

# EASTERN MUNICIPAL WATER DISTRICT

## RIVERSIDE COUNTY, CALIFORNIA

### DRAWING INDEX

DWG. No.	SHEET No.	FILE No.	DESCRIPTION
G-1	1	D-	TITLE SHEET
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M-1A	3	D-	WET WELL PLANS, SECTION, AND DETAIL (120 GPM TO 260 GPM CAPACITY)
M-1B	4	D-	WET WELL PLANS, SECTION, AND DETAIL (260 GPM TO 500 GPM CAPACITY)
M-2	5	D-	MISCELLANEOUS WET WELL DETAILS AND SECTIONS
S-1A	6	D-	WET WELL STRUCTURAL PLANS, SECTIONS, AND DETAILS (120 GPM TO 260 GPM CAPACITY)
S-1B	7	D-	WET WELL STRUCTURAL PLANS, SECTIONS, AND DETAILS (260 GPM TO 500 GPM CAPACITY)
S-2	8	D-	SUNSHADE STRUCTURE FOUNDATION PLAN, SECTIONS, AND MISCELLANEOUS DETAILS
S-3	9	D-	BYPASS WET WELL DETAILS
E-1	10	D-	ELECTRICAL SYMBOLS, ABBREVIATIONS, AND LIGHTING FIXTURE SCHEDULE
E-2	11	D-	SINGLE LINE DIAGRAM WITH STANDBY GENERATOR, MCC PLAN AND ELEVATIONS
E-3	12	D-	SCHEDULE OF CONDUIT AND CONDUCTORS
E-4	13	D-	CONTROL DIAGRAMS
E-5	14	D-	RTU STATUS/ALARM SIGNAL WIRING DIAGRAMS
E-6	15	D-	MCC/SUNSHADE GROUNDING AND LIGHTING PLAN, AND SERVICE PEDESTAL AND STANDBY GENERATOR DETAILS
ME-1	16	D-	MISCELLANEOUS DETAILS
ME-2	17	D-	MISCELLANEOUS DETAILS
D-1	18	D-	TYPICAL TEMPORARY SMALL LIFT STATION DEMOLITION SITE PLAN
D-2	19	D-	DEMOLITION PLAN, SECTION, AND DETAILS

#### SELECTION CRITERIA

LIFT STATION DESIGN CAPACITY (GPM)		WET WELL INSIDE DIA.	RAW SEWAGE DISCHARGE (RSD) PIPE DIA.	WET WELL BASE (SQ.)	WET WELL ROOF (SQ.)	HATCH OPENING SIZE
MINIMUM	MAXIMUM					
120	260	6'-0"	4"	9'-0"*	9'-0"	36"x48"
260	500	8'-0"	6"	11'-4"*	11'-0"	48"x60"

#### PROJECT SPECIFIC REQUIREMENTS AND DATA

LIFT STATION DESIGN CAPACITY (GPM) (1)	WET WELL INSIDE DIA.	RAW SEWAGE DISCHARGE (RSD) PIPE DIA.	WET WELL BASE (SQ.)	WET WELL ROOF (SQ.)	HATCH OPENING SIZE	FORCE MAIN PIPE DIA. [IN]	FORCE MAIN LENGTH [FT]	MINIMUM STATIC LIFT [FT]	MAXIMUM STATIC LIFT [FT]

VICINITY MAP

LOCATION MAP

SITE ADDRESS  
8105 COUNTRY COURT  
LAKE IN THE HILLS, IL 60156

# SEWAGE LIFT STATION (TRACT \_\_\_\_\_)

PUMPING UNIT PERFORMANCE			
CONDITION	DISCHARGE CAPACITY [GPM]	TOTAL DYNAMIC HEAD [FT]	MINIMUM HYDRAULIC EFFICIENCY [%]
1			
2 (1)			
3			
MINIMUM SHUT-OFF HEAD _____ FT.			
SELECTED MOTOR SIZE _____ HP. (2)			
PUMP CYCLES/HR _____			

SEISMIC DESIGN PARAMETERS	
FACTOR OR COEFFICIENT	VALUE (3)
SITE CLASS	
OCCUPANCY CATEGORY	
MAPPED SPECTRAL RESPONSE ACCELERATION SHORT PERIOD $S_s$	
MAPPED SPECTRAL RESPONSE ACCELERATION AT 1 SEC. $S_1$	
SITE COEFFICIENT (0.2-5 PERIOD), $F_a$	
SITE COEFFICIENT (1.0-5 PERIOD), $F_v$	
DESIGN SPECTRAL RESPONSE ACCELERATION SHORT PERIOD $S_{ps}$	
DESIGN SPECTRAL RESPONSE ACCELERATION AT 1 SEC. $S_{p1}$	
IMPORTANCE FACTOR, $I$	1.5
SEISMIC DESIGN CATEGORY, SDC	

GEOLOGIC DESIGN PARAMETERS	
FACTOR OR COEFFICIENT	VALUE
SOIL BEARING PRESSURE (PSF)	
BASAL FRICTION	
PASSIVE EARTH PRESSURE (PSF/FT DEPTH)	

#### NOTES:

- (1) DESIGN CONDITION WITH ONE PUMP OPERATING.
- (2) SELECTED PUMPING UNIT MOTOR SIZE TO BE USED FOR DETERMINING PROJECT ELECTRICAL DESIGN CRITERIA (SEE DRAWING E-2). NO POINT ON PUMP PERFORMANCE CURVE SHALL EXCEED MOTOR HORSEPOWER.
- (3) PROJECT SEISMIC DESIGN PARAMETERS SHALL BE PROVIDED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE, LATEST EDITION. REFER TO SPECIFICATIONS FOR EQUIPMENT REQUIRING SEISMIC DESIGN CALCULATIONS.

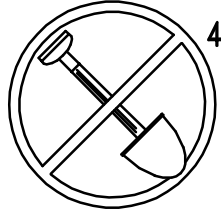
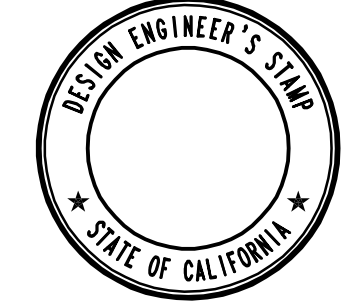
#### TIME LIMITATION:

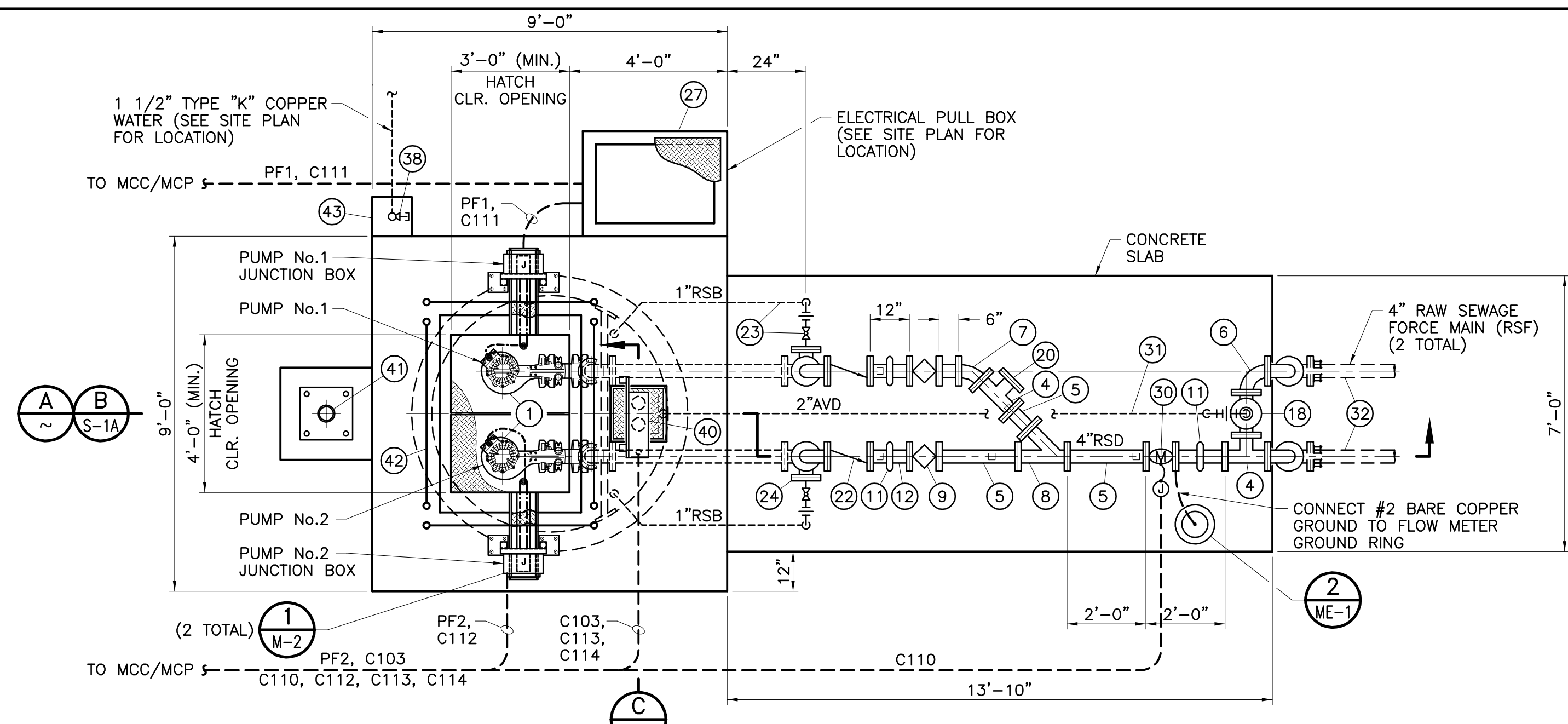
THE TIME LIMIT ON DRAWING APPROVAL SHALL BE SIX (6) MONTHS FROM THE DATE ON THE CERTIFICATION. IF CONSTRUCTION HAS NOT COMMENCED WITHIN STATED TIME, EMWD REQUIRES DRAWINGS TO BE REVIEWED BY THE DEVELOPER/DESIGN ENGINEER FOR POSSIBLE CHANGES IN MASTER PLANNED SIZING AND CHANGES IN SPECIFICATIONS AND STANDARDS.

