>									
	FLAPPER GATE								
	SLIDE GATE								
	SLUICE GATE								
	STOP GATE								



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1	07-28-2023				
		REVISIONS			

CITY OF BEAUMONT  
**MESA LIFT STATION UPGRADE  
 INSTRUMENTATION - P&ID**  
 SYMBOLS



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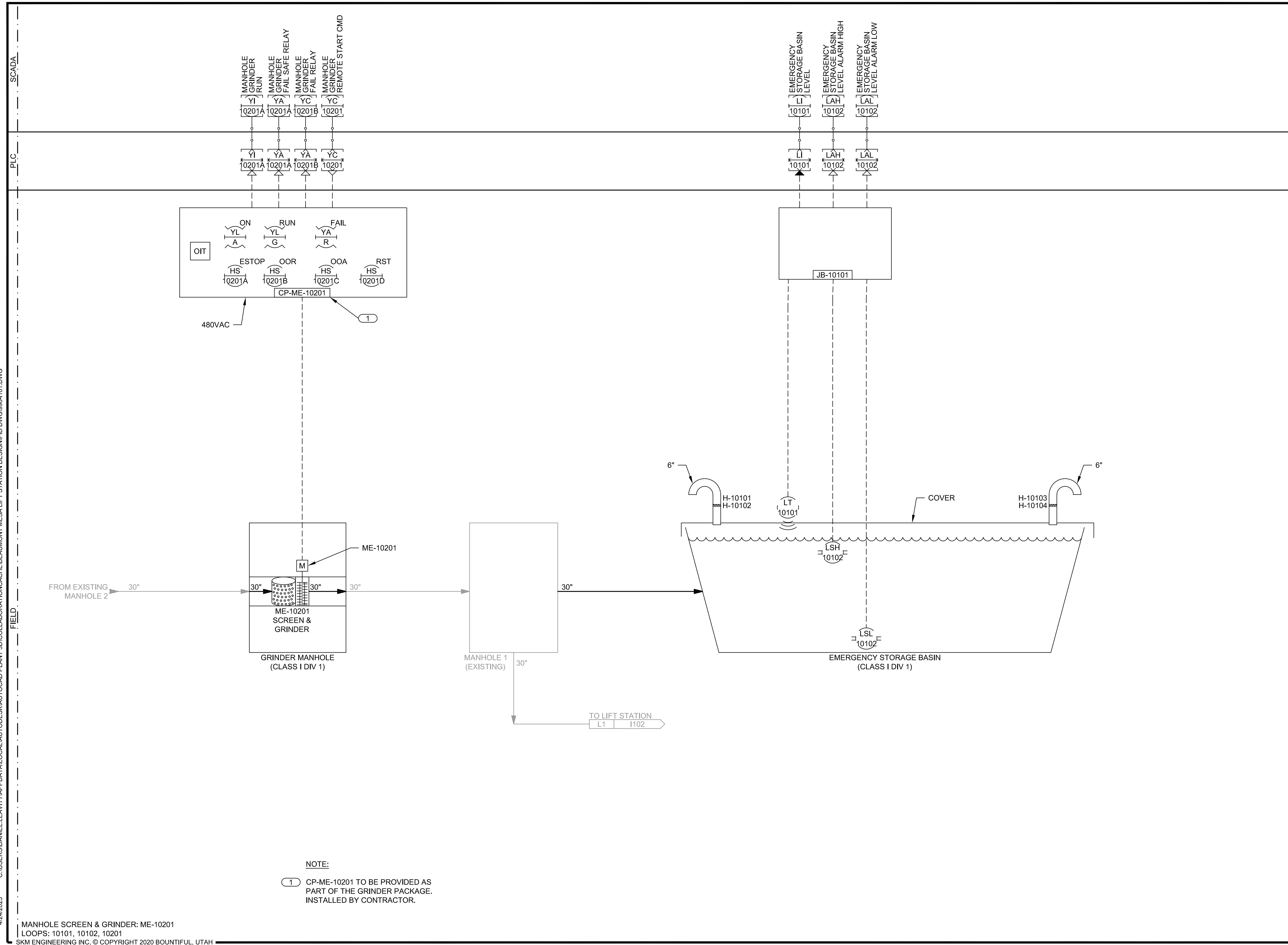
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DRAWING NO.  
**1002**  
 SHEET 47 of 65



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4/24/2023



**NOTE:**  
 ① CP-ME-10201 TO BE PROVIDED AS PART OF THE GRINDER PACKAGE. INSTALLED BY CONTRACTOR.

MANHOLE SCREEN & GRINDER: ME-10201  
 LOOPS: 10101, 10102, 10201  
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PLC

SCADA



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CITY OF BEAUMONT  
 MESA LIFT STATION UPGRADE  
 INSTRUMENTATION - P&ID  
 GRINDER & STORAGE BASIN



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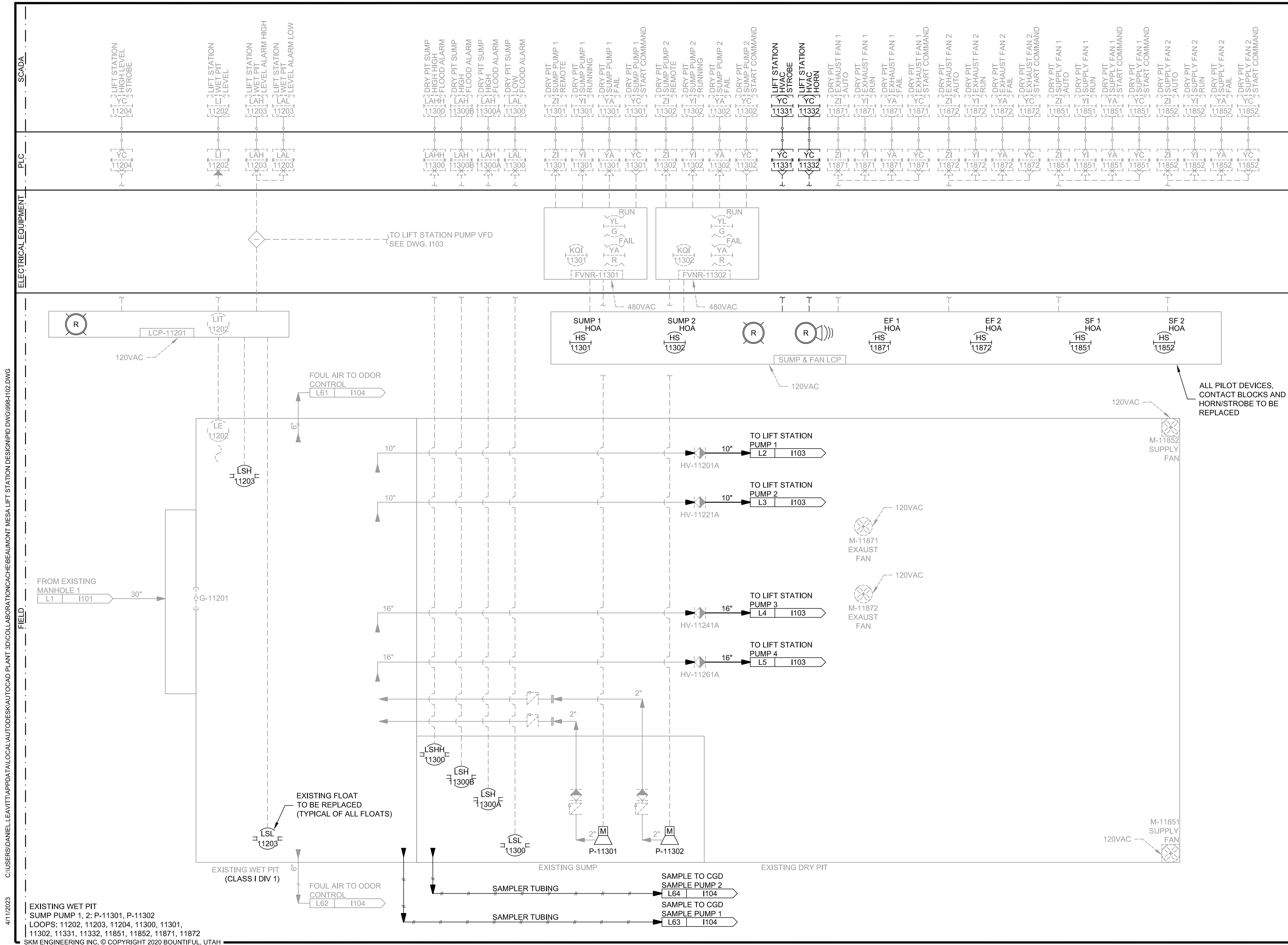
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DRAWING NO.  
**I101**  
 SHEET 48 of 65



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EXISTING WET PIT  
 SUMP PUMP 1, 2: P-11301, P-11302  
 LOOPS: 11202, 11203, 11204, 11300, 11301,  
 11302, 11331, 11332, 11851, 11852, 11871, 11872  
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SCADA  
 PLC  
 ELECTRICAL EQUIPMENT  
 FIELD



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NO.	DATE	DESCRIPTION

CITY OF BEAUMONT  
**MESA LIFT STATION UPGRADE  
 INSTRUMENTATION - P&ID**  
 WET AND DRY PITS



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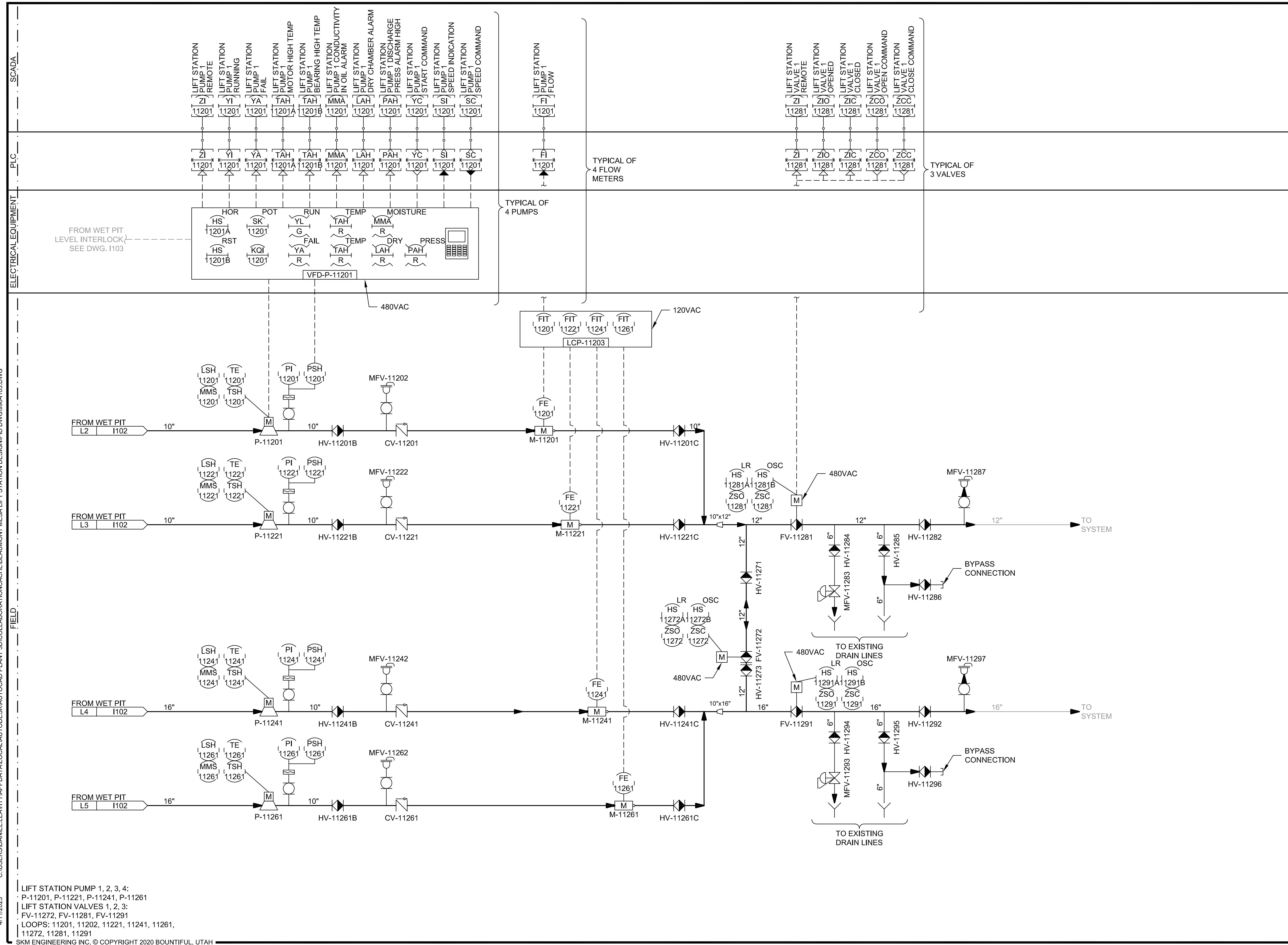
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DRAWING NO.  
**1102**  
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LIFT STATION PUMP 1, 2, 3, 4:  
 P-11201, P-11221, P-11241, P-11261  
 LIFT STATION VALVES 1, 2, 3:  
 FV-11272, FV-11281, FV-11291  
 LOOPS: 11201, 11202, 11221, 11241, 11261,  
 11272, 11281, 11291  
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ELECTRICAL EQUIPMENT

PLC

SCADA

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CITY OF BEAUMONT  
 MESA LIFT STATION UPGRADE  
 INSTRUMENTATION - P&ID

LIFT STATION



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DRAWING NO.  
**I103**  
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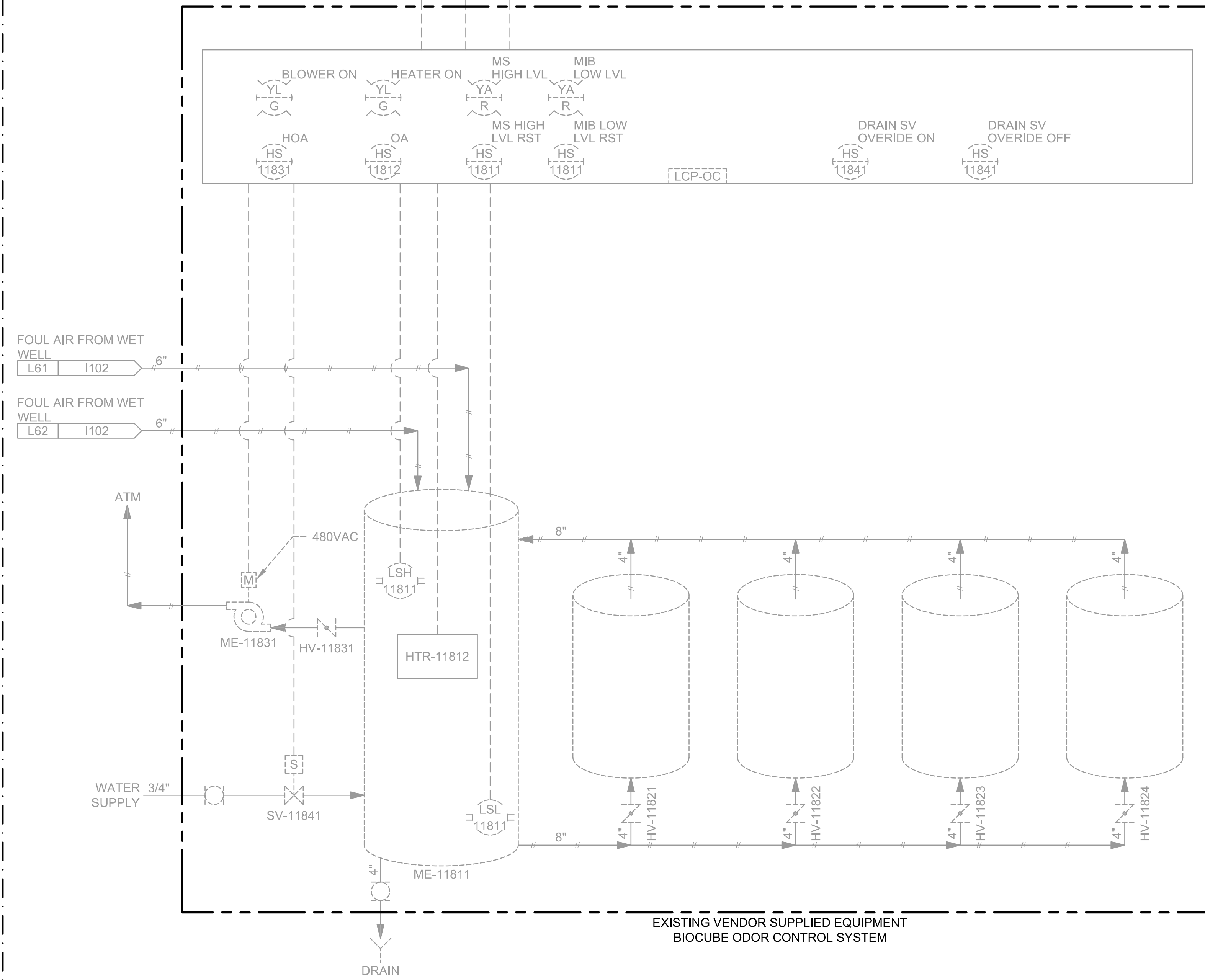
4/11/2023

SCADA

PLC

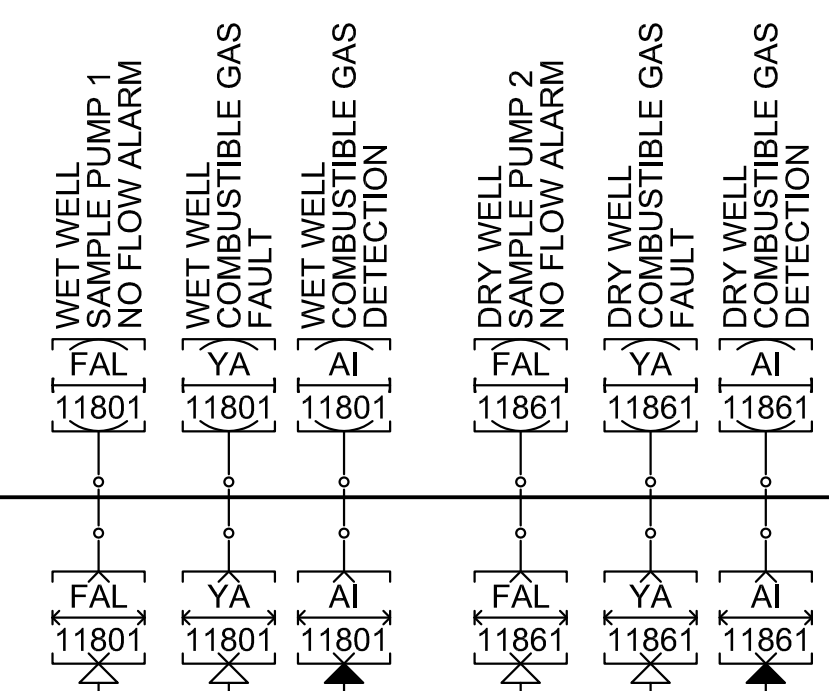
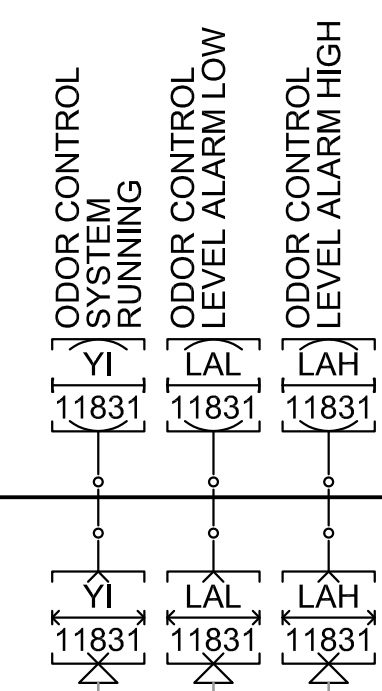
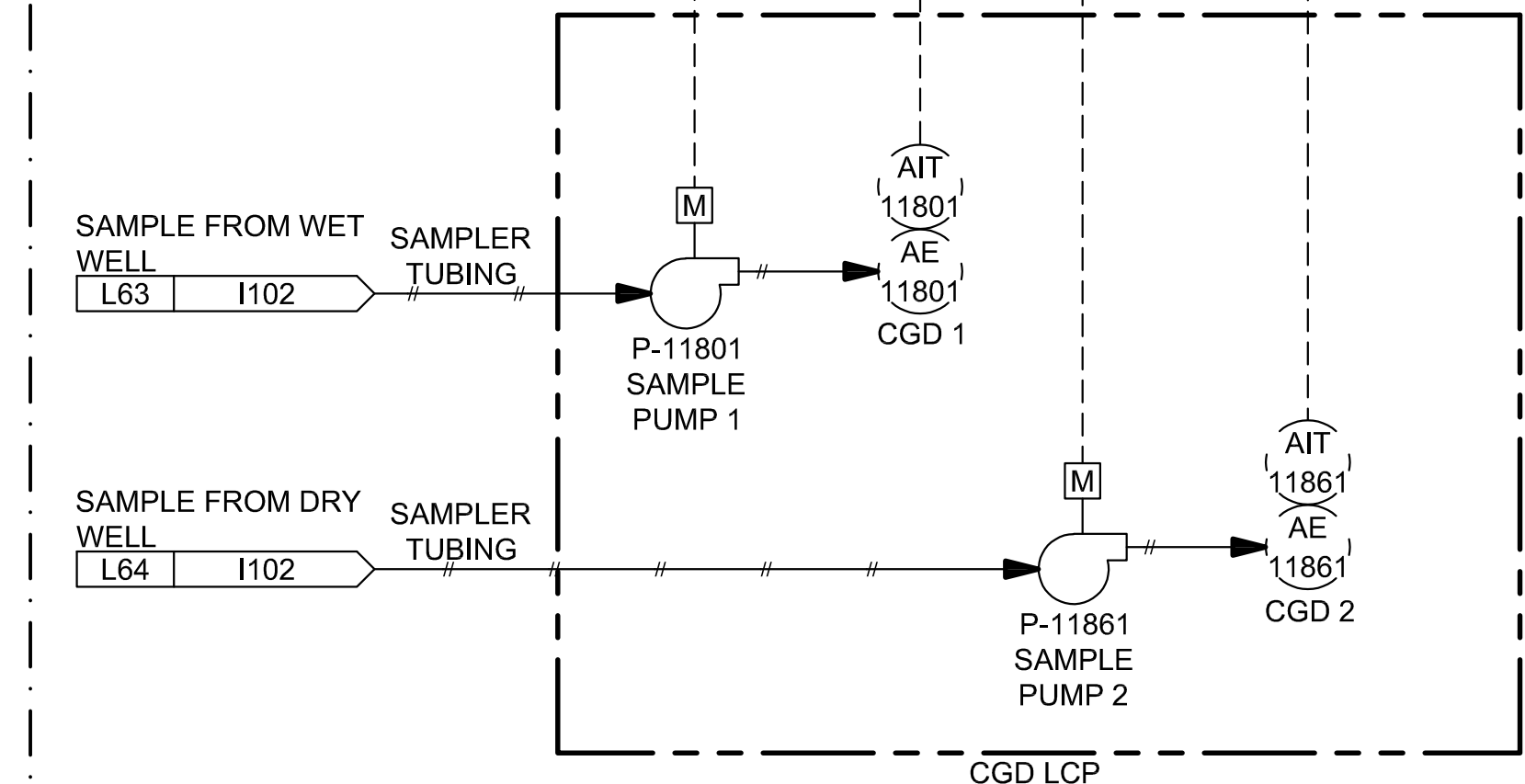
FIELD

ODOR CONTROL SYSTEM  
 LOOPS: 11811, 11812, 11831, 11841  
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EXISTING VENDOR SUPPLIED EQUIPMENT  
 BIOCUBE ODOR CONTROL SYSTEM

COMBUSTIBLE GAS DETECTION SYSTEM  
 COMBUSTIBLE GAS DETECTOR 1, 2  
 CGD SAMPLER PUMP 1, 2: P-11801, P-11861  
 LOOPS: 11801, 11802, 11861, 11862



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ORIGINAL REVISIONS

CITY OF BEAUMONT  
 MESA LIFT STATION UPGRADE  
 INSTRUMENTATION - P&ID  
 ODOR CONTROL AND CGD SYSTEM



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**1104**  
 SHEET 51 of 65



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SCHEMATIC LINETYPES table with columns for line style and description (ELECTRICAL BUS, EXISTING OR FUTURE MANUFACTURER/SHOP WIRE, etc.)

ELECTRICAL PLAN LINETYPES table with columns for line style and description (EXPOSED CONDUIT, BARE COPPER GROUND CONDUCTOR, etc.)

ABBREVIATIONS table listing electrical symbols and their corresponding terms (AMPERE, ABOVE FINISHED FLOOR, etc.)

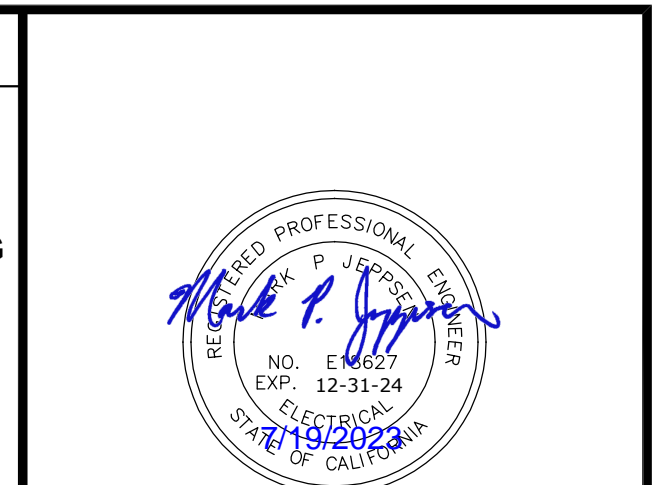
NOTES section containing numbered instructions for installation and safety (1. THE COMPLETED INSTALLATION SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES, etc.)

SCHEMATIC SYMBOLS table listing various electrical symbols and their descriptions (CIRCUIT BREAKER, DISCONNECT, FUSE, etc.)

ELECTRICAL PLAN HAZARDOUS LOCATION CLASSIFICATION LINETYPES table with color-coded lines for CLASS I DIV 1, CLASS II DIV 1, CLASS I DIV 2, and CLASS II DIV 2.

ELEC. PLAN SYMBOLS table listing symbols for SITE PLAN DEVICES (GROUND ROD, DUPLEX RECEPTACLE, etc.) and TB'S & PLC SYMBOLS (LOCAL PANEL OR DEVICE TERMINAL BLOCK, etc.)

CONDUIT CALLOUT table listing symbols for EQUIP. TAG, EQUIPMENT CALLOUT, and CONDUIT CALLOUT (GROUPED CONDUIT AND CIRCUIT IDENTIFICATION TAGS, etc.)



Revision table with columns for NO., DATE, DESIGN, DRAWN, CHECKED, and REVISIONS.

CITY OF BEAUMONT
MESA LIFT STATION UPGRADE
ELECTRICAL - GENERAL
NOTES & SYMBOLS



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DRAWING NO. E001 SHEET 52 of 65



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6/7/2023

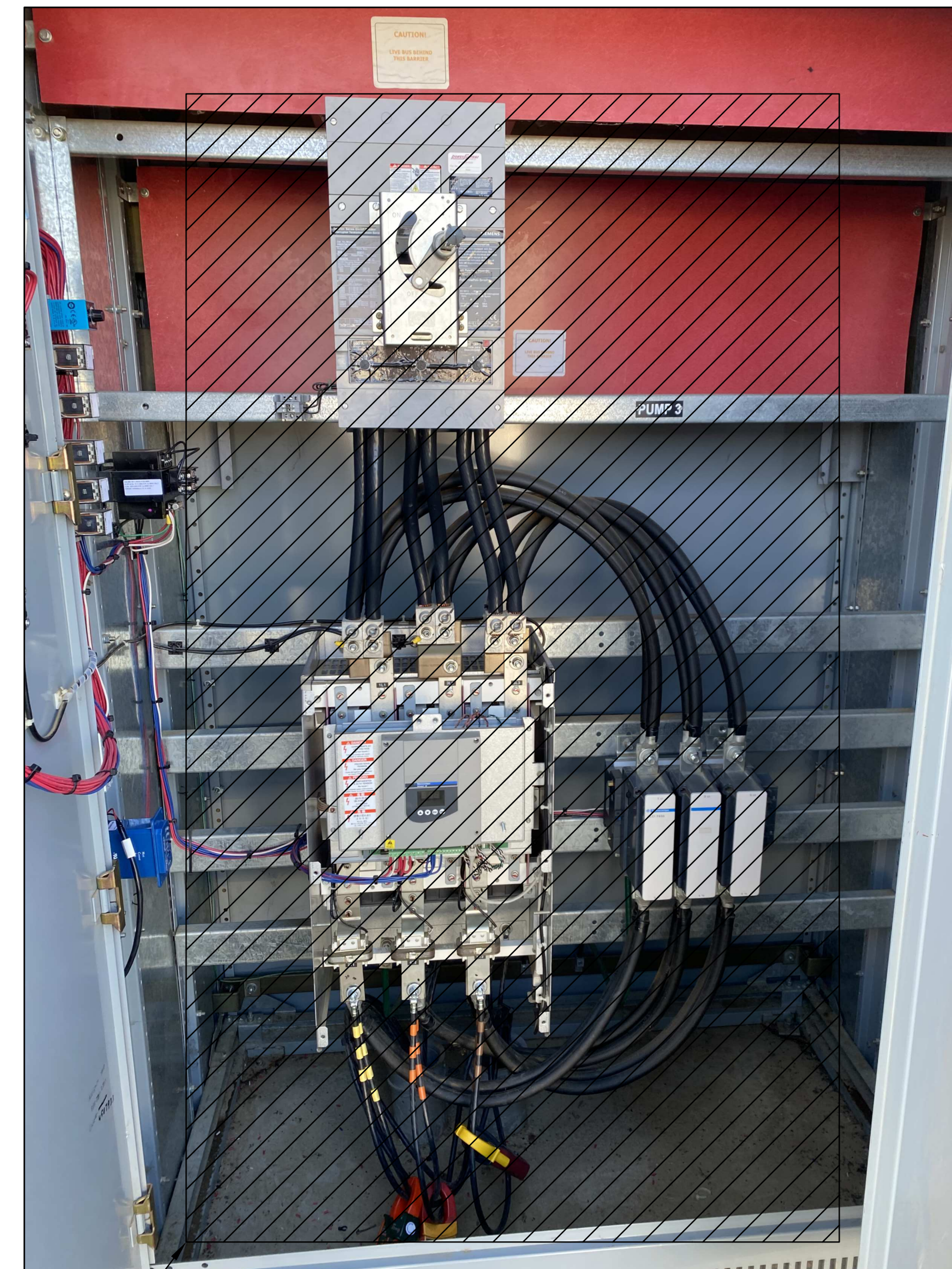
6/7/2023



**PUMP 1 VFD**



**PUMP 2 VFD**



**PUMP 3 RVSS**

**NOTES:**

- ① THE EXISTING PUMP 1 & 2 VFD ASSEMBLIES SHALL BE UPGRADED WITH NEW HARMONIC FILTERS, VFD'S, DV/DT FILTERS, AND VENTILATION. REMOVE THE EXISTING HARMONIC FILTER, VFD. THE EXISTING 400A BREAKER, CONTROL POWER TRANSFORMER AND CONTROL DEVICES SHALL BE REPURPOSED. THE EXISTING FLYGT MINICAS RELAY SHALL BE REPLACED WITH THE NEW HIDROSTAL MOISTURE AND TEMPERATURE MONITORING RELAY.
- ② THE EXISTING PUMP 3 & 4 RVSS ASSEMBLIES SHALL BE UPGRADED WITH NEW 400A BREAKERS, HARMONIC FILTERS, VFD'S, DV/DT FILTERS, AND VENTILATION. REMOVE THE EXISTING 800A BREAKER, RVSS AND BYPASS CONTACTOR. THE CONTROL POWER TRANSFORMER AND CONTROL DEVICES SHALL BE REPURPOSED. THE EXISTING FLYGT MINICAS RELAY SHALL BE REPLACED WITH THE NEW HIDROSTAL MOISTURE AND TEMPERATURE MONITORING RELAY.
- ③ VFD'S 1 & 2 & RVSS 3 SHALL BE SALVAGED AND RETURNED TO OWNER. THE ASSOCIATED FILTERS, TIMERS, AND RELAYS THAT ARE REPLACED SHALL ALSO BE RETURNED TO OWNER.

**DEMO DRAWING**



DRAWING IS TO SCALE  
IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

NO.	DATE	DESIGN	DRAWN	CHECKED	REVISIONS		
					MPJ	DCL	MPJ
B	07-26-2023						

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
ELECTRICAL - DEMOLITION

DEMO DRAWING



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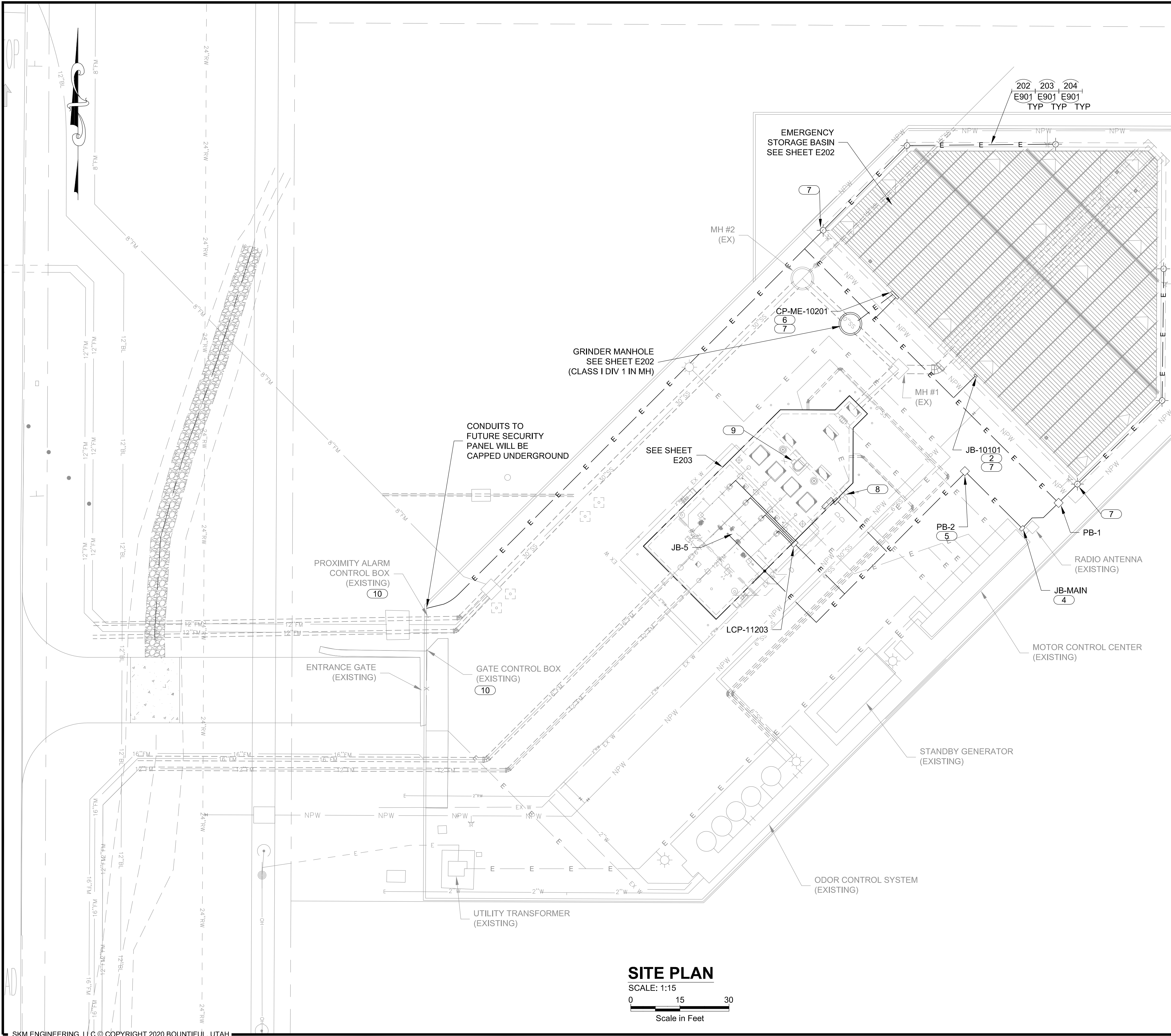
DRAWING NO.  
**E101**

SHEET 53 of 65



C:\USERS\ENGINEER\KIM\ACCSO\AQUA\ENGINEERING\002201.C - BEAUMONT MESA LIFT STATION\PROJECT FILES\999 ELECTRICAL\999-E201 SITE PLAN.DWG

6/11/2023



**SITE PLAN**

SCALE: 1:15  
0 15 30  
Scale in Feet

**NOTES**

- 1 CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL EXPOSED CONDUIT SHALL BE PVC COATED. PANELS SHALL BE STAINLESS STEEL NEMA 4X.
- 2 A NEMA 4X 316SS 12"x12"x6" JUNCTION BOX WILL HOUSE TERMINALS FOR LEVEL INSTRUMENTS AT THE STORAGE BASIN. THIS JB SHALL BE MOUNTED AT LEAST 18" ABOVE THE TOP OF THE STORAGE BASIN USING DETAIL 001. NEW INTRINSIC BARRIERS WILL BE USED FOR EXPLOSION PROTECTION TO LEVEL EQUIPMENT AT THE BASIN. THESE BARRIERS SHALL BE INSTALLED IN THE PLC PANEL AND CONDUCTORS SHALL BE ROUTED PER THE CONDUIT SCHEDULES AND DEVELOPMENTS.
- 3 LIMIT EXPOSED CONDUITS, 90° BENDS, AND WALL PENETRATIONS. MAINTAIN SEPARATION BETWEEN SIGNAL AND POWER-CARRYING CONDUITS.
- 4 INSTALL A NEMA 12 24"H x 24"W x 16"D JUNCTION BOX AT THIS LOCATION FOR ALL NEW CONDUITS ROUTED TO THE EXISTING MOTOR CONTROL CENTER AND PLC.
- 5 INSTALL A NEW PULL BOX IN THIS LOCATION TO ACCOMMODATE NEW INSTRUMENTS AND ACTUATORS.
- 6 A NEMA 4X 316SS ENCLOSURE PROVIDED WITH THE GRINDER SYSTEM SHALL BE MOUNTED AT THIS LOCATION TO PROVIDE POWER AND CONTROLS TO THE GRINDER. THIS ENCLOSURE SHALL BE MOUNTED AT LEAST 18" ABOVE THE TOP OF THE STORAGE BASIN USING DETAIL 001. A SUN SHADE, SPECIFIED IN THE SPECS, SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AROUND THIS PANEL TO PROTECT IT FROM SUN DAMAGE.
- 7 CONTRACTOR SHALL INSTALL SEAL OFFS ON CONDUITS THAT LEAD TO THE ENCLOSURE. THE SEAL OFFS SHALL BE INSTALLED AT A LOCATION JUST ABOVE GRADE WHERE CONDUITS STUB UP. SEAL OFFS SHALL BE INSTALLED PER NEC SECTION 501 AND DETAIL 377.
- 8 EXISTING LCP-11201 THAT HOUSES A LEVEL TRANSMITTER, CGD, INTRINSIC BARRIERS AND IO TERMINALS FOR THE WET WELL SHALL REMAIN IN PLACE. THE CGD SHALL BE REMOVED AND SALVAGED TO OWNER. TERMINALS AND LIT WILL BE REUSED AND SHALL REMAIN IN THE BOX IN THEIR CURRENT CONFIGURATION. NEW LEVEL SWITCHES IN THE WET WELL SHALL BE TERMINATED ON THE SAME TERMINALS AS THE OLD SWITCHES. INTRINSIC BARRIERS SHALL BE REPLACED WITH NEW AND CONNECTIONS TO NEW SWITCHES WILL TERMINATE ON THE NEW BARRIERS.
- 9 SUMP AND FAN LCP AT THIS LOCATION HOUSES TERMINALS AND PILOT DEVICES FOR FAN AND SUMP CONTROL. THE DOOR TO THIS PANEL SHALL BE REPLACED AND WITH IT NEW PILOT DEVICES. THE INTERNALS OF THIS BOX ARE IN ACCEPTABLE CONDITION FOR REUSE. THERE ARE 2 SWITCHES ON THE RIGHT HAND SIDE OF THE BOX THAT ARE UNKNOWN AND UNUSED AND DO NOT NEED TO BE INCLUDED ON THE NEW DOOR. PILOT DEVICES SHALL INCLUDE SUPPLY FAN 1 HOA, SUPPLY FAN 2 HOA, EXHAUST FAN 1 HOA, EXHAUST FAN 2 HOA, SUMP PUMP 1 HOA, SUMP PUMP 2 HOA. CONTRACTOR SHALL UPGRADE EXISTING STROBE AND HORN FOR EXHAUST AND SUPPLY FAN FAILURES TO NEW.
- 10 CONTRACTOR TO MAINTAIN SITE SECURITY WHILE PROJECT IS UNDER DEVELOPMENT. CONDUIT TO PROXIMITY SENSORS, KEYPADS AND SECURITY CONTROL PANELS SHALL BE REPAIRED. CONDUCTORS TO THIS EQUIPMENT SHALL BE REPLACED WITH LIKE.