#### BENCHMARK:

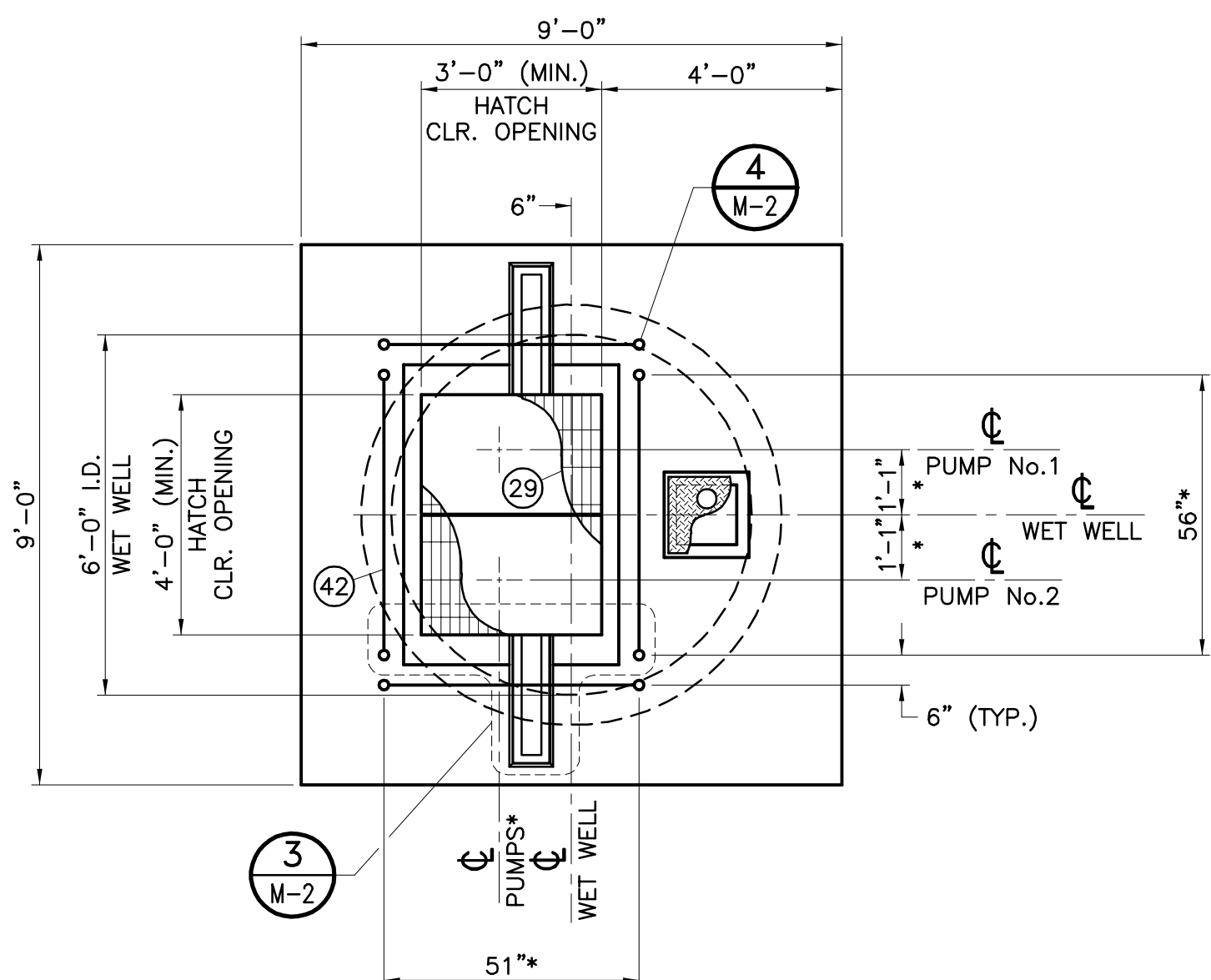
#### BASIS OF BEARINGS:

JPM - JOSH P. MACPEEK KRIEGER & STEWART

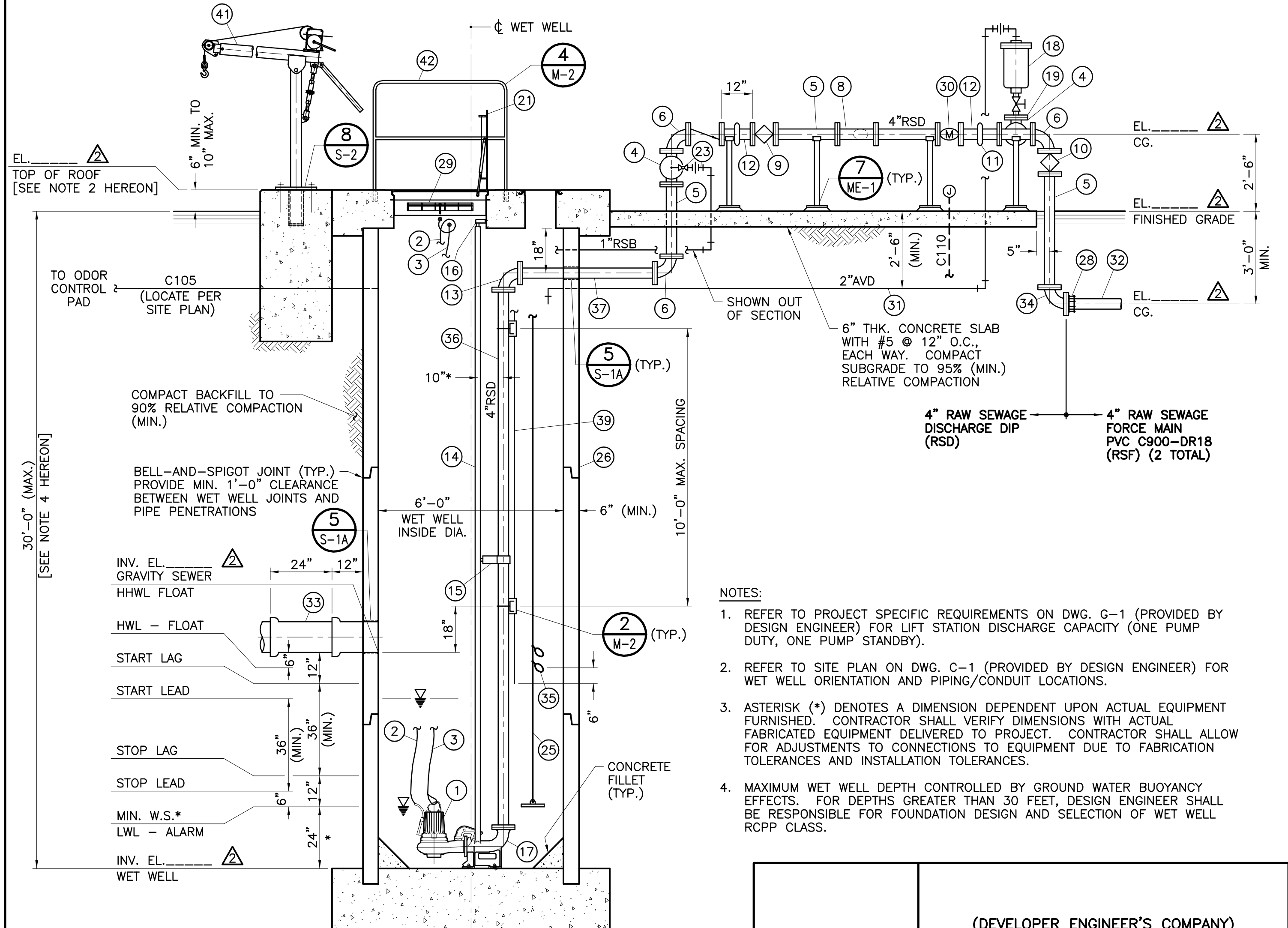
 <p>48 hours <b>BEFORE</b> excavation <b>811</b> CALL Underground Service Alert</p>	<p>DESIGN ENGINEER'S COMPANY NAME ADDRESS PHONE No.</p>		REVISIONS				APPROVED BY:		EASTERN MUNICIPAL WATER DISTRICT			EASTERN MUNICIPAL WATER DISTRICT			I.D.
			NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE	DIRECTOR OF DEVELOPMENT SERVICES _____ DATE _____		PROJECT MANAGER _____ DATE _____		DESIGNED	PES	05/10/21	RIVERSIDE COUNTY, CALIFORNIA
REFERENCES						APPROVALS			DRAWN	TMW	05/10/21	SEWAGE LIFT STATION (TRACT _____)			C.O.
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS									PROJECT ENGR.	INITIAL	DATE	TRACED	JPM	05/10/21	TITLE SHEET
REGISTERED ENGINEER No. _____ DATE _____									SCALE: N/A						SHT. _____ OF _____
															D-
															G-1



**6'-0" WET WELL PIPING PLAN**  
SCALE: 3/8"=1'-0"



**6'-0" WET WELL ROOF HATCH PLAN**  
SCALE: 3/8"=1'-0"



**WET WELL SECTION**  
SCALE: 3/8"=1'-0"

- NOTES:**
- REFER TO PROJECT SPECIFIC REQUIREMENTS ON DWG. G-1 (PROVIDED BY DESIGN ENGINEER) FOR LIFT STATION DISCHARGE CAPACITY (ONE PUMP DUTY, ONE PUMP STANDBY).
  - REFER TO SITE PLAN ON DWG. C-1 (PROVIDED BY DESIGN ENGINEER) FOR WET WELL ORIENTATION AND PIPING/CONDUIT LOCATIONS.
  - ASTERISK (\*) DENOTES A DIMENSION DEPENDENT UPON ACTUAL EQUIPMENT FURNISHED. CONTRACTOR SHALL VERIFY DIMENSIONS WITH ACTUAL FABRICATED EQUIPMENT DELIVERED TO PROJECT. CONTRACTOR SHALL ALLOW FOR ADJUSTMENTS TO CONNECTIONS TO EQUIPMENT DUE TO FABRICATION TOLERANCES AND INSTALLATION TOLERANCES.
  - MAXIMUM WET WELL DEPTH CONTROLLED BY GROUND WATER BUOYANCY EFFECTS. FOR DEPTHS GREATER THAN 30 FEET, DESIGN ENGINEER SHALL BE RESPONSIBLE FOR FOUNDATION DESIGN AND SELECTION OF WET WELL RCPP CLASS.

**MATERIAL, EQUIPMENT, AND WORK DESCRIPTIONS FOR DRAWING M-1A:**

- SUBMERSIBLE RAW SEWAGE PUMP WITH CENTER DISCHARGE. CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ALL REQUIRED MODIFICATIONS TO DISCHARGE PIPING AND HATCH LOCATION/SIZE IF PUMPING UNIT FURNISHED HAS SIDE (TANGENTIAL) DISCHARGE.
- POWER AND CONTROL CABLES TO PUMPING UNIT. SUPPORT CABLES WITH ALL STAINLESS STEEL KELLEMS GRIPS HUNG FROM SUPPORT. LOOP EXCESS PUMP CABLE (3' MIN. TO 6' MAX. LENGTH) OVER SUPPORT. TIE POWER AND CONTROL CABLES TOGETHER PER MANUFACTURER'S RECOMMENDATIONS.
- 5/16" DIAMETER (MINIMUM) 316 STAINLESS STEEL LIFTING CABLE LOOPED THROUGH PUMP LIFTING ASSEMBLY AND SECURED WITH 316 STAINLESS STEEL LOCKING CLEVIS. PROVIDE CONNECTOR AT END OF CABLE TO CREATE END LOOP AND HANG FROM CABLE SUPPORT. CABLE SHALL HAVE A MINIMUM RATED CAPACITY OF 2000 LB. OR 4 TIMES PUMPING UNIT WEIGHT WHICHEVER IS GREATER.
- FLANGED DUCTILE IRON (DI) TEE.
- DUCTILE IRON PIPE (DIP) FLANGED END SPOOL, LENGTH AS REQUIRED.
- 90° DI FLANGED ELBOW.
- 45° DI FLANGED ELBOW.
- DI FLANGED WYE.
- WORM GEAR OPERATED NON-LUBRICATED PLUG VALVE WITH HANDWHEEL.
- FORCE MAIN ISOLATION VALVE, WORM GEAR OPERATED NON-LUBRICATED PLUG VALVE WITH HANDWHEEL.
- VICTAULIC GROOVED COUPLING (STYLE 31).
- DIP SPOOL, FLANGED END X GROOVED END, LENGTH AS REQUIRED.
- STD. WT. 316 STAINLESS STEEL 90° FLANGED ELBOW.
- SCHEDULE 40, 316 STAINLESS STEEL PIPE GUIDE RAILS FOR SUBMERSIBLE PUMP.
- INTERMEDIATE GUIDE RAIL SUPPORT (MINIMUM OF TWO REQUIRED) - 316 STAINLESS STEEL. ATTACH TO PIPE PER MANUFACTURER'S RECOMMENDATIONS.
- UPPER GUIDE RAIL SUPPORT - ALL 316 STAINLESS STEEL. ATTACH TO CONCRETE WITH 316 STAINLESS STEEL EPOXY ANCHORS.
- PUMP DISCHARGE ELBOW FURNISHED BY PUMP MANUFACTURER. ANCHOR ELBOW WITH 316 STAINLESS STEEL ANCHOR BOLTS (CAST-IN-PLACE OR DRILL AND EPOXY). ANCHOR BOLT SIZE, NUMBER, AND EMBEDMENT PER PUMP MANUFACTURER.
- 2" COMBINATION SEWAGE AIR AND VACUUM VALVE WITH 2" ISOLATION GATE VALVE AND 2" AIR DISCHARGE PIPING TO WET WELL.
- DI BLIND FLANGE, TAPPED FOR 2" AIR VALVE.
- LIFT STATION TEMPORARY BYPASS CONNECTION. DI TEE WITH BLIND FLANGE.
- PUMP ACCESS HATCH, ALL 316 STAINLESS STEEL CONSTRUCTION. HATCH SIZE SHOWN IS MINIMUM, PROVIDE LARGER SIZE IF NECESSARY FOR PUMPING UNIT FURNISHED.
- SWING CHECK VALVE WITH OUTSIDE LEVER AND SPRING.
- 1" STAINLESS STEEL BALL VALVE, UNION, AND FITTINGS FOR RAW SEWAGE BACKFLUSH (RSB) TO WET WELL FOR MANUAL BREAK DOWN OF SCUM BLANKET. PIPING SHALL BE 1" SCHEDULE 40, 316 STAINLESS STEEL.
- DI BLIND FLANGE, TAPPED FOR 1" FLUSH LINE.
- 1/4" DIAMETER, 316 STAINLESS STEEL WIRE ROPE (7 X 19 STRAND CORE) ATTACHED TO 10 POUND STAINLESS STEEL WEIGHT. LOCATE WEIGHT APPROXIMATELY 24" FROM BOTTOM OF WET WELL. ATTACH FLOAT SWITCH CABLES TO WIRE ROPE AT LEVELS SPECIFIED WITH NYLON TIES (4" O.C. MAX.). PROVIDE CLOSED LOOP AT TOP OF WIRE ROPE FOR SUPPORT HOOK.
- CLASS IV REINFORCED CONCRETE PIPE (RCP) PER ASTM C76, WITH FLUSH BELL-AND-SPIGOT JOINTS AND RUBBER GASKETS SUITABLE FOR HYDROSTATIC HEAD OF 50' PER ASTM C361. PIPE SECTIONS (EXCEPT TOP AND BOTTOM SECTIONS) SHALL BE MINIMUM 8' LONG. TOP AND BOTTOM SECTION LENGTHS SHALL BE ADJUSTED TO ACHIEVE REQUIRED WET WELL HEIGHT AND TO PROVIDE 12" MINIMUM CLEARANCE BETWEEN RCP JOINTS AND PIPE PENETRATIONS.
- 2' X 3' ELECTRICAL PULL BOX WITH BOLT-DOWN HDG PARKWAY COVER, BROOKS OR EQUAL. DEPTH AS REQUIRED.
- TRANSITION FROM RAW SEWAGE DISCHARGE TO RAW SEWAGE FORCE MAIN. PROVIDE RESTRAINED FLANGE ADAPTER FOR TRANSITION FROM DIP TO FORCE MAIN PIPE MATERIAL.
- TWO PIECE ALUMINUM SAFETY GRATING PAINTED ORANGE BENEATH HATCH DOOR LEAFS, RATED FOR 300 LB./SF LIVE LOAD, SEE NOTE 21 HEREON.
- 4" MAGNETIC FLOW METER. FURNISH SPARE 4" FLANGED END SPOOL (LENGTH TO MATCH LENGTH OF FLOW METER) TO BE INSTALLED WHEN METER IS REMOVED FOR SERVICE. CONTRACTOR TO SET PIPE SPOOL IN PLACE TO VERIFY FIT, THEN REPLACE WITH FLOW METER.
- 2" AIR VALVE DRAIN (AVD) PIPING, SLOPE AT 2% TO WET WELL. PIPING AND FITTINGS SHALL BE SCHEDULE 40, 316 STAINLESS STEEL.
- TWO (2) 4" RAW SEWAGE FORCE MAINS. ONE DUTY AND ONE SPARE. CONSTRUCT IN SAME TRENCH, MINIMUM 6" SEPARATION BETWEEN PIPELINES.
- GRAVITY SEWER PIPE. REFER TO SITE PLAN (DWG. C-1) AND DISTRICT'S GUIDELINES FOR SEWER SYSTEMS FOR SEWER SIZE, MATERIAL, AND ORIENTATION.
- 90° DI FLANGED ELBOW. PROVIDE INCREASING ELBOW IF FORCE MAIN DIAMETER IS LARGER THAN DISCHARGE PIPING DIAMETER (RSF>RSD).
- WET WELL HIGH WATER LEVEL (HWL) AND HIGH HIGH WATER LEVEL (HHWL) FLOAT SWITCHES.
- 4" SCHEDULE 40, 316 STAINLESS STEEL FLANGED END SPOOL, LENGTH AS REQUIRED.
- 4" SCHEDULE 40, 316 STAINLESS STEEL FLANGED END SPOOL, LENGTH AS REQUIRED. SHIP ONE FLANGE LOOSE FOR FIELD WELDING AFTER INSTALLATION IN WET WELL.
- 1 1/2" ANGLE VALVE WITH HOSE THREAD OUTLET, CAP AND CHAIN, AS MANUFACTURED BY JAMES JONES, OR EQUAL. VERTICAL RISER FOR ANGLE VALVE SHALL BE 1 1/2" SCHEDULE 40 RED BRASS. TRANSITION TO TYPE "K" COPPER SHALL BE AT BELOW GRADE ELBOW. SET VALVE AT 24" ABOVE WET WELL ROOF AND PROVIDE THREADED BRASS PIPE UNION 12" BELOW VALVE.
- 1" RSB, SCHEDULE 40, 316 STAINLESS STEEL. ATTACH TO DISCHARGE PIPE SUPPORTS WITH 316 STAINLESS STEEL UNISTRUT.
- FLOAT/TRANSMITTER JUNCTION BOX.
- ADJUSTABLE MANUAL PORTABLE DAVIT CRANE ASSEMBLY WITH HDG STEEL POST INSERT, DIAMETER PER MANUFACTURER.
- REMOVABLE ALUMINUM HANDRAIL.
- ENCASE HOSE BIB RISER IN CONCRETE, 12" SQUARE ENCASUREMENT.