DRAWING IS TO SCALE  
IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

NO. DATE DESIGN DRAWN CHECKED  
B 07-28-2023 MPJ DCL MPJ

REVISIONS

CITY OF BEAUMONT

MESA LIFT STATION UPGRADE  
ELECTRICAL - SITE

SITE PLAN



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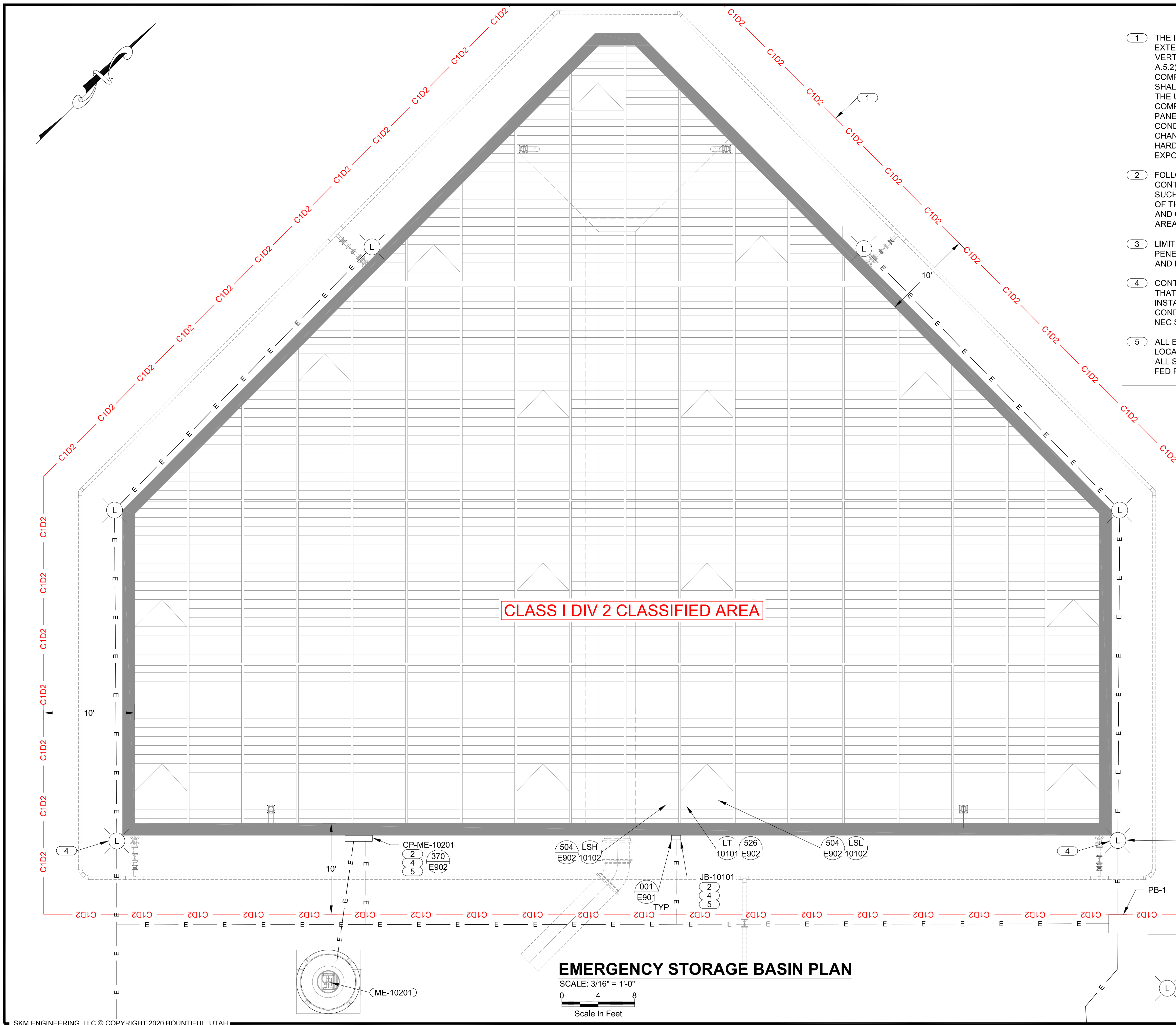
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DRAWING NO.  
**E201**  
SHEET 54 of 65



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6/1/2023



**CLASS I DIV 2 CLASSIFIED AREA**

**EMERGENCY STORAGE BASIN PLAN**  
 SCALE: 3/16" = 1'-0"  
 0 4 8  
 Scale in Feet

**NOTES**

- 1 THE INTERIOR OF THE EMERGENCY STORAGE BASIN AND EXTENDING OUT 10 FEET HORIZONTALLY AND 1.5 FEET VERTICALLY IS RATED CLASS I DIV 2 (SEE NFPA 820 FIGURE A.5.2). IN THIS CLASSIFIED AREA, ALL ELECTRICAL COMPONENTS SHALL BE RATED CLASS I DIV 2. SEAL OFFS SHALL BE UTILIZED PER THE REQUIREMENTS OF NEC, FOR THE UNCLASSIFIED SPACE SURROUNDING THIS AREA, ALL COMPONENTS SHALL BE CORROSION RESISTANT AND PANELS SHALL BE 316SS NEMA 4X. ALL EXPOSED CONDUITS AND FITTINGS SHALL BE PVC COATED GRS. ALL CHANNEL, ANCHORS, FASTENERS AND ASSOCIATED HARDWARE SHALL BE 316SS. CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY.
- 2 FOLLOW REQUIREMENTS USING NOTES ON E201. CONTRACTOR SHALL INSTALL BOXES AND SEAL OFFS SUCH THAT THE INSTALLATION FULFILLS REQUIREMENTS OF THE NEC SECTION 500 AND NFPA FOR ALL ELECTRICAL AND CONTROL CONDUITS EXTENDING INTO CLASSIFIED AREAS.
- 3 LIMIT EXPOSED CONDUITS, 90° BENDS, AND WALL PENETRATIONS. MAINTAIN SEPARATION BETWEEN SIGNAL AND POWER-CARRYING CONDUITS.
- 4 CONTRACTOR SHALL INSTALL SEAL OFFS ON CONDUITS THAT LEAD TO THE ENCLOSURE. THE SEAL OFFS SHALL BE INSTALLED AT A LOCATION JUST ABOVE GRADE WHERE CONDUITS STUB UP. SEAL OFFS SHALL BE INSTALLED PER NEC SECTION 501 AND DETAIL 377.
- 5 ALL EQUIPMENT INSIDE THE ENCLOSURES AT THESE LOCATIONS MUST BE RATED FOR A CLASS 1 DIV 2 AREA. ALL SWITCHES INSIDE OF THE CLASSIFIED AREA MUST BE FED FROM AN INTRINSIC BARRIER PER NEC ARTICLE 504.

DRAWING IS TO SCALE  
 IF BAR MEASURES:  
 1" = FULL SCALE  
 1/2" = HALF SCALE

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CITY OF BEAUMONT  
**MESA LIFT STATION UPGRADE**  
 ELECTRICAL - LAYOUT  
 EMERGENCY STORAGE BASIN PLAN



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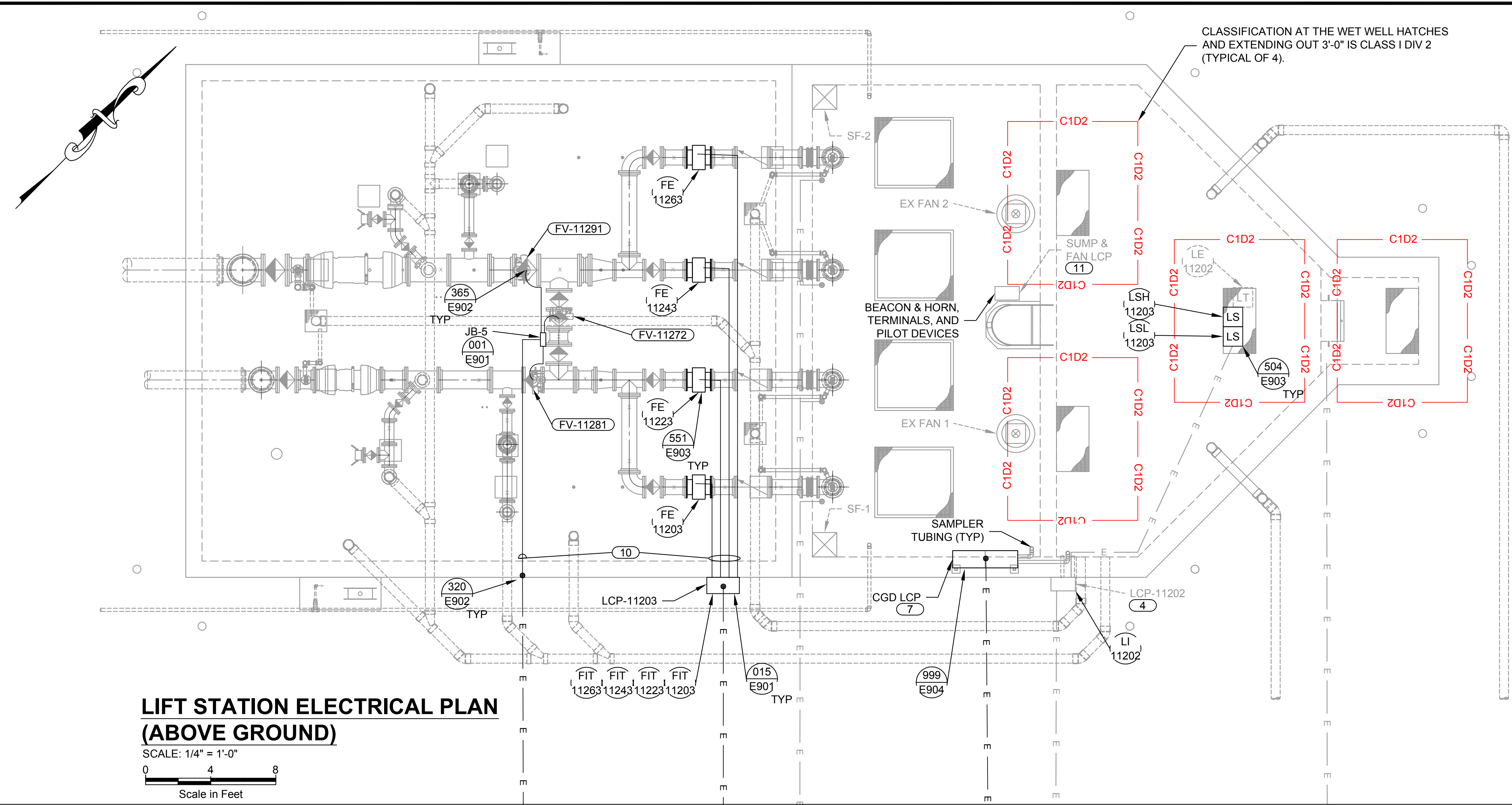
**ELECTRICAL LEGEND**

(L) GE EVOLVE SERIES 125W LED COBRA HEAD SITE LIGHT WITH PHOTO CELL CONTROL. MODEL ERS1-0-13-F1-X-40-E-GRAY-F (13000 LUMENS).

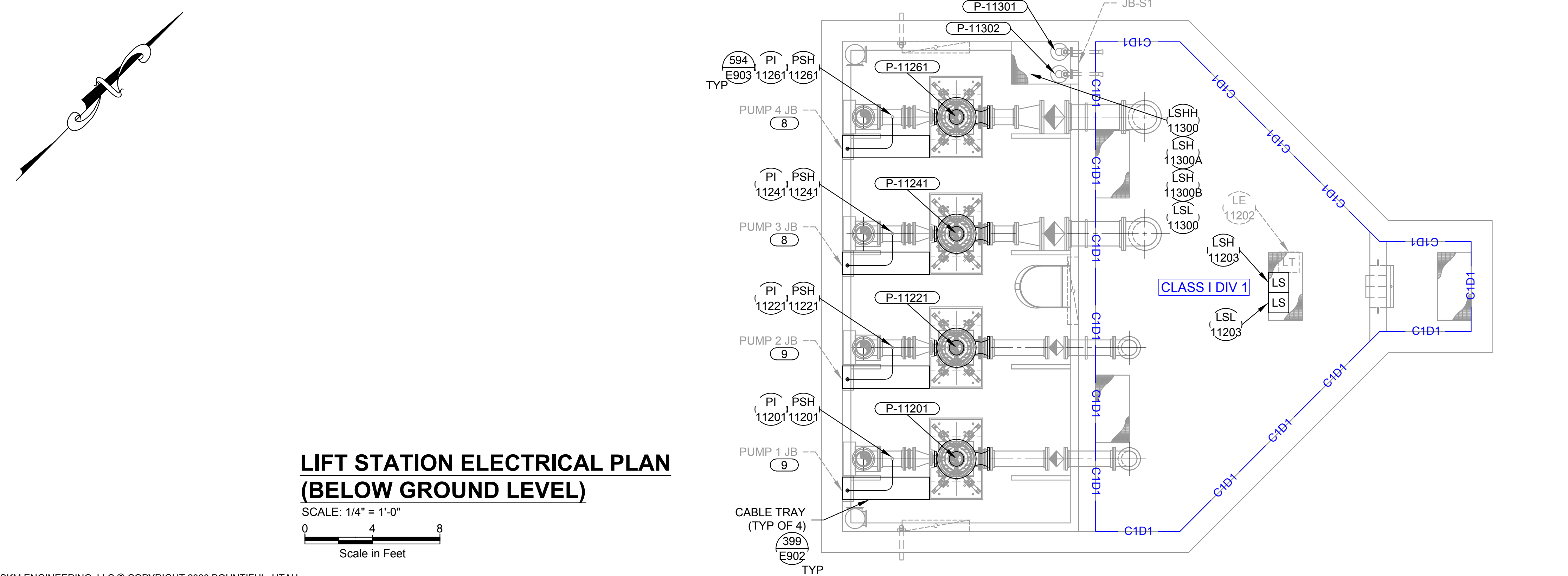
DRAWING NO.  
**E202**  
 SHEET 55 of 65



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**LIFT STATION ELECTRICAL PLAN  
(ABOVE GROUND)**  
SCALE: 1/4" = 1'-0"  
Scale in Feet



**LIFT STATION ELECTRICAL PLAN  
(BELOW GROUND LEVEL)**  
SCALE: 1/4" = 1'-0"  
Scale in Feet

**NOTES**

- 1 CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL EXPOSED CONDUIT SHALL BE PVC COATED. PANELS SHALL BE STAINLESS STEEL NEMA 4X.
- 2 CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ELECTRICAL ENGINEER FOR APPROVAL.
- 3 LIMIT EXPOSED CONDUITS, 90° BENDS, AND WALL PENETRATIONS. MAINTAIN SEPARATION BETWEEN SIGNAL AND POWER-CARRYING CONDUITS.
- 4 LCP-11201 IS EXISTING AND HOUSES THE LIT FOR THE WET WELL. UTILIZE EXISTING CONDUITS TO AND FROM THE WET WELL TO INSTALL NEW INSTRUMENTATION.
- 5 LCP-11203 IS A NEW 30"x30"x12" 316SS ENCLOSURE AND WILL HOUSE ALL 4 OF THE FLOW TRANSMITTERS. CONTRACTOR SHALL INSTALL THE TRANSMITTERS IN THIS BOX AND ROUTE POWER AND ANALOG TWISTED SHIELDED PAIR FROM EACH TRANSMITTER TO ITS CORRESPONDING MAG METER.
- 6 ALL EQUIPMENT INSIDE THE CLASS 1 DIV 2 AREA MUST BE RATED AS SUCH. ALL SWITCHES INSIDE OF THE CLASSIFIED AREA MUST BE FED FROM AN INTRINSIC BARRIER PER NEC ARTICLE 504.
- 7 A 24" X 48" PANEL CALLED CGD LCP IS TO BE INSTALLED AT THIS LOCATION PER DETAIL 015. THIS PANEL IS AN OPEN TO ATMOSPHERE ENCLOSURE WHICH WILL HOUSE AN AIR SAMPLER PUMP AND A CGD FOR EACH WELL. THE SAMPLER PUMP INCLUDES TUBING THAT WILL DRAW AIR TO THE CGD. THIS TUBING NEEDS TO BE INSTALLED SUCH THAT IT CAN PULL AIR FROM INSIDE THE WELLS. THE PANEL SHALL INCLUDE A HORN AND BEACON TO NOTIFY PERSONNEL OF COMBUSTIBLE GASES IN EITHER PIT.
- 8 EXISTING PUMP JUNCTION BOX CONTAINS 2-4" CONDUITS AND 1-1" CONDUIT WITH SEAL-OFFS.
- 9 EXISTING PUMP JUNCTION BOX CONTAINS 1-4" CONDUITS AND 1-1" CONDUIT WITH SEAL-OFFS.
- 10 CONTRACTOR INSTALLED ABOVE GRADE FIELD CONDUIT TO MAG METERS AND ELECTRICALLY ACUTATED VALVES. CONDUITS SHALL BE SCHEDULE 40 GRS PVC COATED.
- 11 SUMP AND FAN LCP IS AN EXISTING JUNCTION BOX/LCP. WIRE TO AND FROM THIS LCP SHALL BE REUSED AND OR REPURPOSED FOR NEW SUMP AND FAN CONTROL EQUIPMENT.



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	
ORIGINAL	CHECKED
NO. DATE	DESIGN DRAWN
B 07-26-2023	MPJ DCL
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CITY OF BEAUMONT  
MESA LIFT STATION UPGRADE  
ELECTRICAL - LAYOUT  
LIFT STATION ELECTRICAL PLAN



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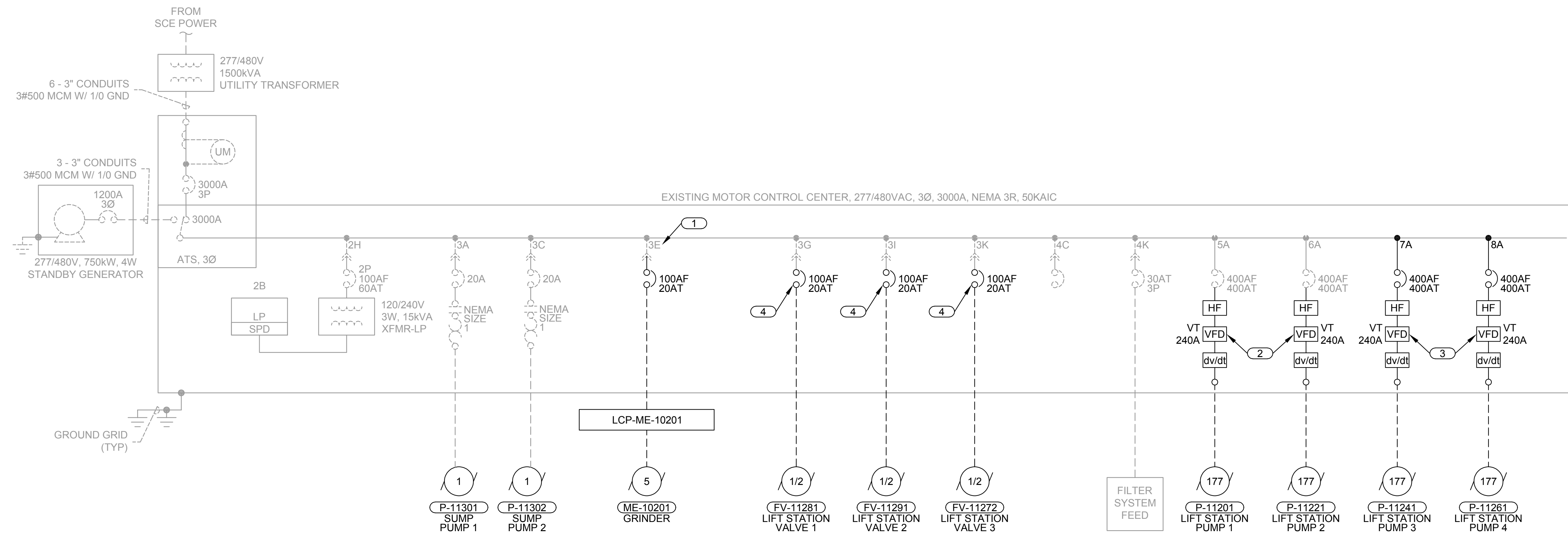
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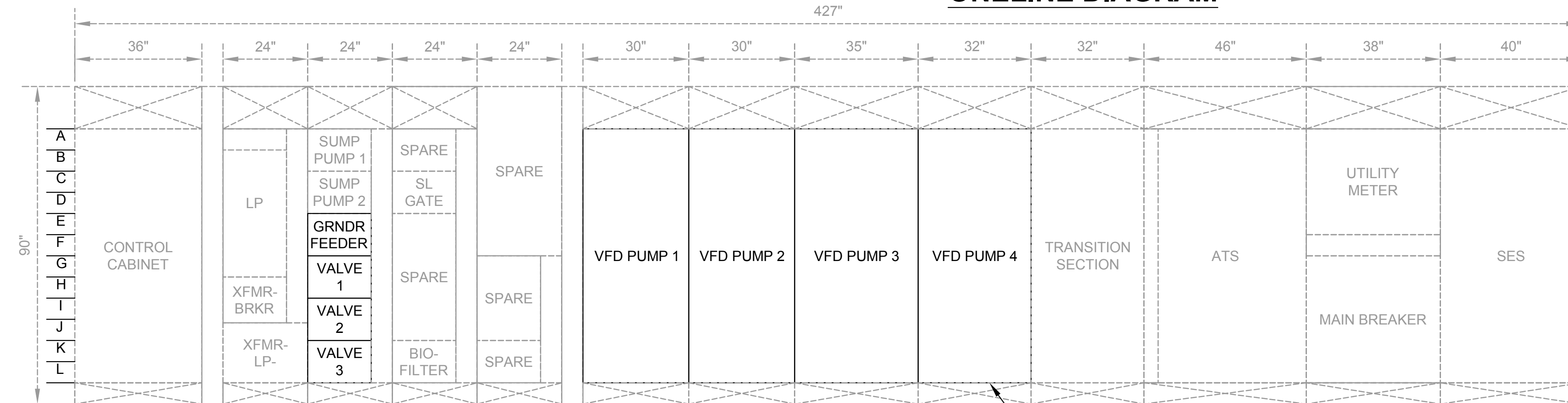
DRAWING NO.  
**E203**  
SHEET 56 of 65



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**ONELINE DIAGRAM**



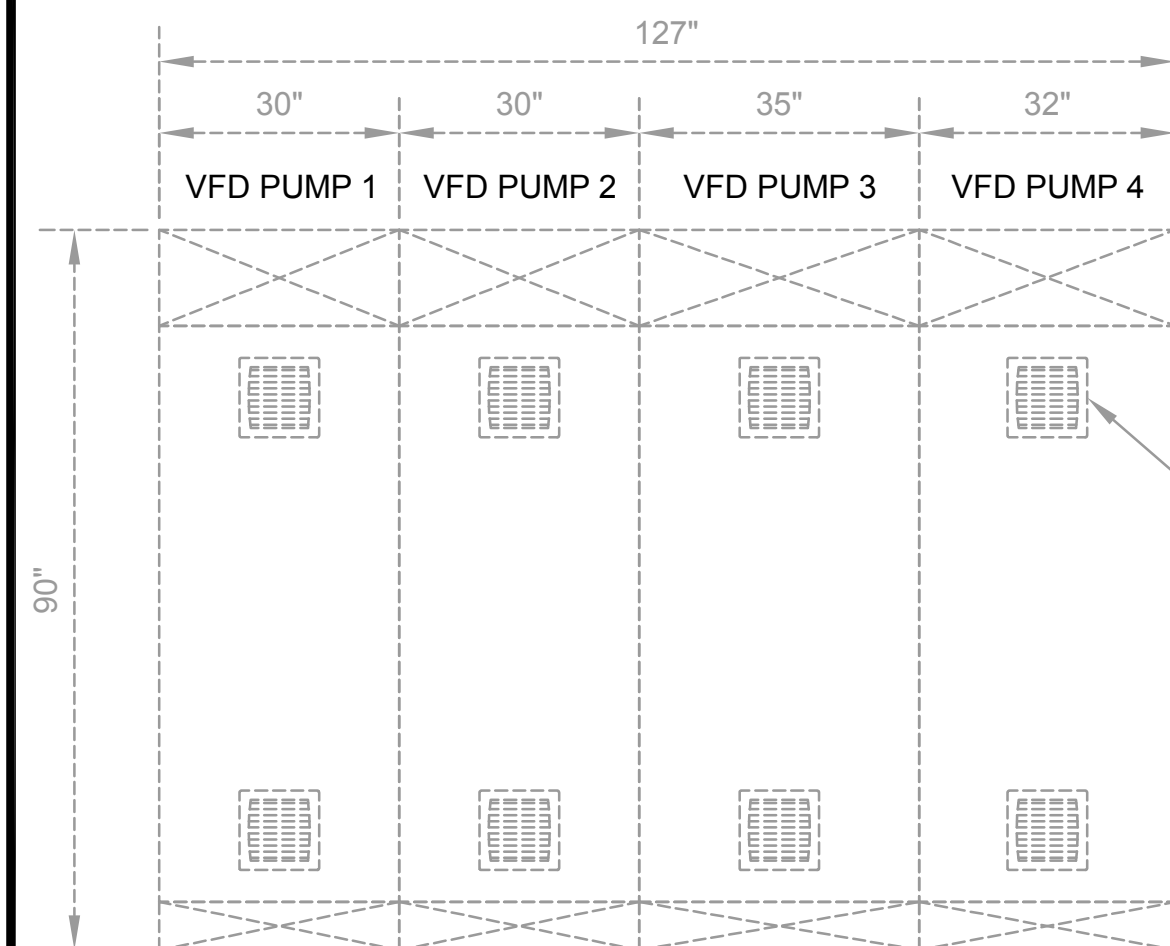
**MCC ELEVATION**

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

VFD PANEL ELEVATIONS (SEE BELOW)

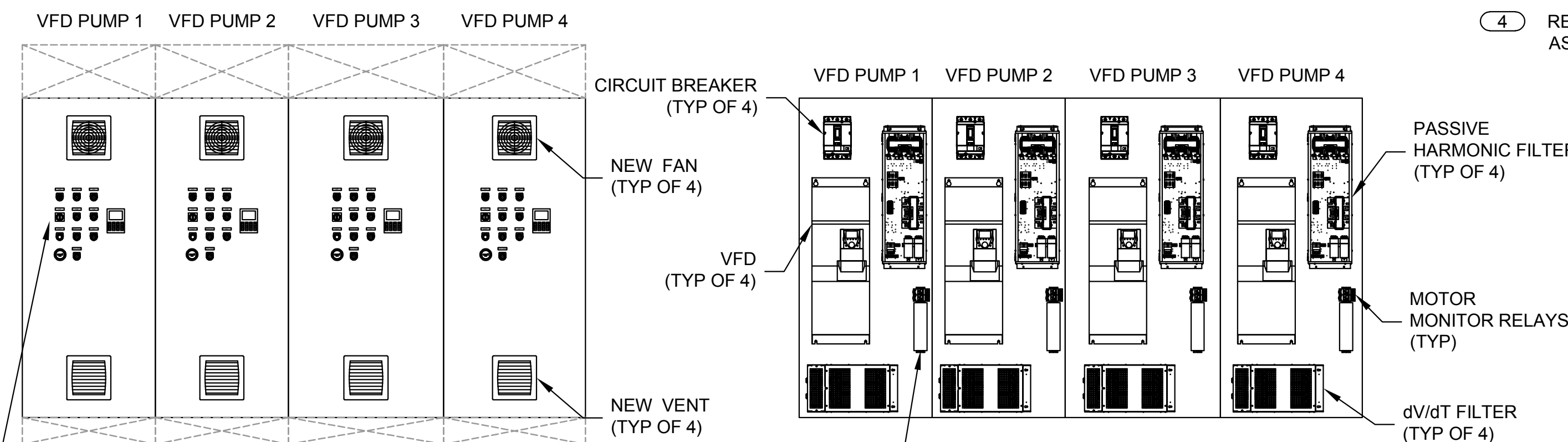
**NOTES:**

- ① REPLACE STARTER IN BUCKET 3E WITH A NEW FEEDER BREAKER ASSEMBLY FOR FEEDING THE GRINDER CONTROL PANEL.
- ② THE EXISTING PUMP 1 & 2 VFD ASSEMBLIES SHALL BE UPGRADED WITH NEW HARMONIC FILTERS, VFD'S, DV/DT FILTERS, AND VENTILATION. REMOVE THE EXISTING HARMONIC FILTER, VFD. THE EXISTING 400A BREAKER, CONTROL POWER TRANSFORMER AND CONTROL DEVICES SHALL BE REPURPOSED. THE EXISTING FLYGT MINICAS RELAY SHALL BE REPLACED WITH THE NEW PUMP'S MOISTURE AND TEMPERATURE MONITORING RELAY.
- ③ THE EXISTING PUMP 3 & 4 RVSS ASSEMBLIES SHALL BE UPGRADED WITH NEW 400A BREAKERS, HARMONIC FILTERS, VFD'S, DV/DT FILTERS, AND VENTILATION. REMOVE THE EXISTING 800A BREAKER, RVSS AND BYPASS CONTACTOR. THE CONTROL POWER TRANSFORMER AND CONTROL DEVICES SHALL BE REPURPOSED. THE EXISTING FLYGT MINICAS RELAY SHALL BE REPLACED WITH THE NEW PUMP'S MOISTURE AND TEMPERATURE MONITORING RELAY.
- ④ REPLACE BREAKER IN BUCKET WITH A NEW FEEDER BREAKER ASSEMBLY FOR FEEDING THE MOTORIZED VALVE.



**OUTER DOOR (EXISTING)**

VFD SELECTOR SWITCHES, PUSHBUTTON, ALARMS & KEYPAD (TYP)

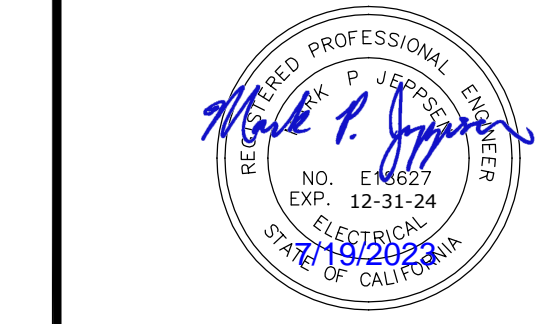


**INNER DOOR (NEW)**

**INTERIOR BUCKET (NEW)**

**VFD PANEL ELEVATION**

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



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CITY OF BEAUMONT

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ONELINE DIAGRAM



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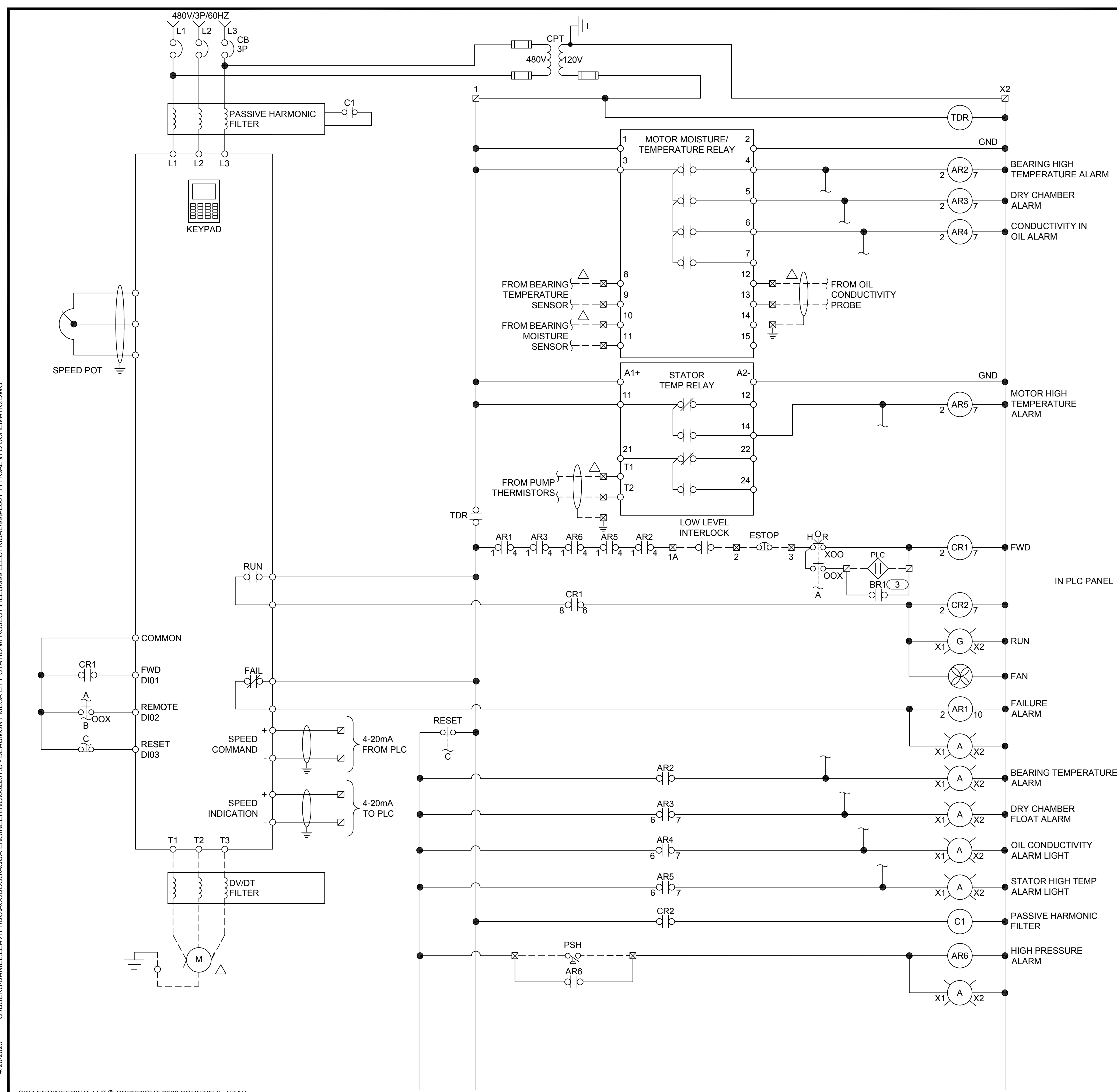
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**E501**

SHEET 57 of 65

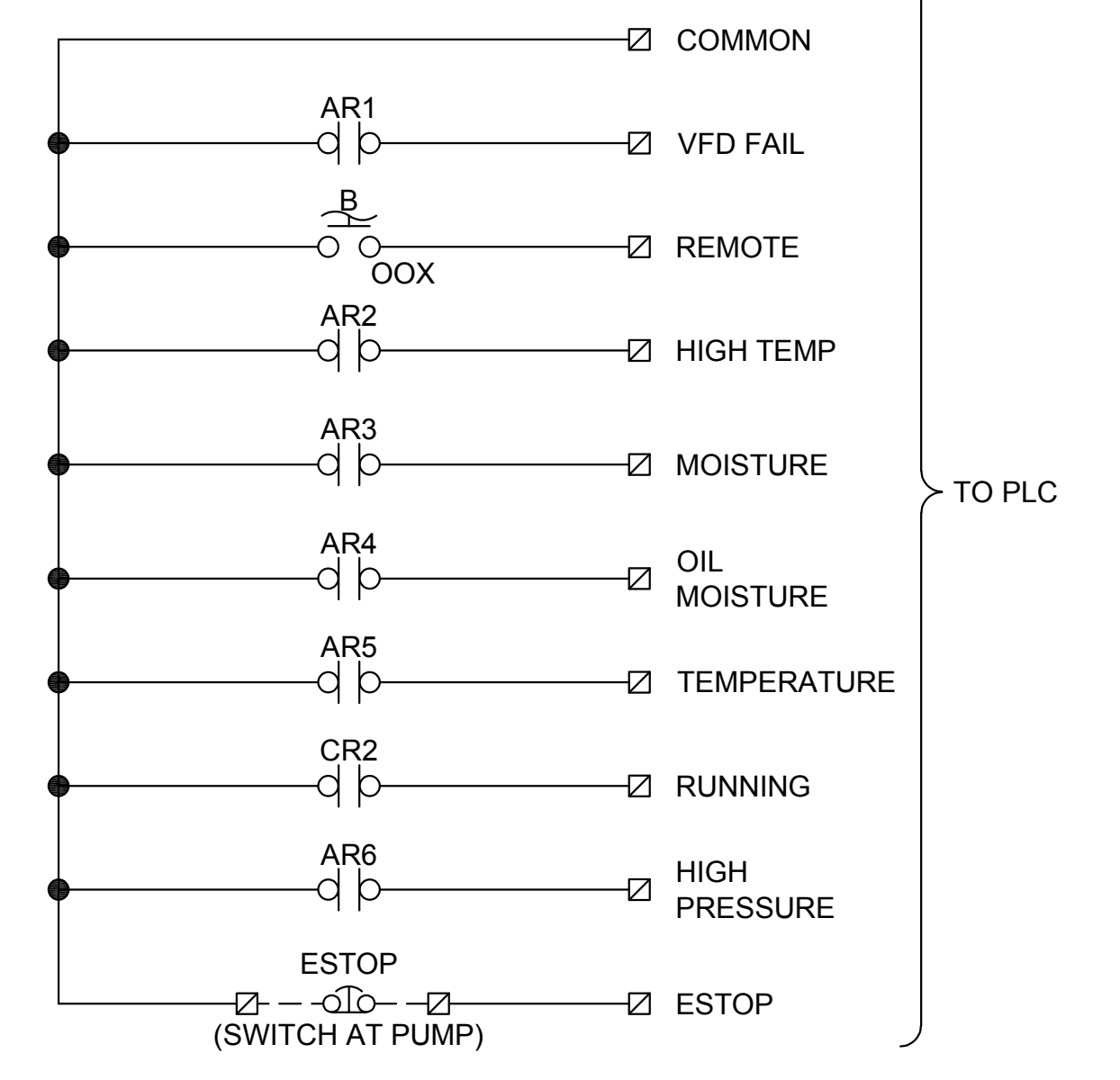
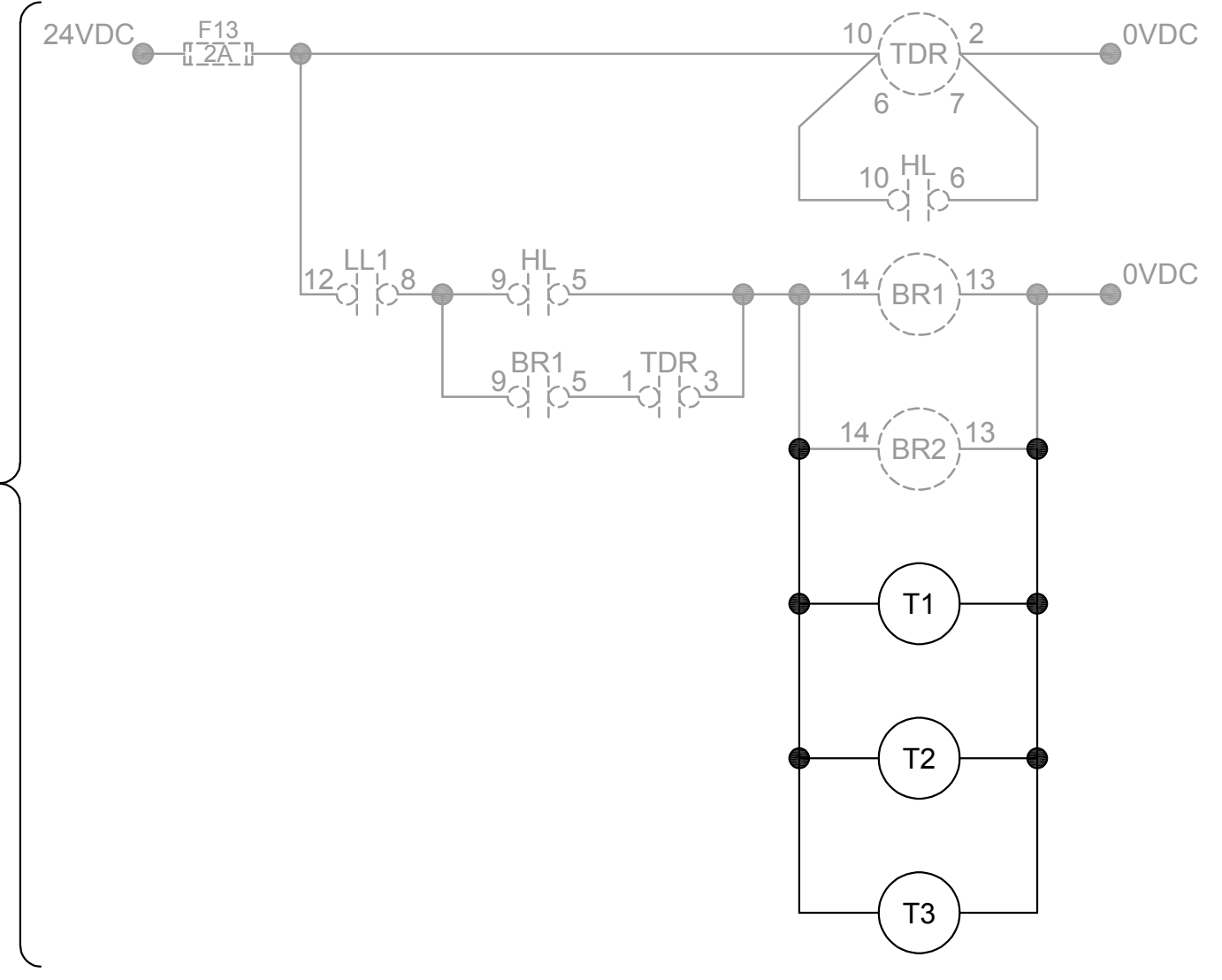
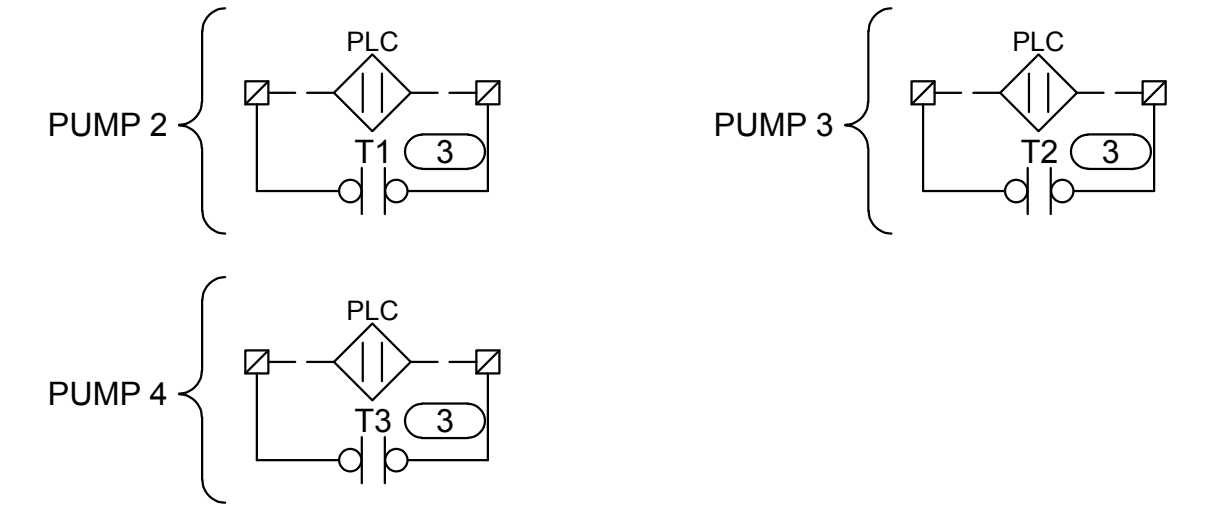


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**NOTES:**

- 1 THE EXISTING VFD AND MOTOR THERMAL/MOISTURE MONITORING SYSTEM SHALL BE REPLACED. THE EXISTING CONTROL WIRING SHALL BE REPLACED TO ACCOMMODATE THE NEW VFD AND THERMAL/MOISTURE MONITORING SYSTEM. PUMP SUPPLIER SHALL SUPPLY THE MOTOR MOISTURE / TEMPERATURE RELAY AND STATOR TEMP RELAY TO THE VFD SUPPLIER FOR INSTALLATION AND WIRING.
- 2 CONTRACTOR SHALL INSTALL NEW VFDS AND CONTROL WIRING ACCORDING TO THIS DIAGRAM. ALL COMPONENTS SUCH AS NEW PUMP RELAYS, INSTRUMENTS, WIRES, PUSHBUTTONS, CPTS, FANS AND TIMERS SHALL BE NEW.
- 3 THESE TERMINALS WILL BE WIRED FROM CONTACT BR1 FOR PUMP #1. FOR THE REMAINING PUMPS 2, 3 & 4 THESE TERMINALS SHALL BE WIRED TO TIMERS T1, T2, T3 RESPECTIVELY.
- 4 THE HIGH LEVEL BYPASS RELAY BR2 IS LOCATED IN THE PLC PANEL. MULTIPLE SETS OF CONTACTS FROM BR2 WILL BE USED IN PUMP #1 FOR BYPASS LEVEL CONTROL. BR2 WILL BE WIRED IN SERIES WITH A TIME DELAY RELAY T1, T2 & T3 WHICH SHALL STAGGER START PUMPS P2, P3 & P4 UNTIL A LOW LEVEL CONDITION HAS BEEN MET.