(DEVELOPER ENGINEER'S COMPANY) IS ONLY RESPONSIBLE FOR THE WORK SPECIFIED PER THE DELTA REVISION 2 CHANGES

APPROVED BY \_\_\_\_\_  
REGISTERED ENGINEER No. \_\_\_\_\_ DATE \_\_\_\_\_

JPM - JOSH P. MACPEEK KRIEGER & STEWART

APPROVED BY:  
**Corey F. Wallace** 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES DATE

EASTERN MUNICIPAL WATER DISTRICT  
**Armando G. Arroyo** 05/10/21  
PROJECT MANAGER DATE

DESIGNED	PES	05/10/21
DRAWN	TMW	05/10/21
TRACED	JPM	05/10/21
CHECKED	JPM	05/10/21
SUBMITTED		

EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS

APPROVALS

PROJECT ENGR.	JFM	05/10/21
CONST. ADMIN.	BAK	05/10/21
MAINTENANCE	DB	05/10/21

SCALE: N/A

SEWAGE LIFT STATION (TRACT \_\_\_\_\_)  
**WET WELL PLANS, SECTION, AND DETAIL**  
(120 GPM TO 260 GPM CAPACITY)

I.D.	
S.A.	
W.O.	
C.O.	
COORD.	
SHT. OF	
D-	
M-1A	

48 hours BEFORE excavation  
**811**  
CALL Underground Service Alert

**K&S KRIEGER & STEWART**  
Engineering Consultants  
3602 University Avenue • Riverside, CA 92501  
www.kriegerandstewart.com • 951-684-6900