**VFD CONTROL SCHEMATIC**



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VFD SCHEMATIC



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DRAWING NO.  
**E601**  
SHEET 58 of 65



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6/7/2023

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CIRCUIT/DESCRIPTION	KW	KVA	HP	FLA
EXISTING LOAD - MCC				
AIR FILTER			5.0	7.6
LIGHTING PANEL		15.0		25.0
NEW MOTOR LOADS - MCC				
GRINDER			5.0	7.6
LIFT STATION PUMP 1			177.0	207.3
LIFT STATION PUMP 2			177.0	207.3
LIFT STATION PUMP 3			177.0	207.3
LIFT STATION PUMP 4			177.0	207.3
LIFT STATION VALVE 1			0.5	1.1
LIFT STATION VALVE 2			0.5	1.1
LIFT STATION VALVE 3			0.5	1.1
SUMP PUMP 1			1.0	2.1
SUMP PUMP 2			1.0	2.1
NEW NON-MOTOR LOADS				
				0.0
SUBTOTAL				876.9
+ 25% OF LARGEST MOTOR				51.8
TOTAL AMPS @ 480V/3PHASE				928.7
EXISTING SERVICE SIZE (AMPS)				3000.0

**MCC LOAD CALCULATIONS**

PANEL: LP (Existing)		VOLTAGE: 120/240		MAIN CB: 60 AMP		BUS AMPS: 100 AMP		
		BUS A I.C: 15KA		BKR AIC: 15KA		MOUNTING: SURFACE		
CIRCUIT DESCRIPTION	BKR	CIRCUIT	LOAD	PHASE	LOAD	CIRCUIT	BKR	CIRCUIT DESCRIPTION
Main	60/2	1		A	250	2	15/1	SLIDE GATE 2 (EXISTING)
		3		B	540	4	15/1	CONTROL POWER PLC (EXISTING)
AREA LIGHTING (EXISTING)	15/1	5	720	A	720	6	20/1	PUMP RECEPTACLES (EXISTING)
CONTROLS RECEPTACLES (EXISTING)	20/1	7	720	B	100	8	15/1	LEVEL TRANSMITTER (EXISTING)
SLIDE GATE 1 (EXISTING)	20/1	9	250	A	100	10	15/1	FIT-01012
BIOCUBE RECEPTACLES (EXISTING)	20/1	11	360	B	100	12	15/1	FIT-01022
SUPPLY FAN 1 (EXISTING)	20/1	13	1250	A	1250	14	20/1	SUPPLY FAN 2 (EXISTING)
EXHAUST FAN 1 (EXISTING)	20/1	15	1250	B	1250	16	20/1	EXHAUST FAN 2 (EXISTING)
EMERGENCY STORAGE LIGHTS (NORTH)	20/1	17	360	A	100	18	15/1	FIT-01032
EMERGENCY STORAGE LIGHTS (SOUTH)	20/1	19	360	B	100	20	15/1	FIT-01042
SECURITY CONTROL PANEL (FUTURE)	20/1	21		A		22	15/1	Spare
Spare	20/1	23		B		24	15/1	Spare
		PHASE A		PHASE B		NOTES:		
CONNECTED VA PER PHASE		5000.0		4780.0				
CONNECTED AMPS PER PHASE		41.7		39.8				
25% OF CONTINUOUS & LIGHTING LOAD (VA)		1250.0		1195.0				
CODE VA PER PHASE		6250.0		5975.0				
CODE AMPS PER PHASE		52.1		49.8				

**LIGHTING PANEL SCHEDULE**



DRAWING IS TO SCALE IF BAR MEASURES: 1" = FULL SCALE 1/2" = HALF SCALE	ORIGINAL	DESIGN	DRAWN	CHECKED
	NO.	DATE	MPJ	DCL
REVISIONS	1			
	2			

CITY OF BEAUMONT  
 MESA LIFT STATION UPGRADE  
 ELECTRICAL - POWER DISTRIBUTION  
 CALCULATIONS



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DRAWING NO.  
**E801**  
 SHEET 59 of 65



C:\USERS\ENGINEER\KIM\PROJECTS\AQUA\ENGINEERING\002201.C - BEAUMONT MESA LIFT STATION\PROJECT FILES\999 ELECTRICAL\999-E802 CONDUIT SCHEDULE.DWG

6/1/2023

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POWER CONDUIT table with columns: CONDUIT, SIZE, CONDUCTORS, SERVICE, FROM, TO, COMBINED, DUCTBANKS, NOTES

CONTROL CONDUIT table with columns: CONDUIT, SIZE, CONDUCTORS, SERVICE, FROM, TO, COMBINED, DUCTBANKS, NOTES

SIGNAL CONDUIT table with columns: CONDUIT, SIZE, CONDUCTORS, SERVICE, FROM, TO, COMBINED, DUCTBANKS, NOTES

SPARE CONDUIT table with columns: CONDUIT, SIZE, CONDUCTORS, SERVICE, FROM, TO, COMBINED, DUCTBANKS, NOTES

COMBINED CONDUITS table with columns: CONDUIT, SIZE, CONDUITS, SERVICE, FROM, TO, DUCTBANKS, NOTES

COMMUNICATIONS CONDUIT table with columns: CONDUIT, SIZE, CONDUCTORS, SERVICE, FROM, TO, COMBINED, DUCTBANKS, NOTES

CONDUIT SCHEDULE

INSTRUMENT SCHEDULE table with columns: SHEET, TAG, DESCRIPTION, MAKE, MODEL, SUPPLY, RANGE, COMMENTS

INSTRUMENT SCHEDULE



Revision table with columns: NO., DATE, DESIGN, DRAWN, CHECKED, DCL, MPJ

CITY OF BEAUMONT
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SCHEDULES



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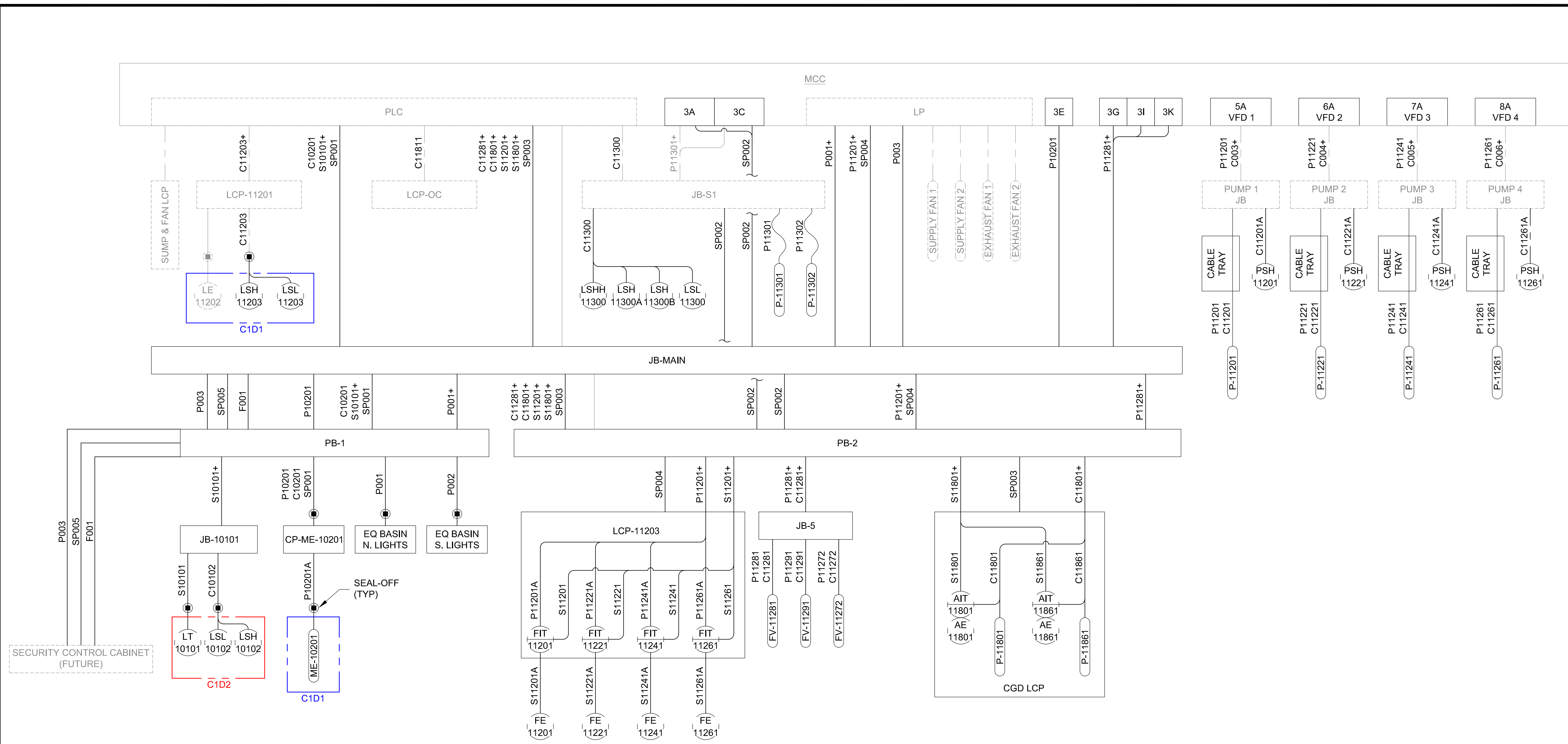


DRAWING NO. E802 SHEET 60 of 65



C:\USERS\JUNG\GEO\KIM\ACCDOS\AQUA\ENGINEERING\002201.C - BEAUMONT MESA LIFT STATION\PROJECT FILES\999 ELECTRICAL\999-E803 CONDUIT DEVELOPMENT.DWG

6/7/2023



**CONDUIT DEVELOPMENT**



DRAWING IS TO SCALE  
IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

NO.	DATE	DESIGN	DRAWN	CHECKED
B	07-26-2023	MPJ	DCL	MPJ

REVISIONS

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CITY OF BEAUMONT  
**MESA LIFT STATION UPGRADE**  
 ELECTRICAL - POWER DISTRIBUTION  
 CONDUIT DEVELOPMENT



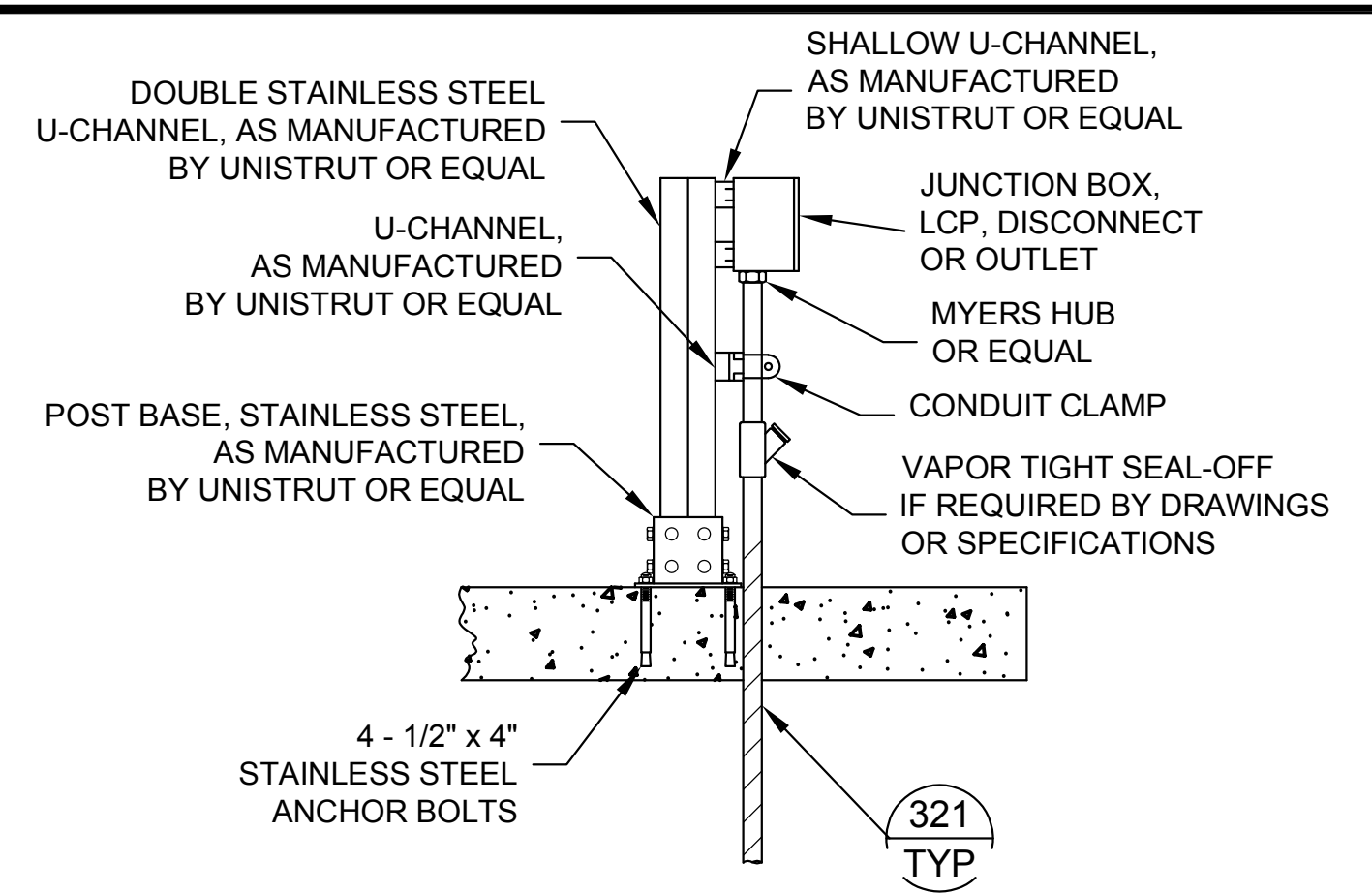
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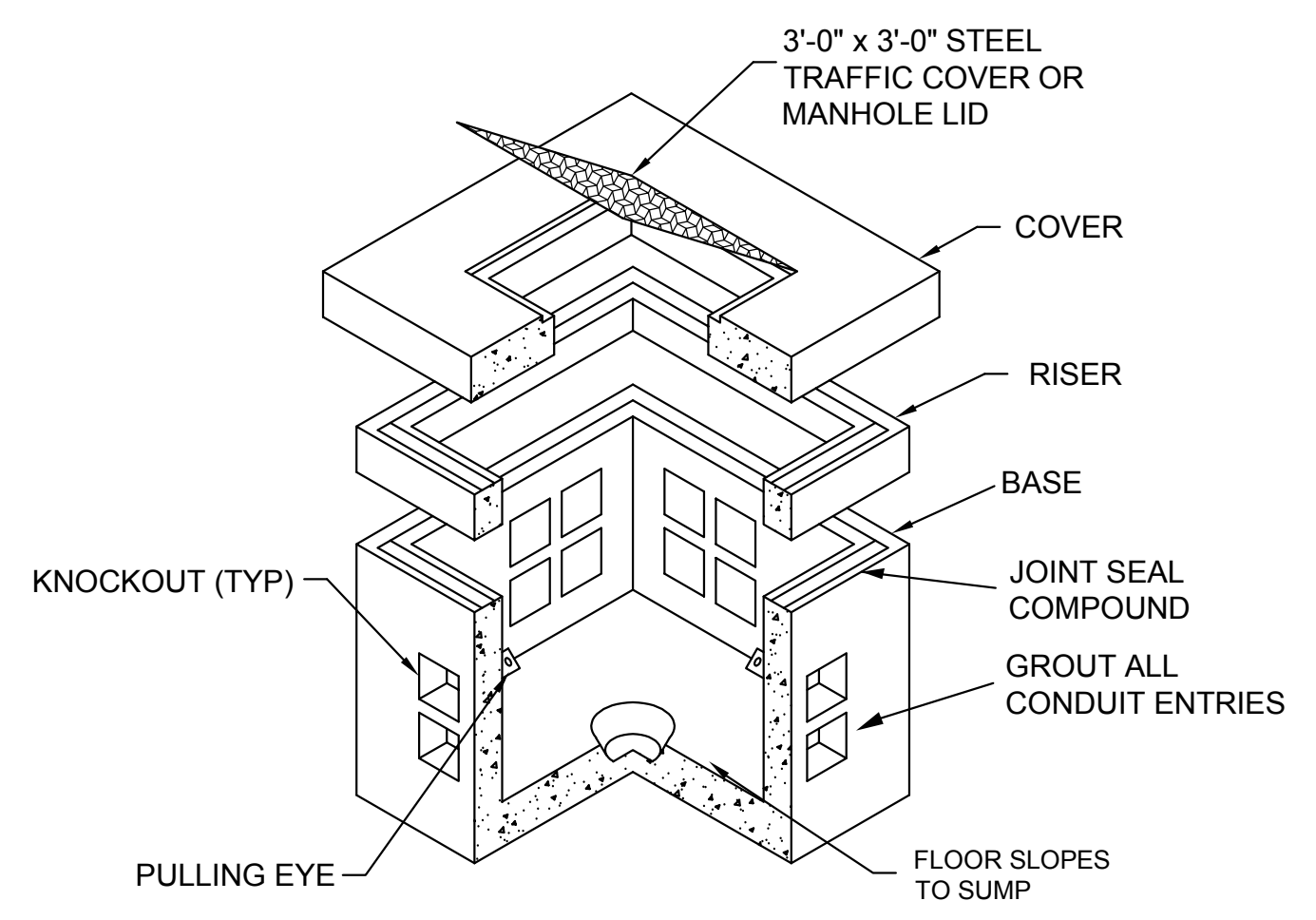
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DRAWING NO.  
**E803**  
 SHEET 61 of 65



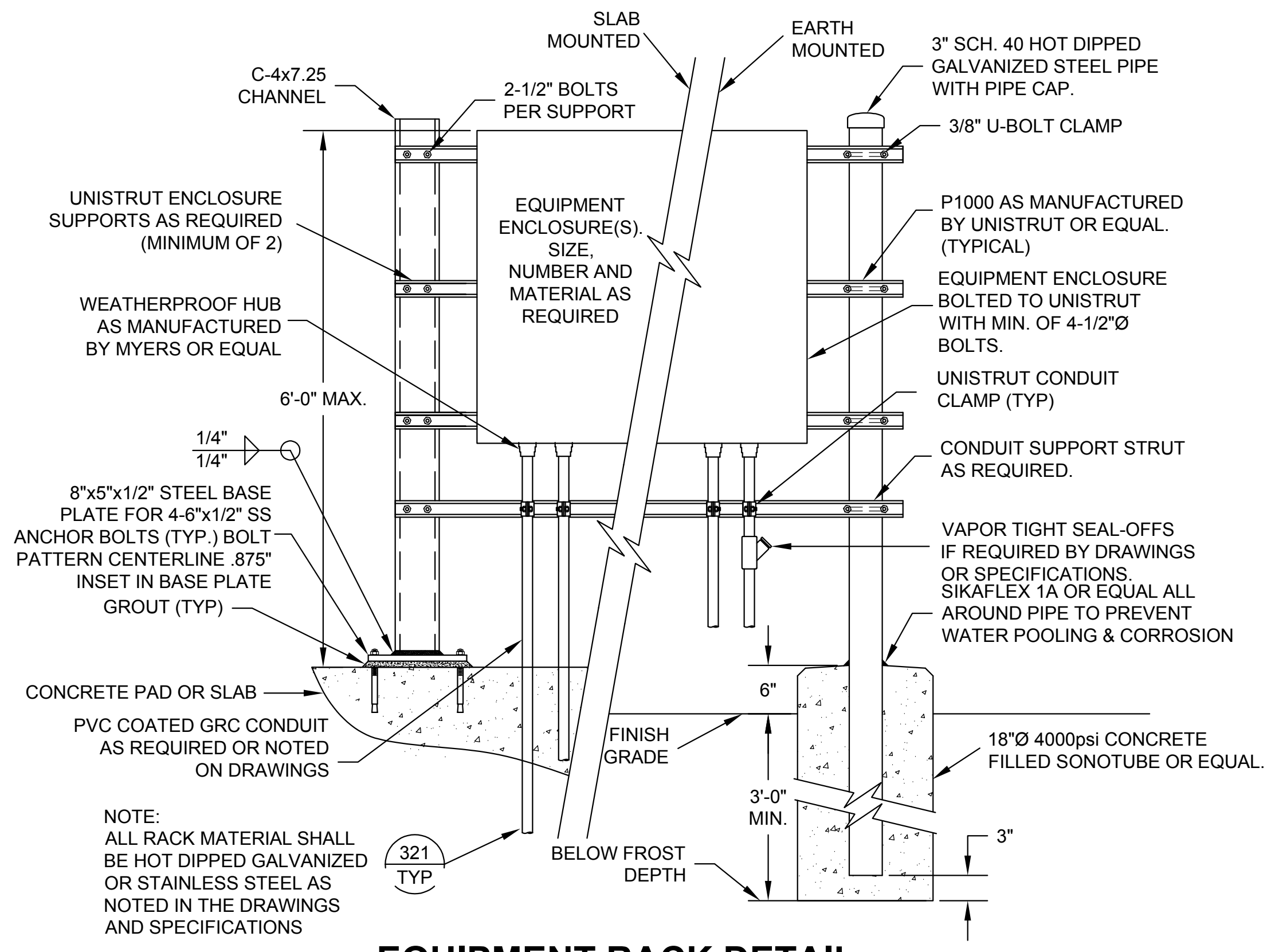


**001 TYP ELECTRICAL PANEL MOUNTING DETAIL**  
SCALE: NONE



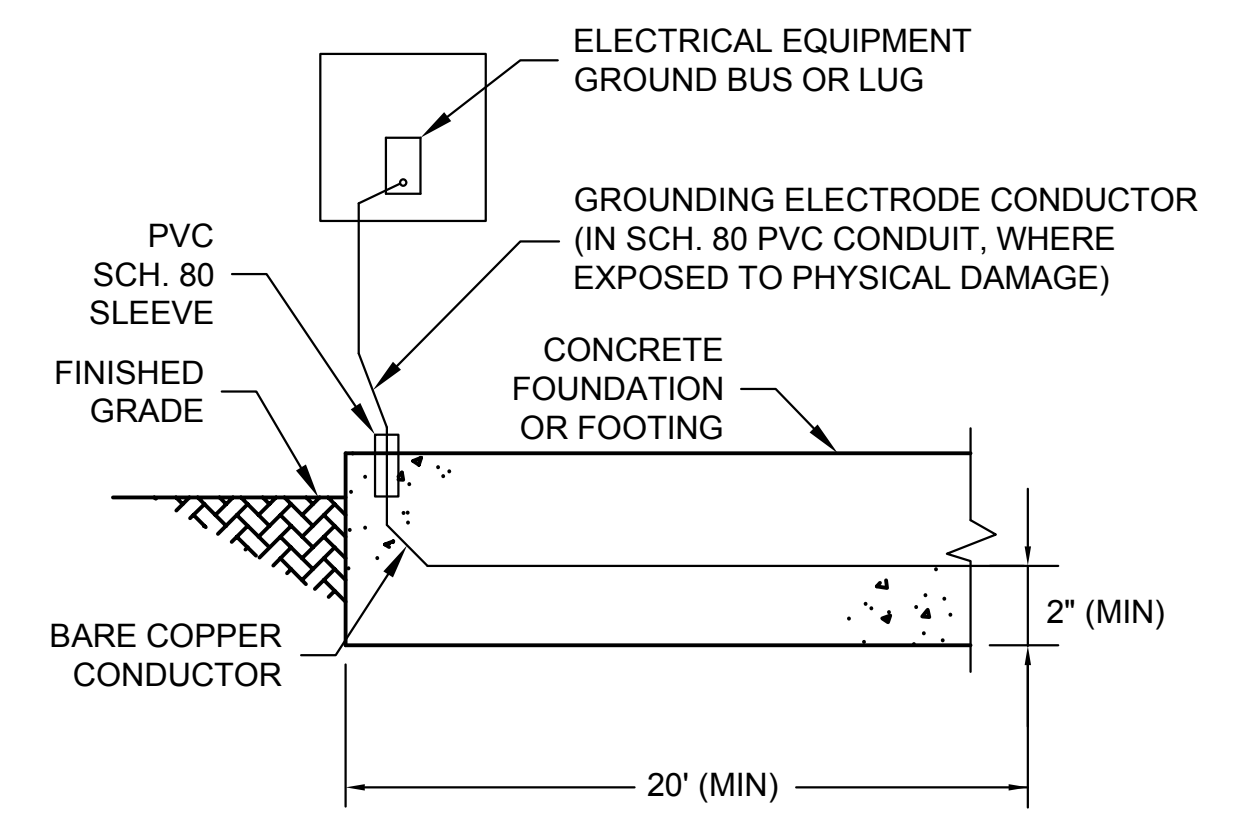
**021 TYP UNDERGROUND CONCRETE PULLBOX**  
SCALE: NONE

**NOTE:**  
3'-11" x 3'-11" x 4'-1" MINIMUM INSIDE DIMENSIONS.  
INSTALL A GROUND ROD AND CONNECT TO DUCT BANK GROUND.  
TRAIN CABLES AROUND INTERIOR PERIMETER ON CABLE RACKS.



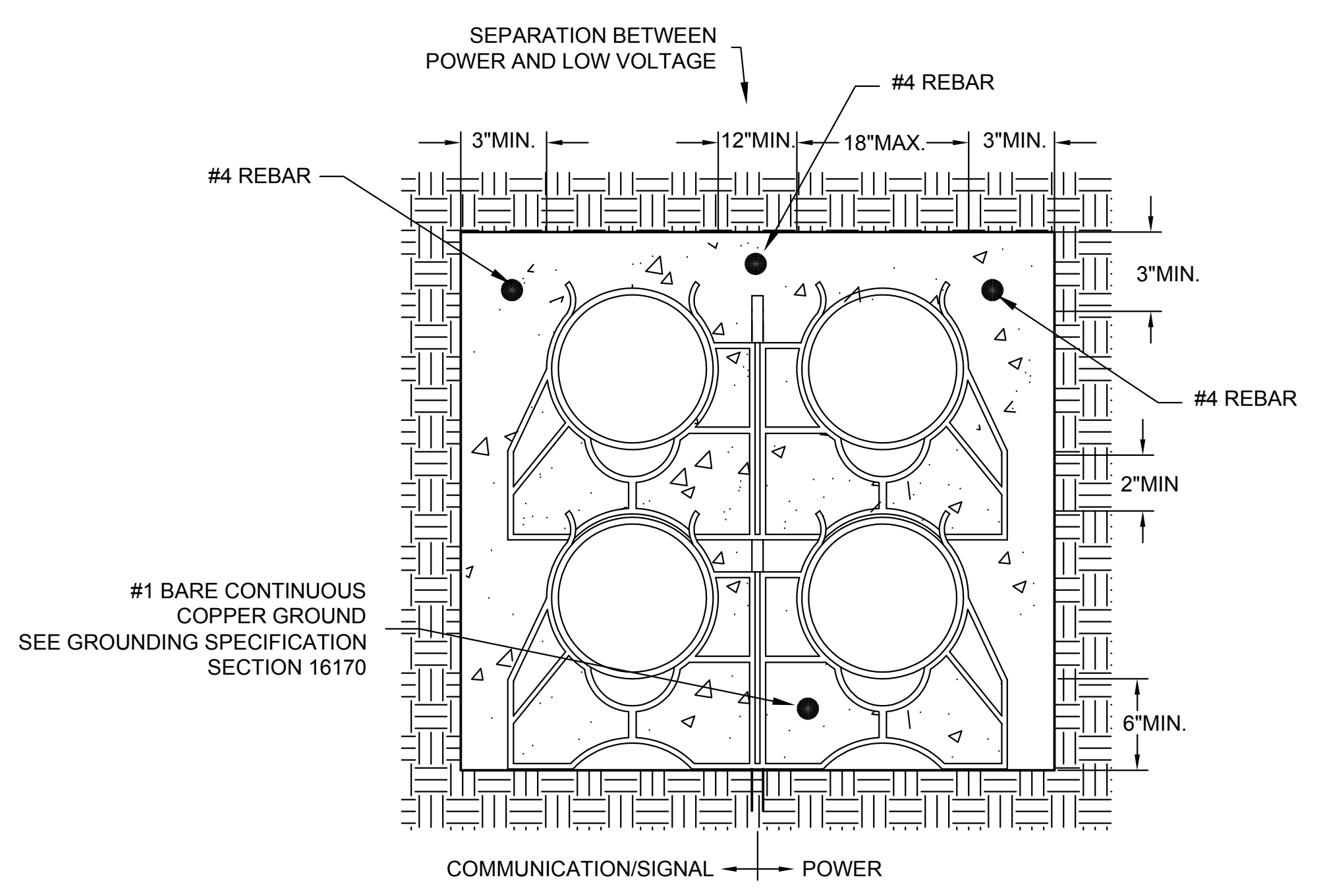
**015 TYP EQUIPMENT RACK DETAIL**  
NO SCALE

**NOTE:**  
ALL RACK MATERIAL SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL AS NOTED IN THE DRAWINGS AND SPECIFICATIONS

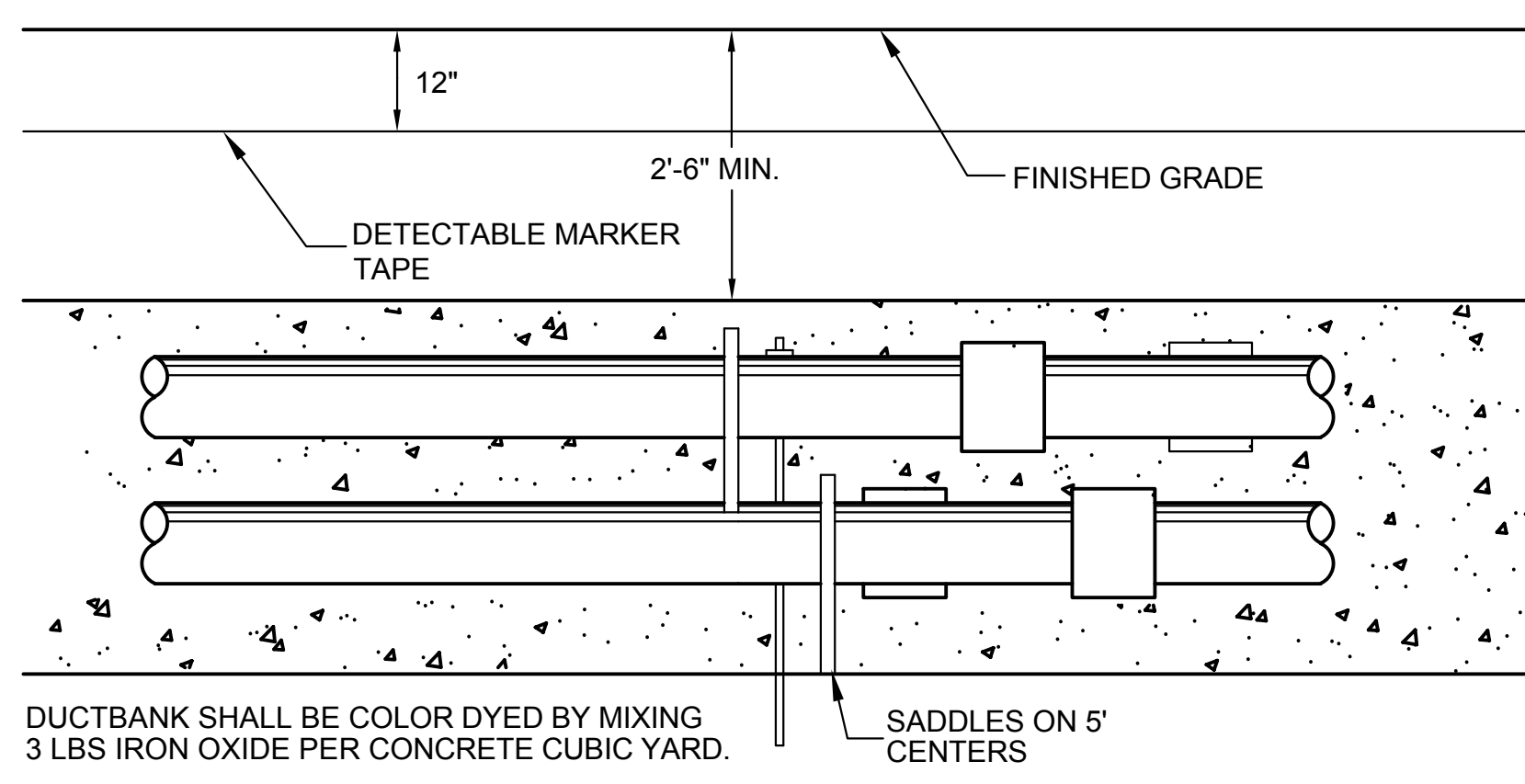


**140 TYP UFER GROUNDING DETAIL**  
SCALE: NONE

**NOTE:**  
ALL WORK SHALL BE PER NATIONAL ELECTRICAL CODE AND LOCAL GOVERNING AUTHORITY.



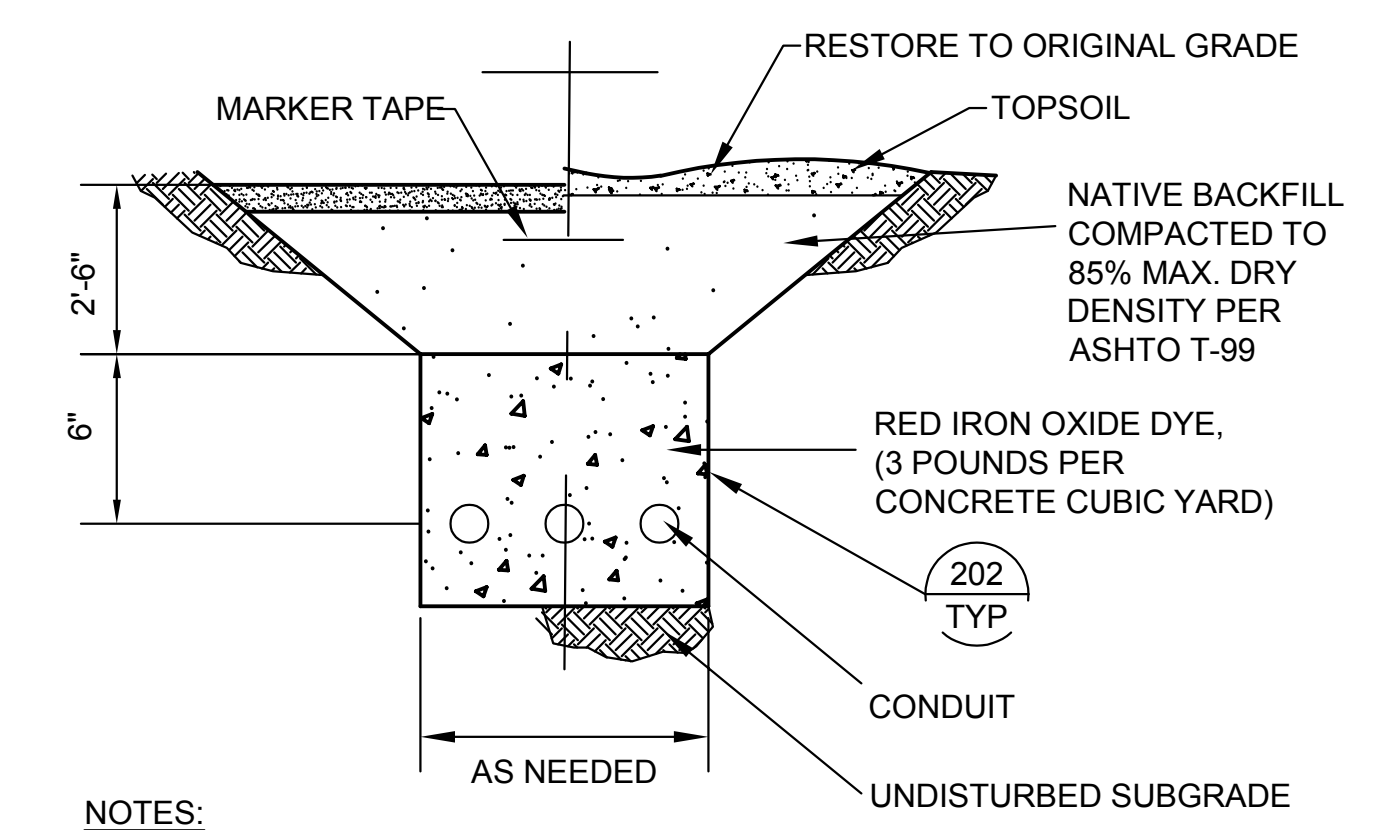
**202 TYP DUCTBANK DETAIL CROSS SECTION**  
SCALE: N.T.S.



**203 TYP DUCTBANK DETAIL**  
SCALE: NONE

DUCTBANK SHALL BE COLOR DYED BY MIXING 3 LBS IRON OXIDE PER CONCRETE CUBIC YARD.

ALL DUCTBANKS SHALL BE SLOPED 1/4" PER DUCT 10' TO ALLOW DRAINAGE. NO LOW SPOTS WILL BE ALLOWED IN RACEWAY



**204 TYP TYPICAL TRENCH DETAIL FOR BELOW 600 VOLTS**  
SCALE: NONE

**NOTES:**  
DIMENSIONS ARE MINIMUM.

THE GROUND CONDUCTOR SHALL RUN CONTINUOUSLY THROUGH MANHOLES AND PULL BOXES AND SHALL CONTINUE FROM THE DUCTBANK INTO THE ELECTRICAL EQUIPMENT OR BUILDING GROUNDING SYSTEM AND SHALL BE BONDED TO EACH RIGID METAL CONDUIT.