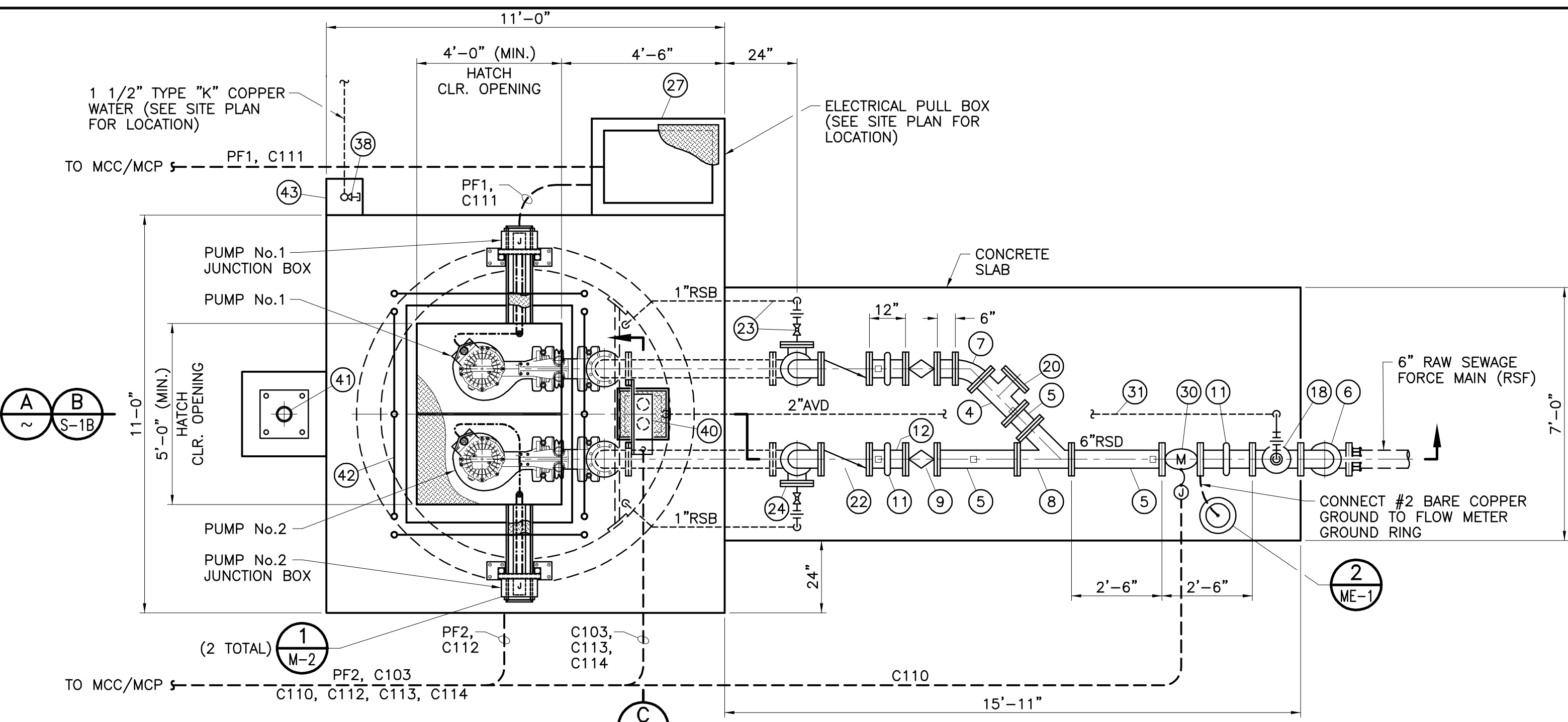


APPROVED BY **Josh P. Macpeek**  
REGISTERED ENGINEER No. 37263 DATE 05/10/21

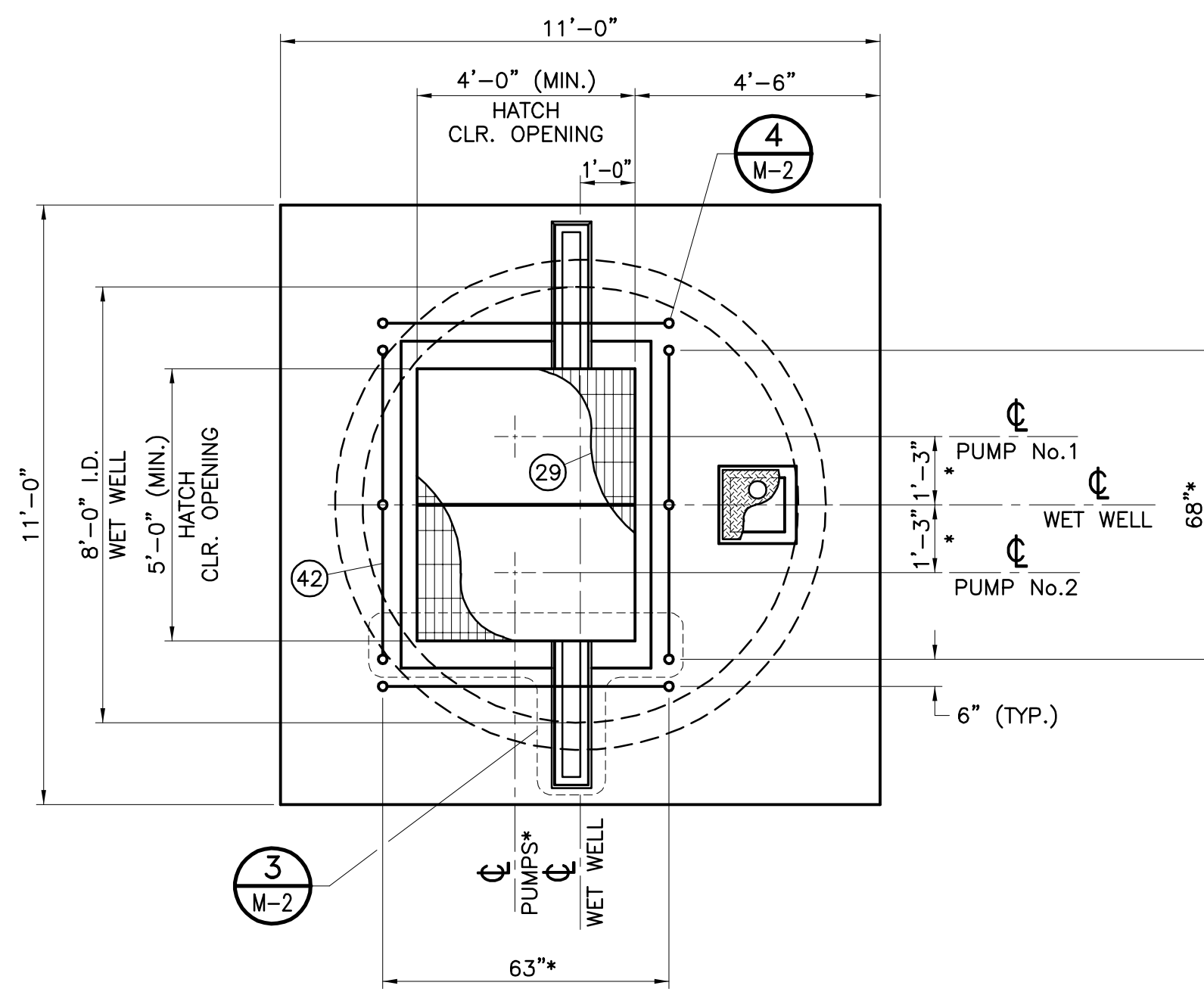
REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED DWG. DATED 05/12/16	

DWG. NO.: Del-Rev-1-01-33-01a FILE NO.: 491-53 UPDATE BY: TMM PROJ. ENG.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:38AM PLOT SCALE: 1=1

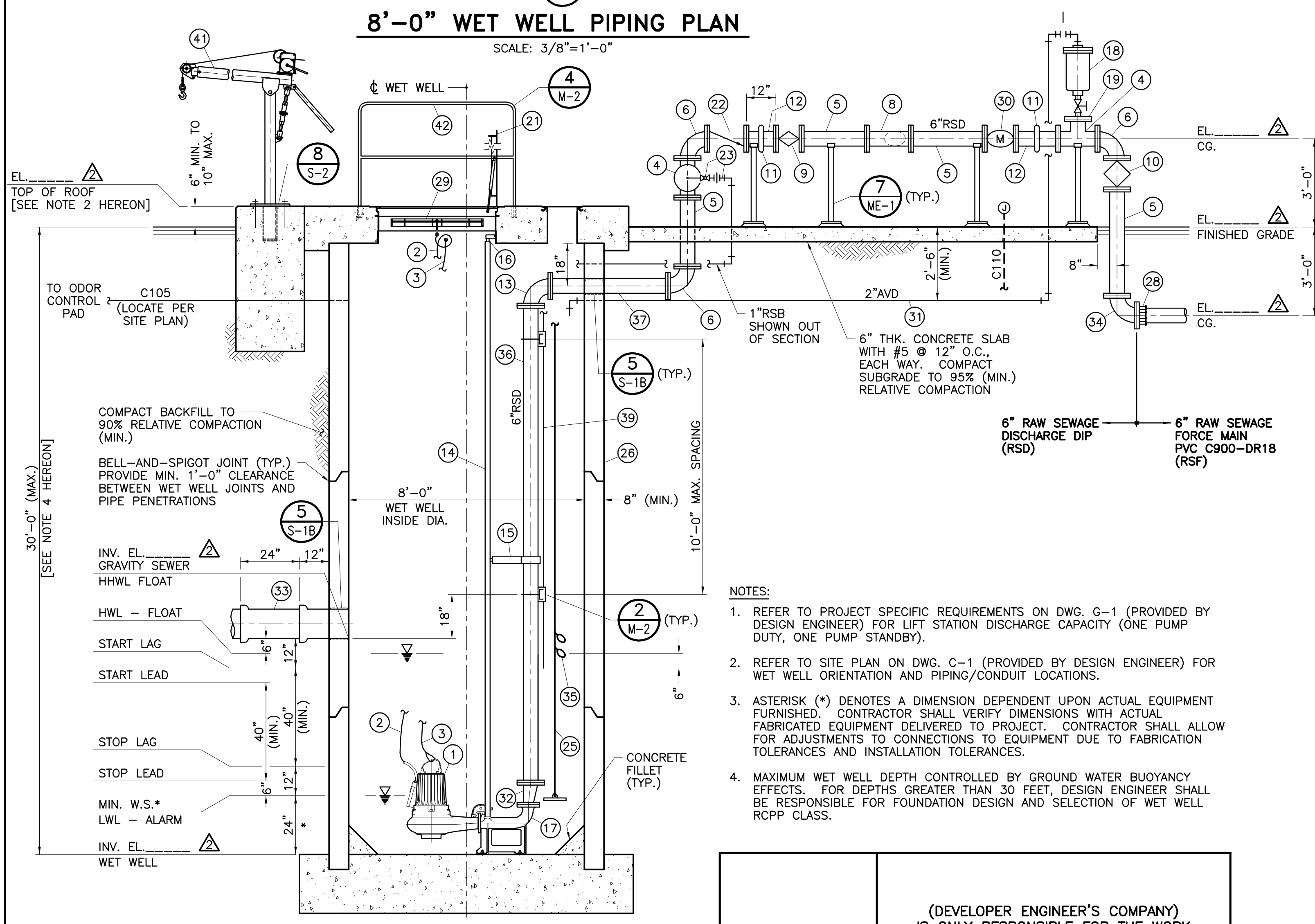




**8'-0" WET WELL PIPING PLAN**  
SCALE: 3/8"=1'-0"



**8'-0" WET WELL ROOF HATCH PLAN**  
SCALE: 3/8"=1'-0"



**WET WELL SECTION**  
SCALE: 3/8"=1'-0"

- NOTES:**
- REFER TO PROJECT SPECIFIC REQUIREMENTS ON DWG. G-1 (PROVIDED BY DESIGN ENGINEER) FOR LIFT STATION DISCHARGE CAPACITY (ONE PUMP DUTY, ONE PUMP STANDBY).
  - REFER TO SITE PLAN ON DWG. C-1 (PROVIDED BY DESIGN ENGINEER) FOR WET WELL ORIENTATION AND PIPING/CONDUIT LOCATIONS.
  - ASTERISK (\*) DENOTES A DIMENSION DEPENDENT UPON ACTUAL EQUIPMENT FURNISHED. CONTRACTOR SHALL VERIFY DIMENSIONS WITH ACTUAL FABRICATED EQUIPMENT DELIVERED TO PROJECT. CONTRACTOR SHALL ALLOW FOR ADJUSTMENTS TO CONNECTIONS TO EQUIPMENT DUE TO FABRICATION TOLERANCES AND INSTALLATION TOLERANCES.
  - MAXIMUM WET WELL DEPTH CONTROLLED BY GROUND WATER BUOYANCY EFFECTS. FOR DEPTHS GREATER THAN 30 FEET, DESIGN ENGINEER SHALL BE RESPONSIBLE FOR FOUNDATION DESIGN AND SELECTION OF WET WELL RCPP CLASS.