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B	07-28-2023	MPJ	DCL	MPJ

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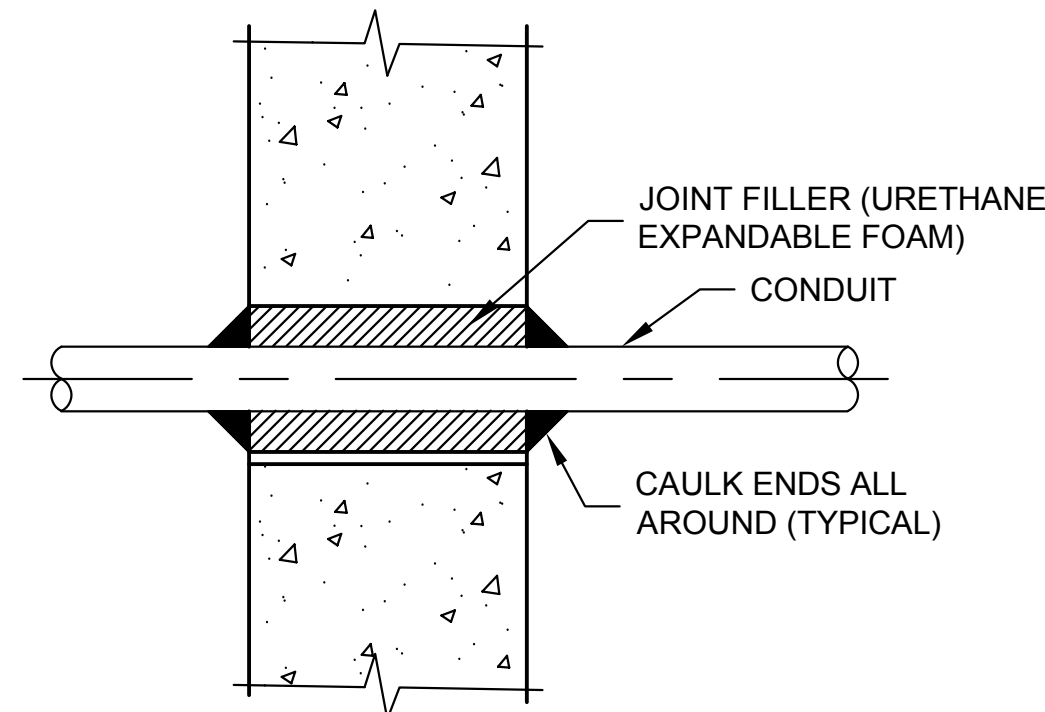
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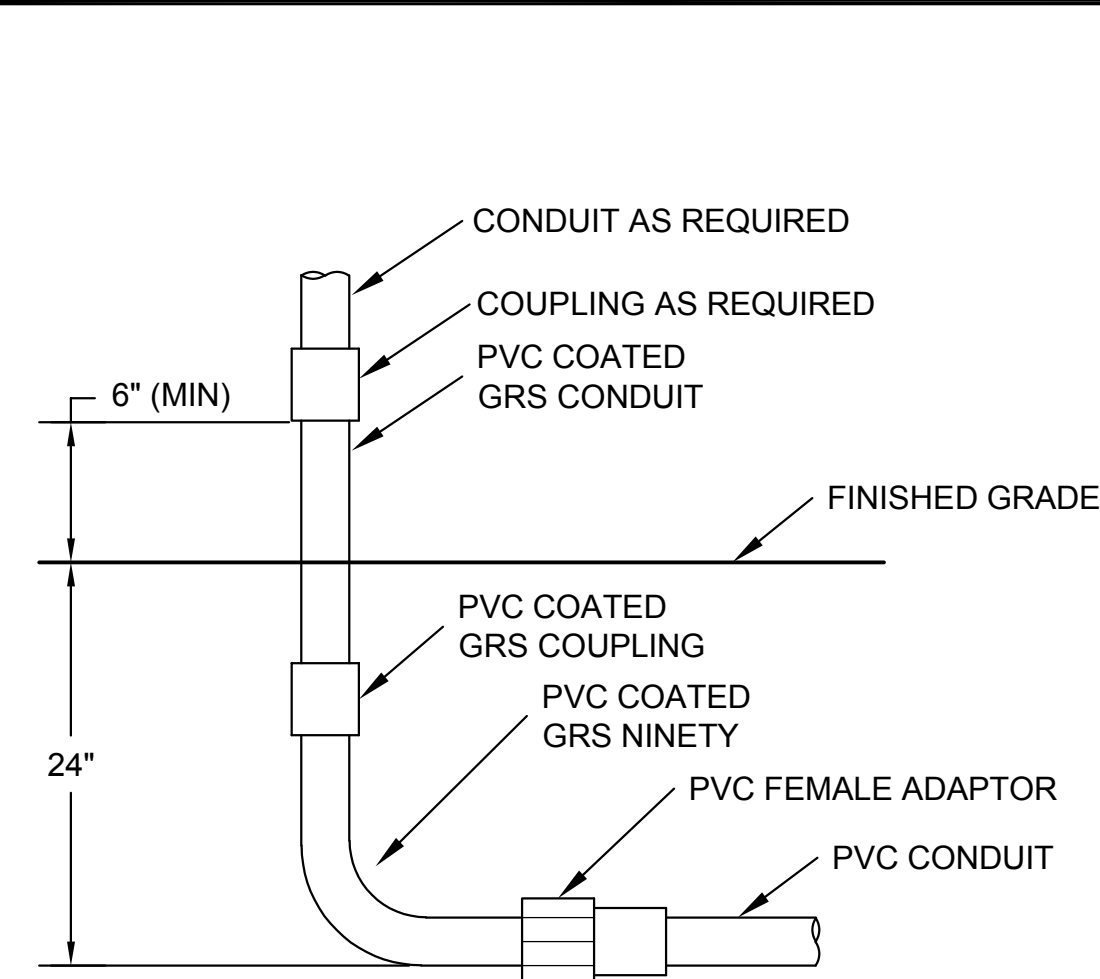
DRAWING NO.  
**E901**  
SHEET 62 of 65

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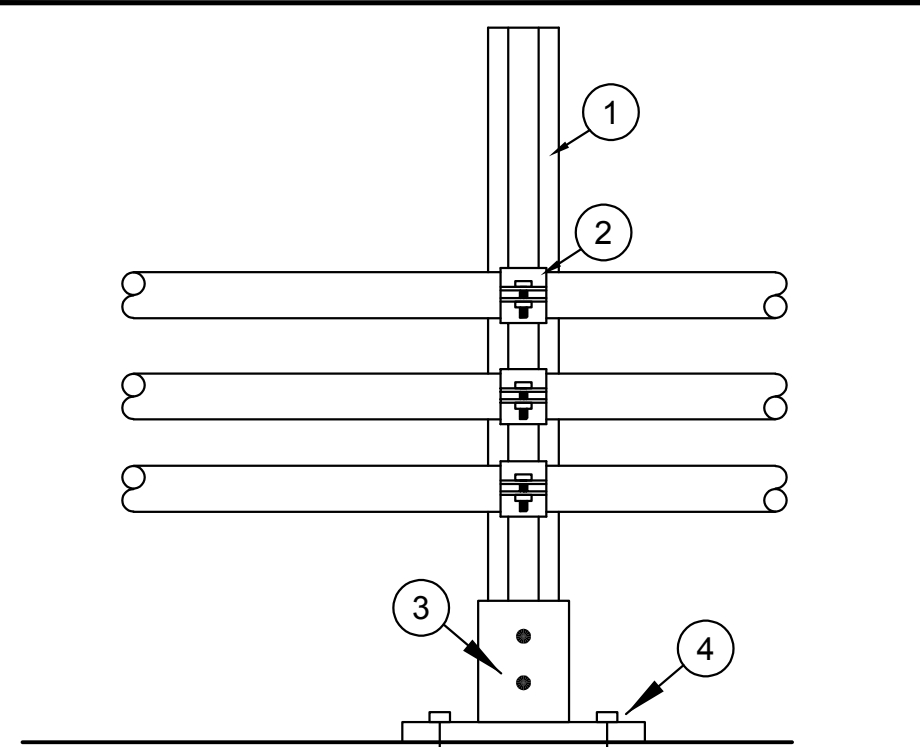




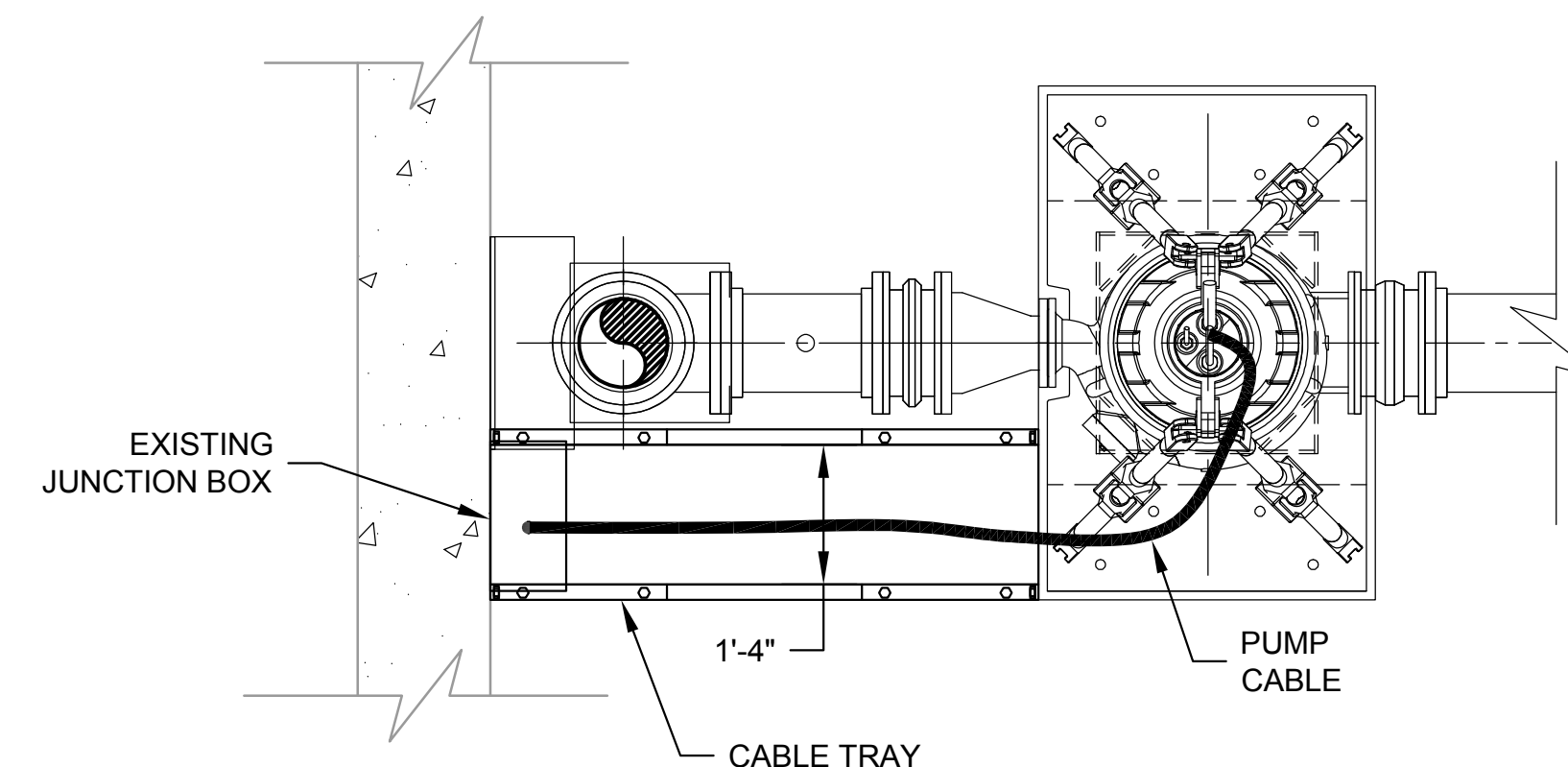
**301 TYP** **CONDUIT PENETRATION AT EXISTING WALL OR SLAB**  
SCALE: NONE



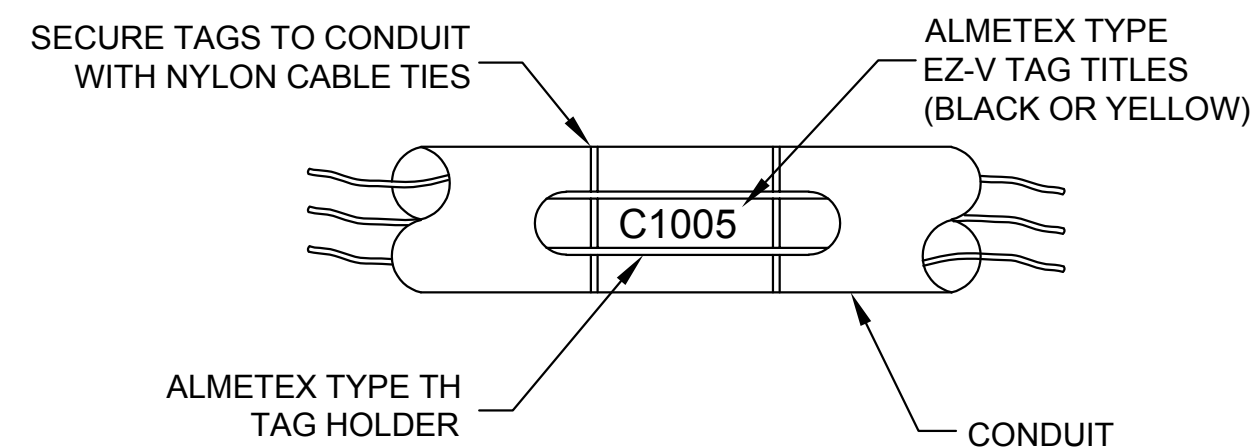
- 320 TYP** **GRS STUB UP DETAIL**  
SCALE: NONE
- NOTES:  
1. WHERE CONDUITS ARE INSTALLED IN OR UNDER A CONCRETE SLAB, THE 24" DIMENSION DOES NOT APPLY. CONDUITS SHALL BE INSTALLED BETWEEN REBAR MATS OR UNDER A SINGLE REBAR MAT.  
2. IN CORROSIVE AREAS, PVC COATED GRS SHALL BE USED.



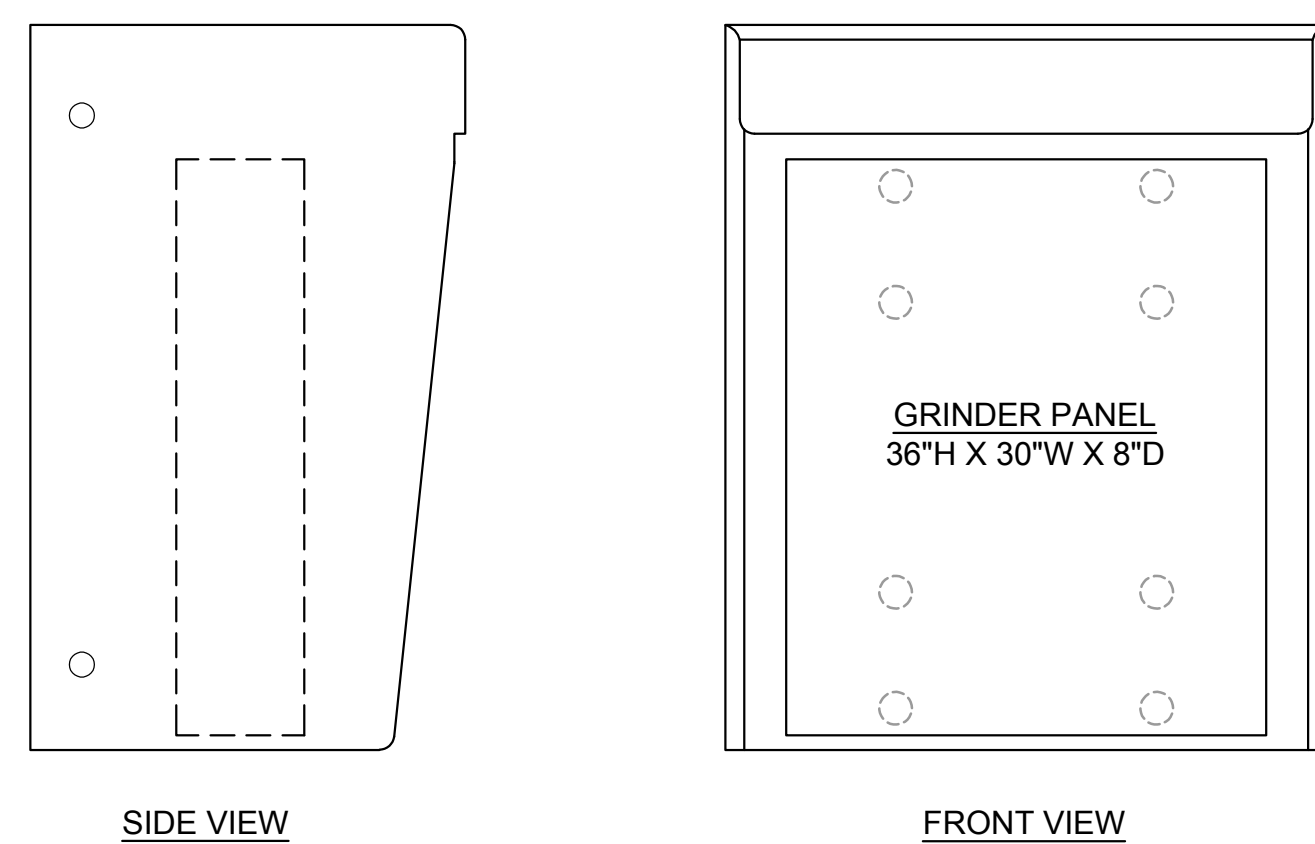
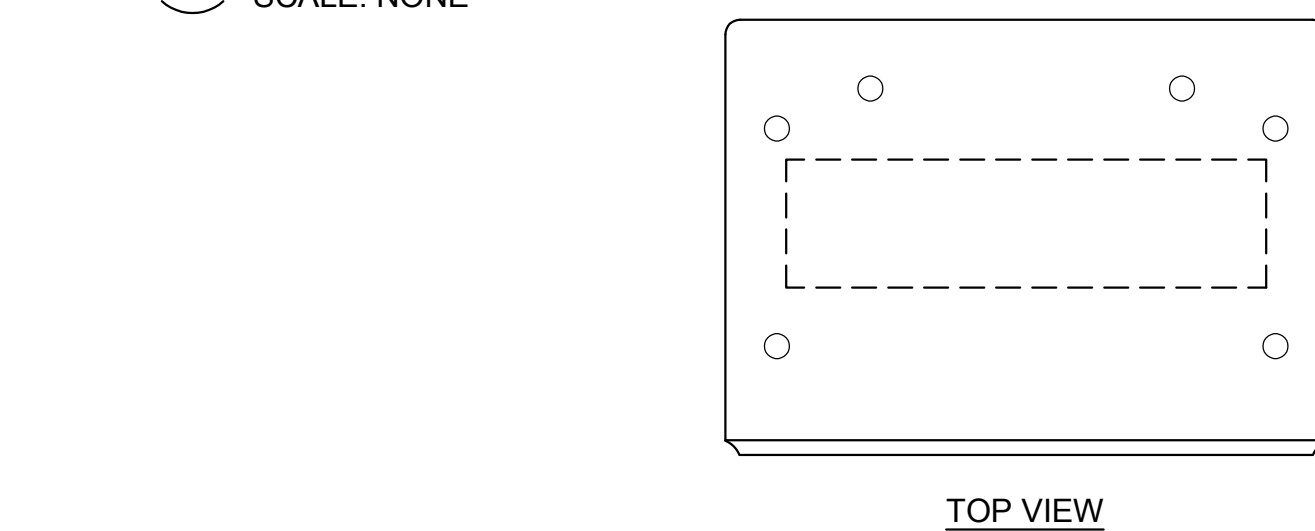
- 350 TYP** **EXPOSED SURFACE CONDUIT SUPPORT**  
SCALE: NONE
- 1 UNISTRUT CHANNEL  
2 UNISTRUT CONDUIT STRAP  
3 UNISTRUT POST BASE  
4 3/8"x3-1/2" ANCHOR BOLT GROUTED INTO CONCRETE (4 PER POST BASE)



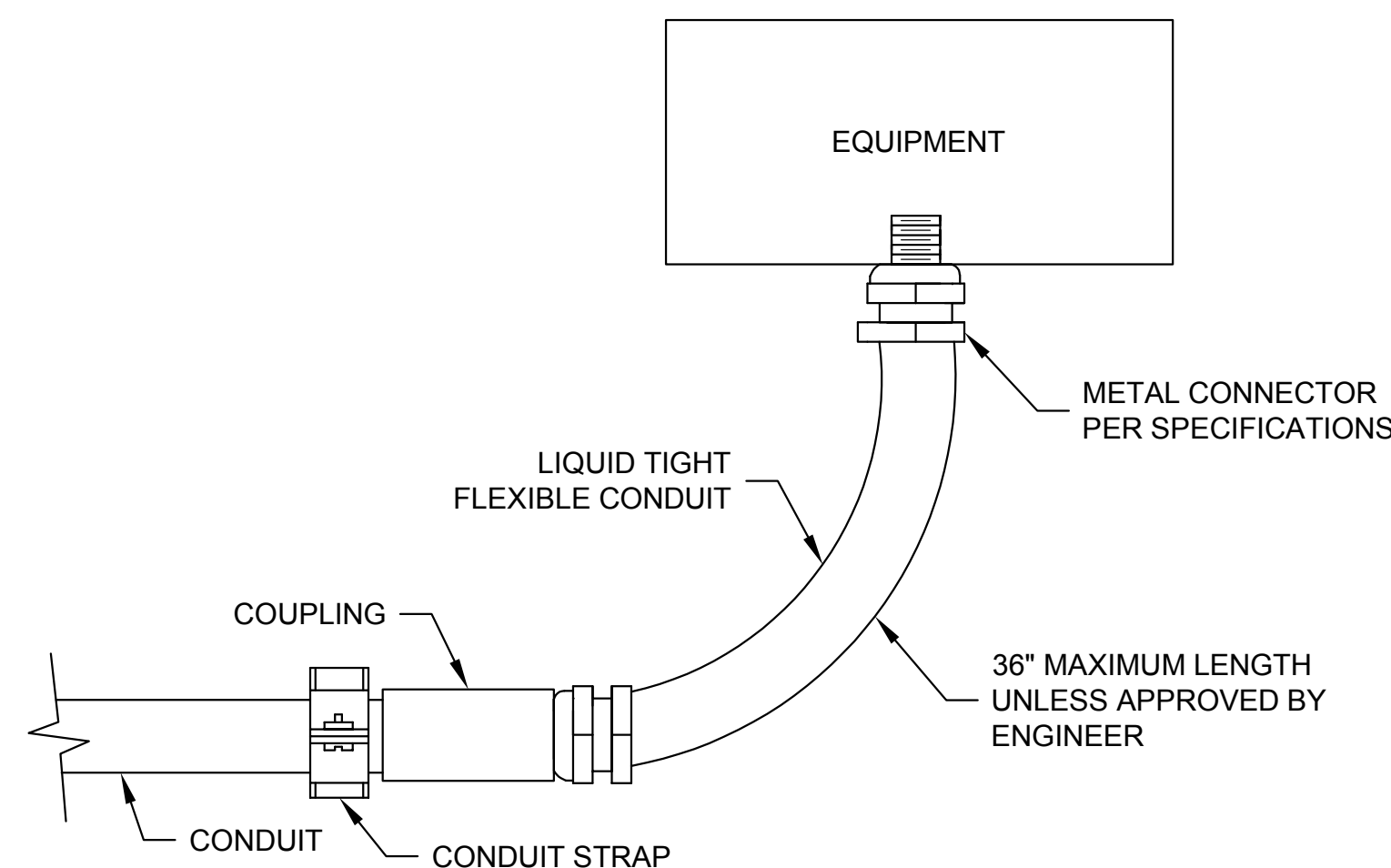
**399 TYP** **PUMP CABLE TRAY DETAIL**  
SCALE: NONE