**MATERIAL, EQUIPMENT, AND WORK DESCRIPTIONS FOR DRAWING M-1B:**

- SUBMERSIBLE RAW SEWAGE PUMP WITH CENTER DISCHARGE. CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ALL REQUIRED MODIFICATIONS TO DISCHARGE PIPING AND HATCH LOCATION/SIZE IF PUMPING UNIT FURNISHED HAS SIDE (TANGENTIAL) DISCHARGE.
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- FLANGED DUCTILE IRON (DI) TEE.
- DUCTILE IRON PIPE (DIP) FLANGED END SPOOL, LENGTH AS REQUIRED.
- 90° DI FLANGED ELBOW.
- 45° DI FLANGED ELBOW.
- DI FLANGED WYE.
- WORM GEAR OPERATED NON-LUBRICATED PLUG VALVE WITH HANDWHEEL.
- FORCE MAIN ISOLATION VALVE, WORM GEAR OPERATED NON-LUBRICATED PLUG VALVE WITH HANDWHEEL.
- VICTAULIC GROOVED COUPLING (STYLE 31).
- DIP SPOOL, FLANGED END X GROOVED END, LENGTH AS REQUIRED.
- STD. WT. 316 STAINLESS STEEL 90° FLANGED ELBOW.
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- PUMP ACCESS HATCH, ALL 316 STAINLESS STEEL CONSTRUCTION. HATCH SIZE SHOWN IS MINIMUM, PROVIDE LARGER SIZE IF NECESSARY FOR PUMPING UNIT FURNISHED.
- SWING CHECK VALVE WITH OUTSIDE LEVER AND SPRING.
- 1" STAINLESS STEEL BALL VALVE, UNION, AND FITTINGS FOR RAW SEWAGE BACKFLUSH (RSB) TO WET WELL FOR MANUAL BREAK DOWN OF SCUM BLANKET. PIPING SHALL BE 1" SCHEDULE 40, 316 STAINLESS STEEL.
- DI BLIND FLANGE, TAPPED FOR 1" FLUSH LINE.
- 1/4" DIAMETER, 316 STAINLESS STEEL WIRE ROPE (7 X 19 STRAND CORE) ATTACHED TO 10 POUND STAINLESS STEEL WEIGHT. LOCATE WEIGHT APPROXIMATELY 24" FROM BOTTOM OF WET WELL. ATTACH FLOAT SWITCH CABLES TO WIRE ROPE AT LEVEL SPECIFIED WITH NYLON TIES (4" O.C. MAX.). PROVIDE CLOSED LOOP AT TOP OF WIRE ROPE FOR SUPPORT HOOK.
- CLASS IV REINFORCED CONCRETE PIPE (RCP) PER ASTM C76, WITH FLUSH BELL-AND-SPIGOT JOINTS AND RUBBER GASKETS SUITABLE FOR HYDROSTATIC HEAD OF 50' PER ASTM C361. PIPE SECTIONS (EXCEPT TOP AND BOTTOM SECTIONS) SHALL BE MINIMUM 8' LONG. TOP AND BOTTOM SECTION LENGTHS SHALL BE ADJUSTED TO ACHIEVE REQUIRED WET WELL HEIGHT AND TO PROVIDE 12" MINIMUM CLEARANCE BETWEEN RCP JOINTS AND PIPE PENETRATIONS.
- 2' X 3' ELECTRICAL PULL BOX WITH BOLT-DOWN HDG PARKWAY COVER, BROOKS OR EQUAL. DEPTH AS REQUIRED.
- TRANSITION FROM RAW SEWAGE DISCHARGE TO RAW SEWAGE FORCE MAIN. PROVIDE RESTRAINED FLANGE ADAPTER FOR TRANSITION FROM DIP TO FORCE MAIN PIPE MATERIAL.
- TWO PIECE ALUMINUM SAFETY GRATING PAINTED ORANGE BENEATH HATCH DOOR LEAFS, RATED FOR 300 LB./SF LIVE LOAD, SEE NOTE 21 HEREON.
- 6" MAGNETIC FLOW METER. FURNISH SPARE 6" FLANGED END SPOOL (LENGTH TO MATCH LENGTH OF FLOW METER) TO BE INSTALLED WHEN METER IS REMOVED FOR SERVICE. CONTRACTOR TO SET PIPE SPOOL IN PLACE TO VERIFY FIT, THEN REPLACE WITH FLOW METER.
- 2" AIR VALVE DRAIN (AVD) PIPING, SLOPE AT 2% TO WET WELL. PIPING AND FITTINGS SHALL BE SCHEDULE 40, 316 STAINLESS STEEL.
- 6" X 4" STD. WT. 316 STAINLESS STEEL FLANGED ECCENTRIC REDUCER. REQUIRED FOR PUMPING UNITS WITH 4" OUTLET. NOT REQUIRED FOR PUMPING UNITS WITH 6" OUTLETS.
- GRAVITY SEWER PIPE. REFER TO SITE PLAN (DWG. C-1) AND DISTRICT'S GUIDELINES FOR SEWER SYSTEMS FOR SEWER SIZE, MATERIAL, AND ORIENTATION.
- 90° DI FLANGED ELBOW. PROVIDE INCREASING ELBOW IF FORCE MAIN DIAMETER IS LARGER THAN DISCHARGE PIPING DIAMETER (RSB>RSD).
- WET WELL HIGH WATER LEVEL (HWL) AND HIGH HIGH WATER LEVEL (HHWL) FLOAT SWITCHES.
- 6" SCHEDULE 40, 316 STAINLESS STEEL FLANGED END SPOOL, LENGTH AS REQUIRED.
- 6" SCHEDULE 40, 316 STAINLESS STEEL FLANGED END SPOOL, LENGTH AS REQUIRED. SHIP ONE FLANGE LOOSE FOR FIELD WELDING AFTER INSTALLATION IN WET WELL.
- 1 1/2" ANGLE VALVE WITH HOSE THREAD OUTLET, CAP AND CHAIN, AS MANUFACTURED BY JAMES JONES, OR EQUAL. VERTICAL RISER FOR ANGLE VALVE SHALL BE 1 1/2" SCHEDULE 40 RED BRASS. TRANSITION TO TYPE "K" COPPER SHALL BE AT BELOW GRADE ELBOW. SET VALVE AT 24" ABOVE WET WELL ROOF AND PROVIDE THREADED BRASS PIPE UNION 12" BELOW VALVE.
- 1" RSB, SCHEDULE 40, 316 STAINLESS STEEL. ATTACH TO DISCHARGE PIPE SUPPORTS WITH 316 STAINLESS STEEL UNISTRUT.
- FLOAT/TRANSMITTER JUNCTION BOX.
- ADJUSTABLE MANUAL PORTABLE DAVIT CRANE ASSEMBLY WITH HDG STEEL POST INSERT, DIAMETER PER MANUFACTURER.
- REMOVABLE ALUMINUM HANDRAIL.
- ENCASE HOSE BIB RISER IN CONCRETE, 12" SQUARE ENCASUREMENT.

(DEVELOPER ENGINEER'S COMPANY) IS ONLY RESPONSIBLE FOR THE WORK SPECIFIED PER THE DELTA REVISION 2 CHANGES

APPROVED BY \_\_\_\_\_  
REGISTERED ENGINEER No. \_\_\_\_\_ DATE \_\_\_\_\_

JPM - JOSH P. MACPEEK KRIEGER & STEWART

APPROVED BY:  
**Corey F. Wallace** 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES

EASTERN MUNICIPAL WATER DISTRICT  
**Armando G. Arroyo** 05/10/21  
PROJECT MANAGER

DESIGNED	PES	05/10/21
DRAWN	TMW	05/10/21
TRACED	JPM	05/10/21
CHECKED	JPM	05/10/21
SUBMITTED		

EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

I.D.	
S.A.	
W.O.	
C.O.	
COORD.	
SHT.	OF
D-	
M-1B	

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS

PROJECT ENGR.	INITIAL	DATE
JPM	JPM	05/10/21
CONST. ADMIN.	INITIAL	DATE
PJM	PJM	05/10/21
INSPECTION	INITIAL	DATE
DB	DB	05/10/21
MAINTENANCE	INITIAL	DATE

APPROVALS

SCALE: N/A

SEWAGE LIFT STATION (TRACT \_\_\_\_\_)  
**WET WELL PLANS, SECTION, AND DETAIL**  
(260 GPM TO 500 GPM CAPACITY)

811  
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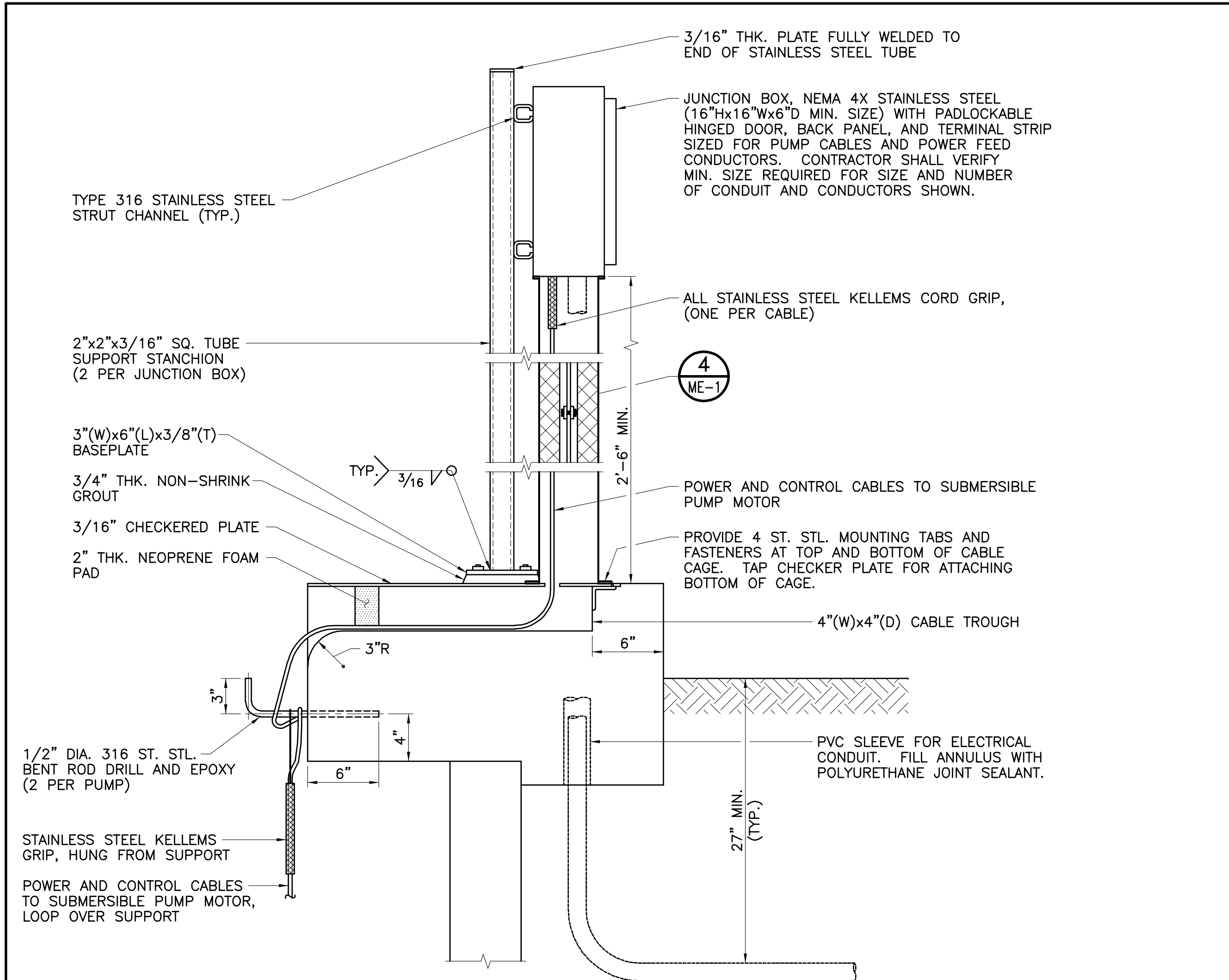


APPROVED BY \_\_\_\_\_  
REGISTERED ENGINEER No. 37263 DATE 05/10/21

REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED DWG. DATED 05/12/16	

DWG. NO.: Del-Rev-01-53.rvt FILE NO.: 491-53 UPDATE BY: TMW PROJ. ENG.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:39AM PLOT SCALE: 1=1

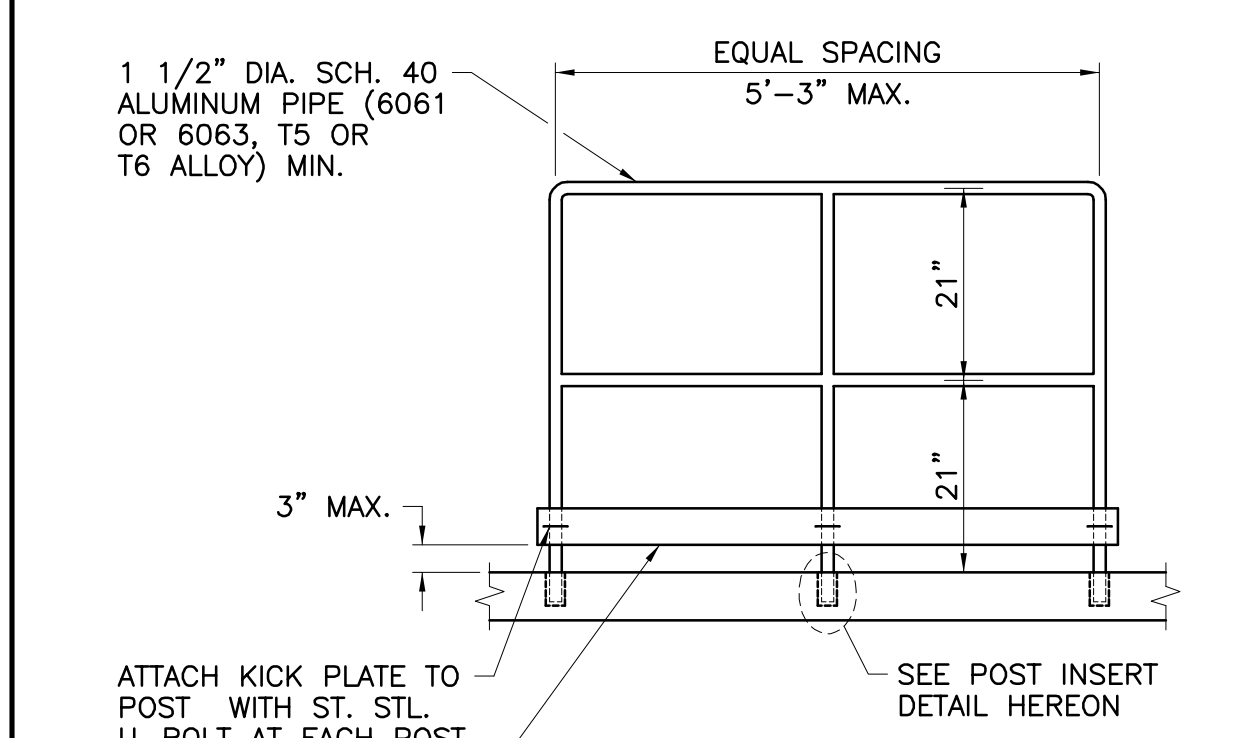
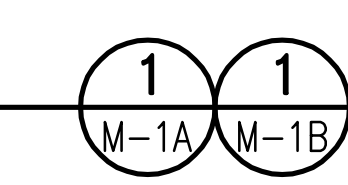
DWG. NO.: 061001-01-502 FILE NO.: 491-53 UPDATE BY: TMM PROJ. ENG.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:40AM PLOT SCALE: 1"=1'



- NOTES:**
- JUNCTION BOX SUPPORT STANCHIONS SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL.
  - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR PUMP CABLE CAGE TO DISTRICT FOR APPROVAL PRIOR TO FABRICATION.

**PUMP CABLE ENTRY DETAIL**

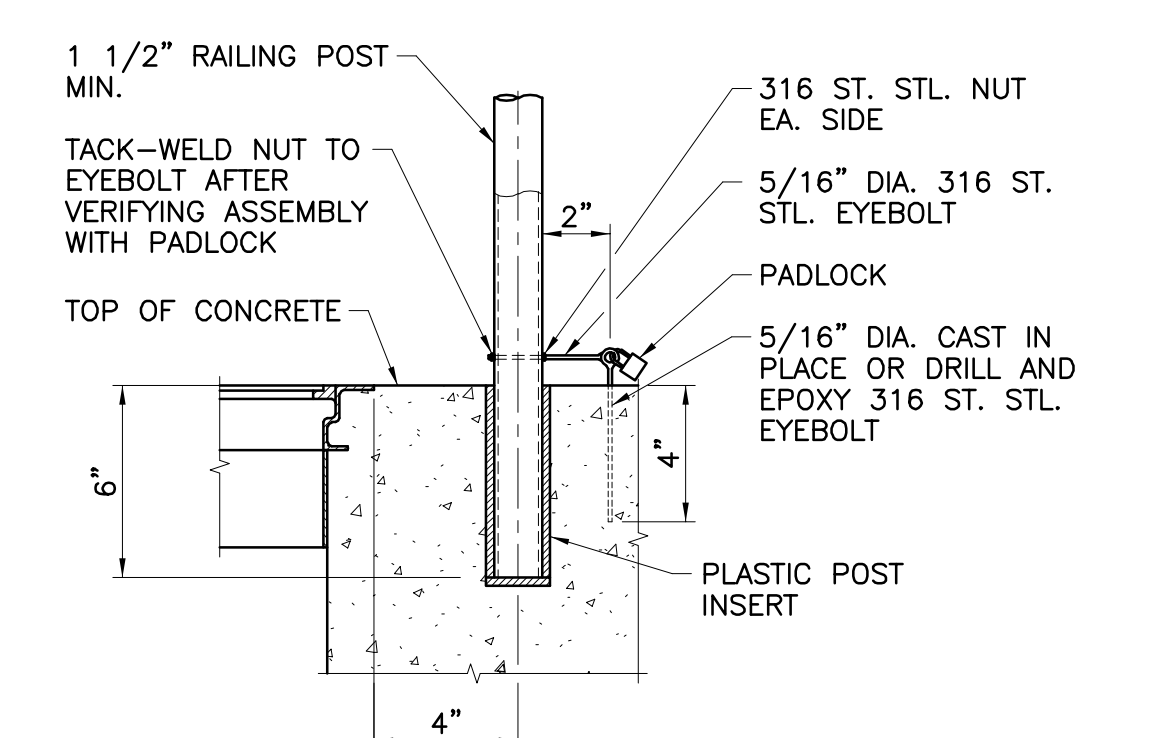
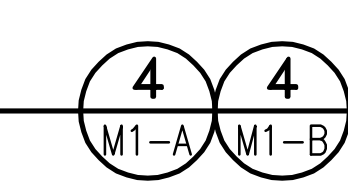
SCALE: 1 1/2"=1'-0"