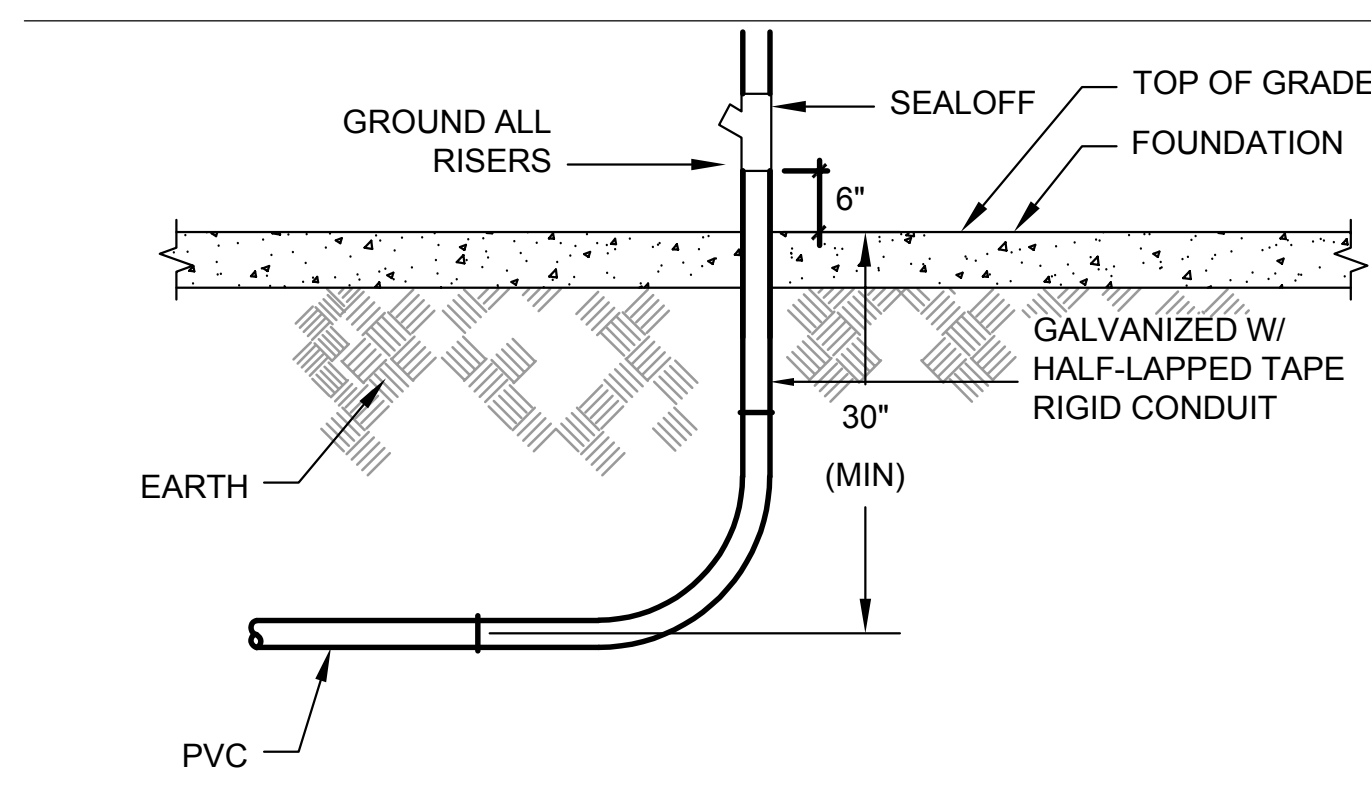
**360 TYP** **CONDUIT MARKING SYSTEM**  
SCALE: NONE



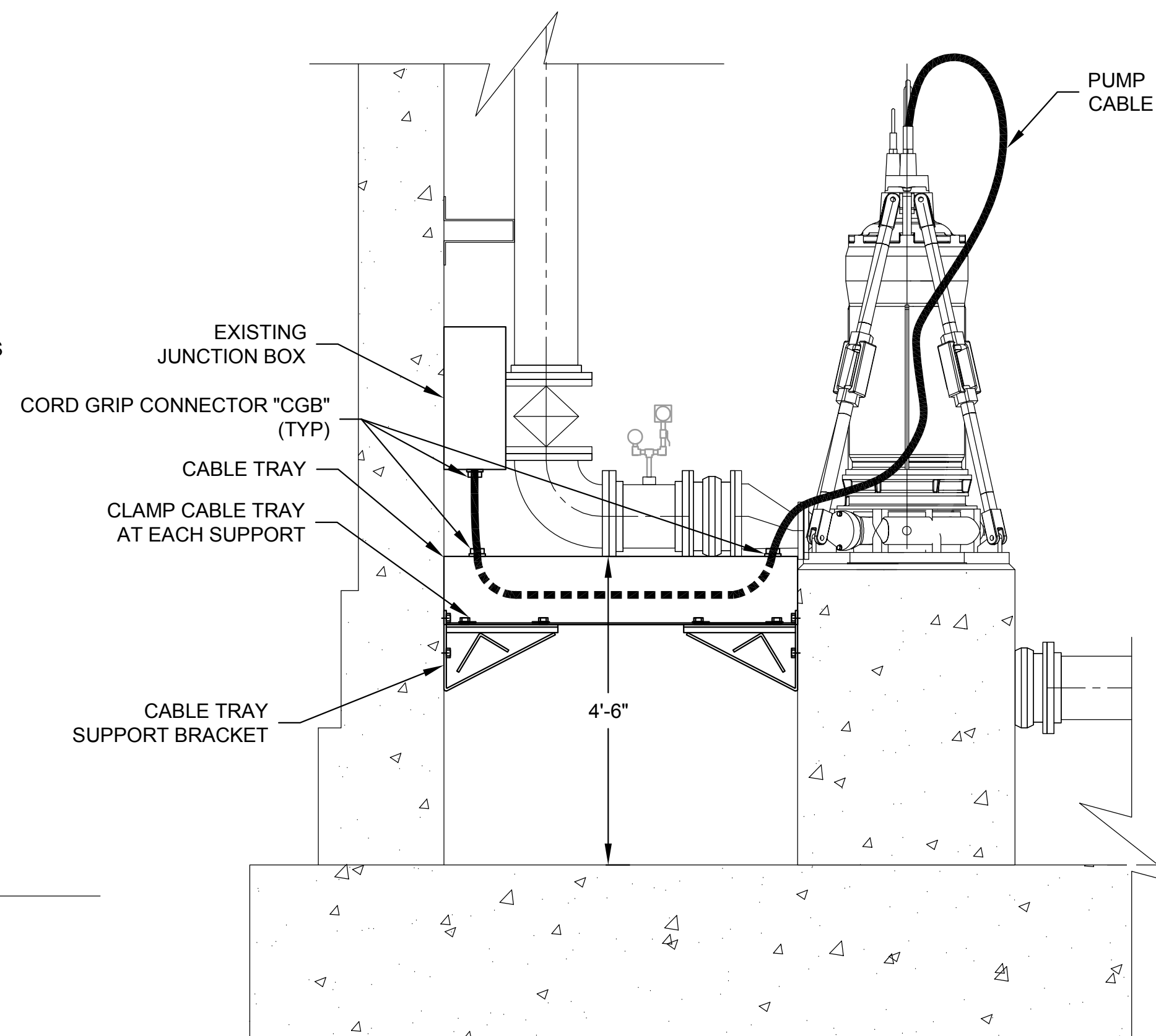
- 370 TYP** **GRINDER PANEL CUSTOM PANEL SHADE**  
SCALE: NONE
- NOTES:  
1. ALL MATERIALS SUPPLIED SHALL BE 316SS UNLESS OTHERWISE NOTED OR SPECIFIED.



**365 TYP** **FLEXIBLE CONDUIT DETAIL**  
SCALE: NONE



**377 TYP** **SEAL-OFF RISER DETAIL**  
SCALE: NONE



**399 TYP** **SECTION VIEW**

- NOTES:  
1. CABLE TRAY SUPPORTS SHALL NOT EXCEED TRAY MANUFACTURERS RECOMMENDED SPACING FOR LOADED CABLE TRAYS.  
2. ALL REQUIRED SUPPLIES AND MATERIAL SHALL BE 316SS UNLESS OTHERWISE NOTED OR SPECIFIED.



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B	07-26-2023	MPJ	DCL	MPJ
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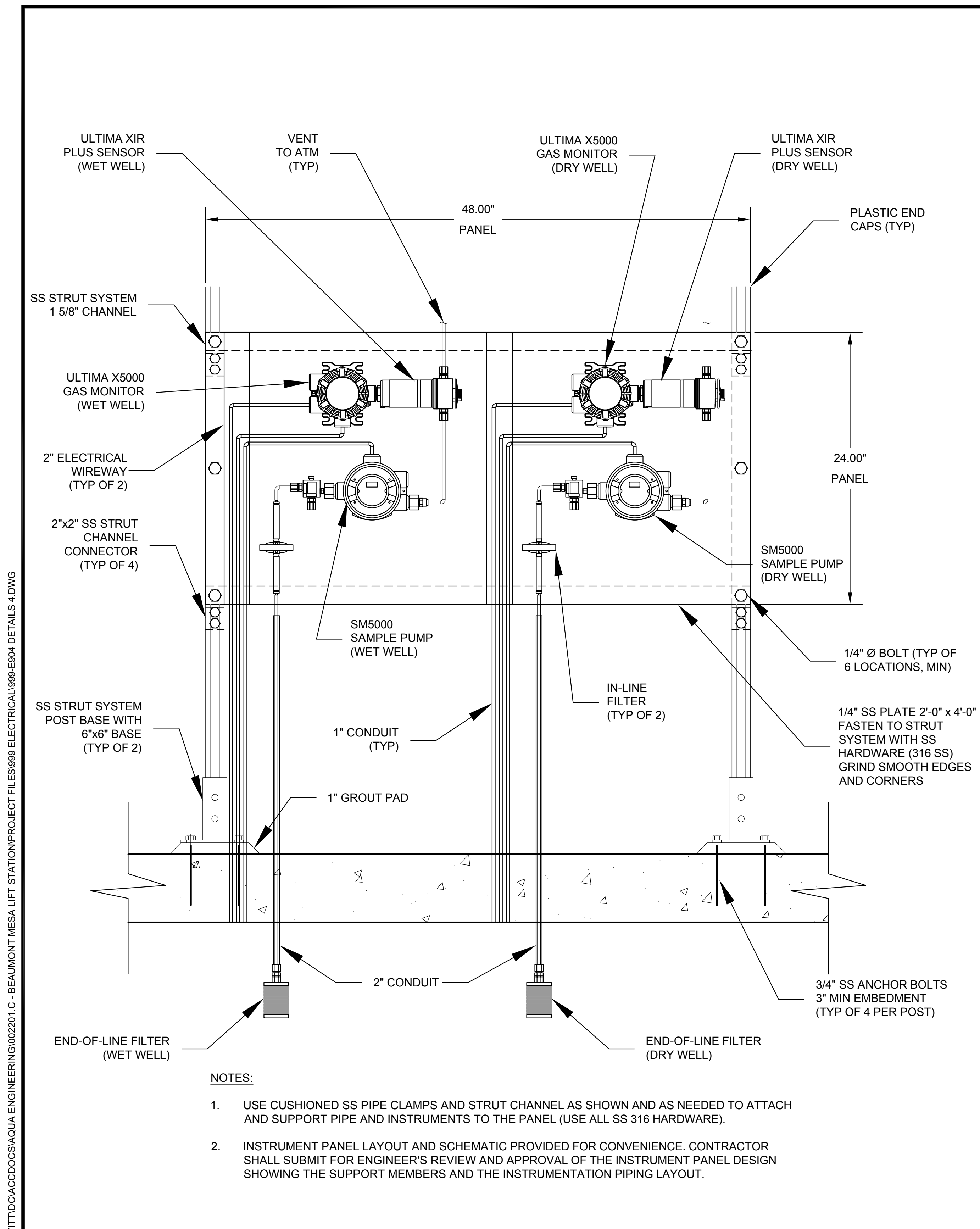
DRAWING NO. E902  
SHEET 63 of 65



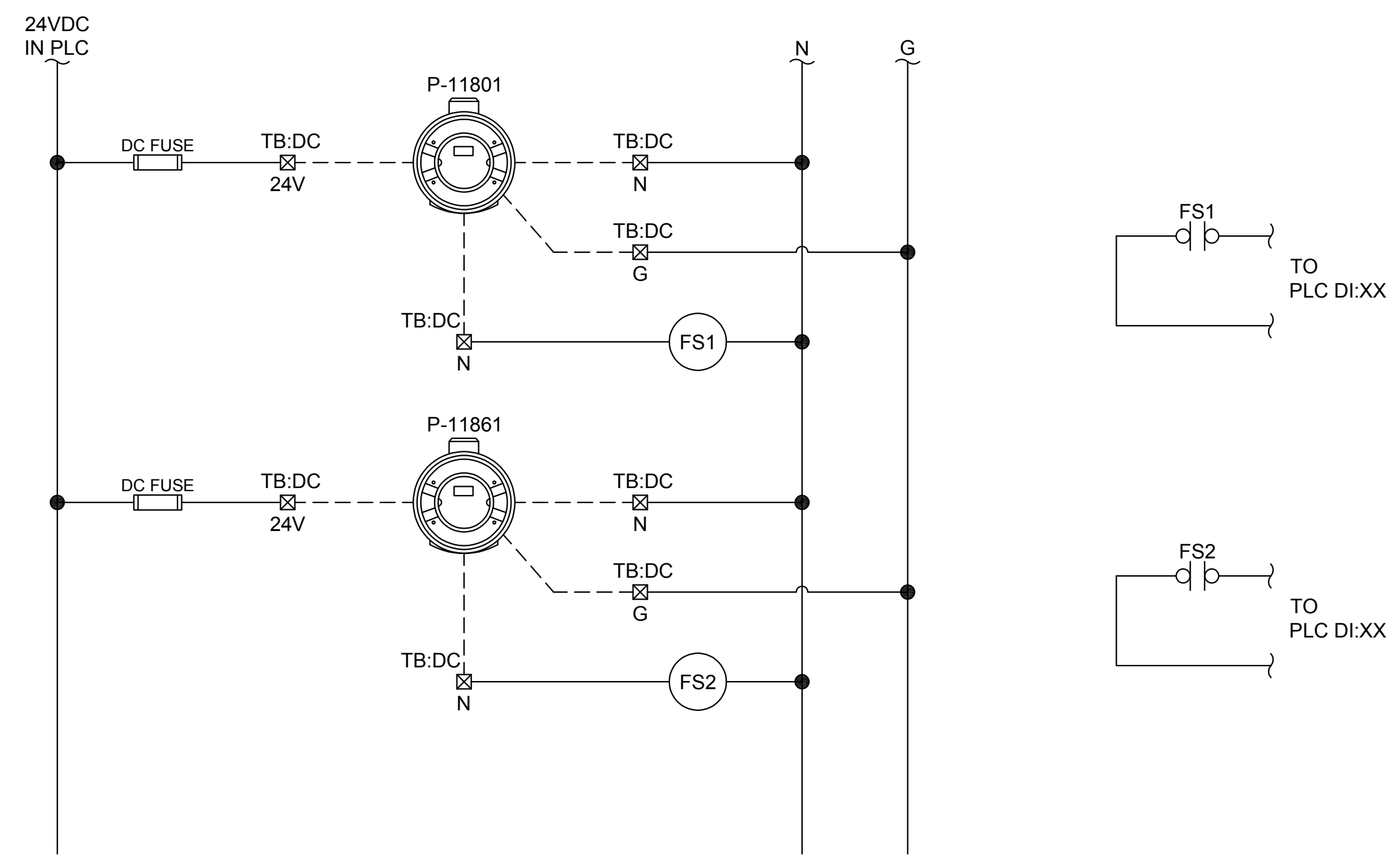




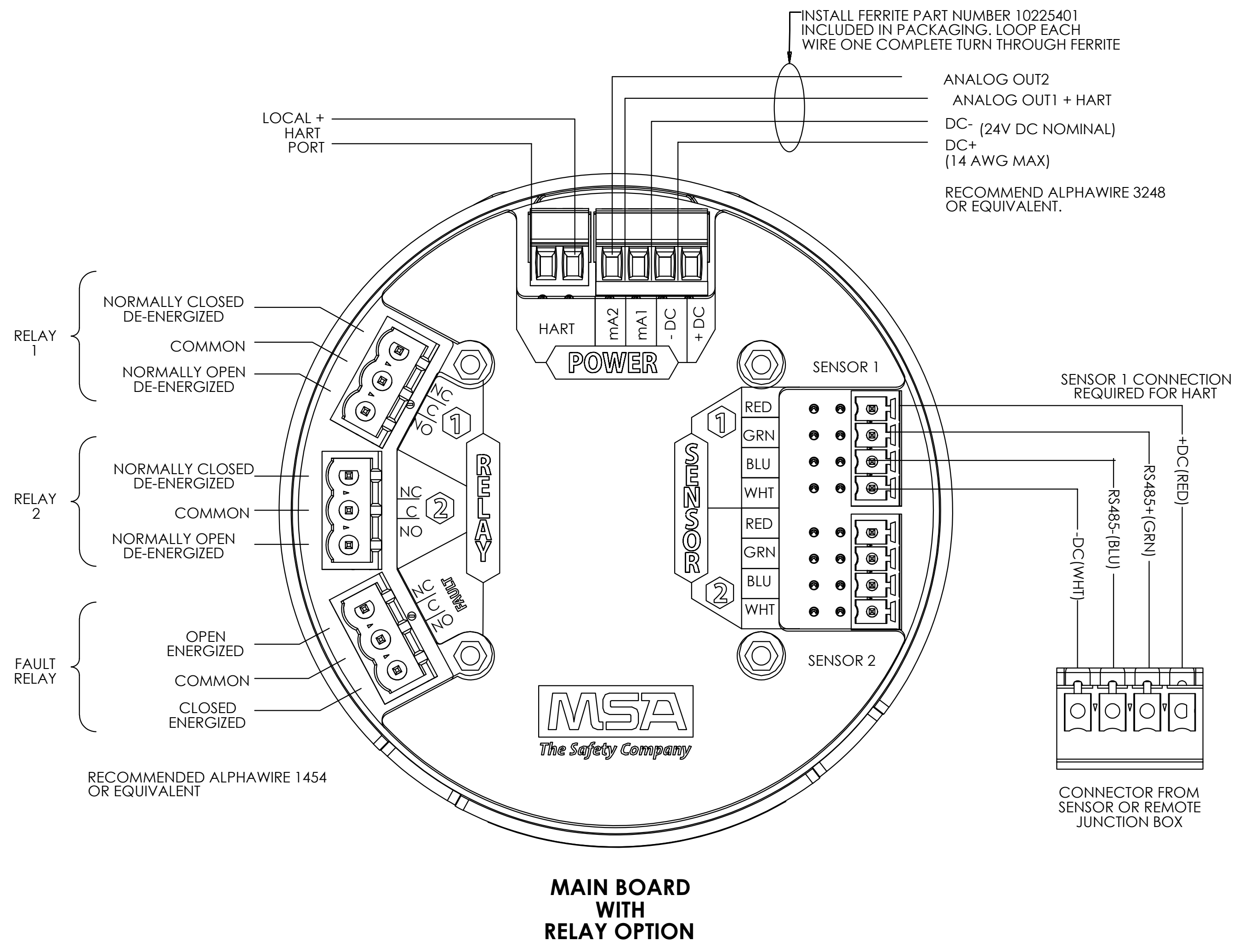
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999 **CGD PANEL DETAIL**  
TYP SCALE: NONE



**SAMPLE PUMP WIRING DIAGRAM**



**TRANSMITTER WIRING DIAGRAM**



DRAWING IS TO SCALE  
IF BAR MEASURES:  
1" = FULL SCALE  
1/2" = HALF SCALE

NO.	DATE	DESIGN	DRAWN	CHECKED
1	07-26-2023	MPJ	DCL	MPJ

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DRAWING NO.

**E904**

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