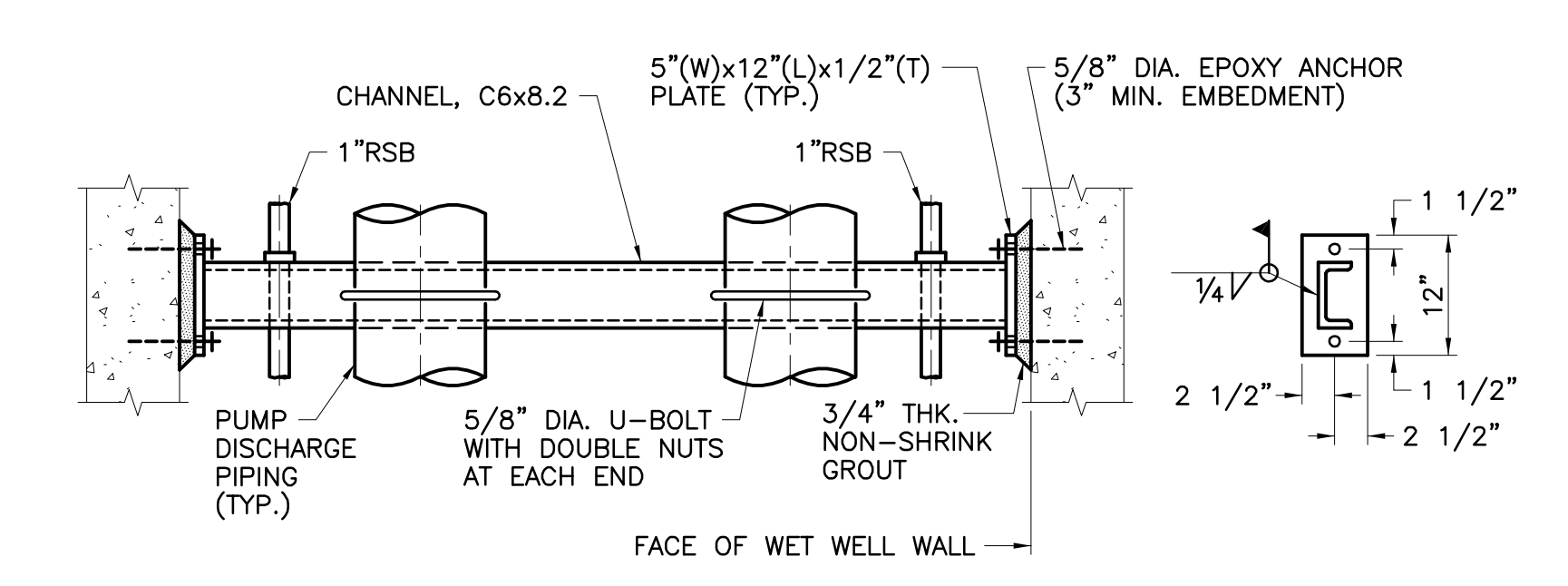
- NOTES:**
- HANDRAIL SHALL BE PROVIDED WITH A CLEAR ANODIZED FINISH.
  - ONE EYEBOLT PADLOCK ASSEMBLY PER HANDRAIL SECTION (4 TOTAL).

**REMOVABLE ALUMINUM HANDRAIL**

N.T.S.



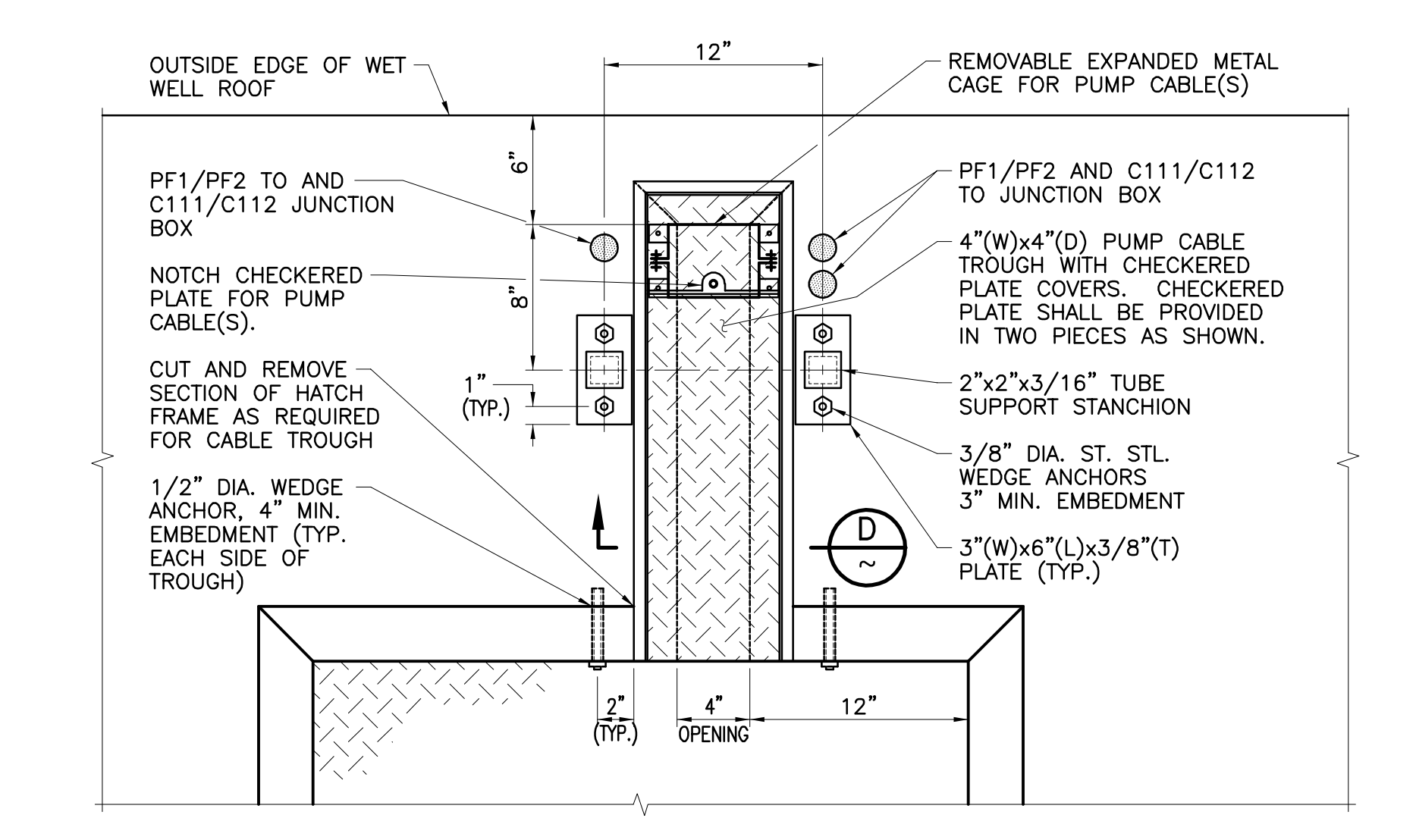
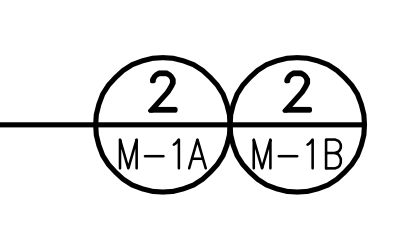
- POST INSERT DETAIL**



- NOTES:**
- ALL SUPPORT MATERIALS SHALL BE 316 STAINLESS STEEL, INCLUDING ANCHOR BOLTS.
  - TRIM ENDS OF SUPPORT CHANNEL AT ANGLE REQUIRED FOR MOUNTING SUPPORT END PLATES TO INSIDE FACE OF CIRCULAR WET WELL. FIELD WELD SUPPORT END PLATES TO CHANNEL TO OBTAIN PROPER ANGLE.

**DISCHARGE PIPE SUPPORT DETAIL**

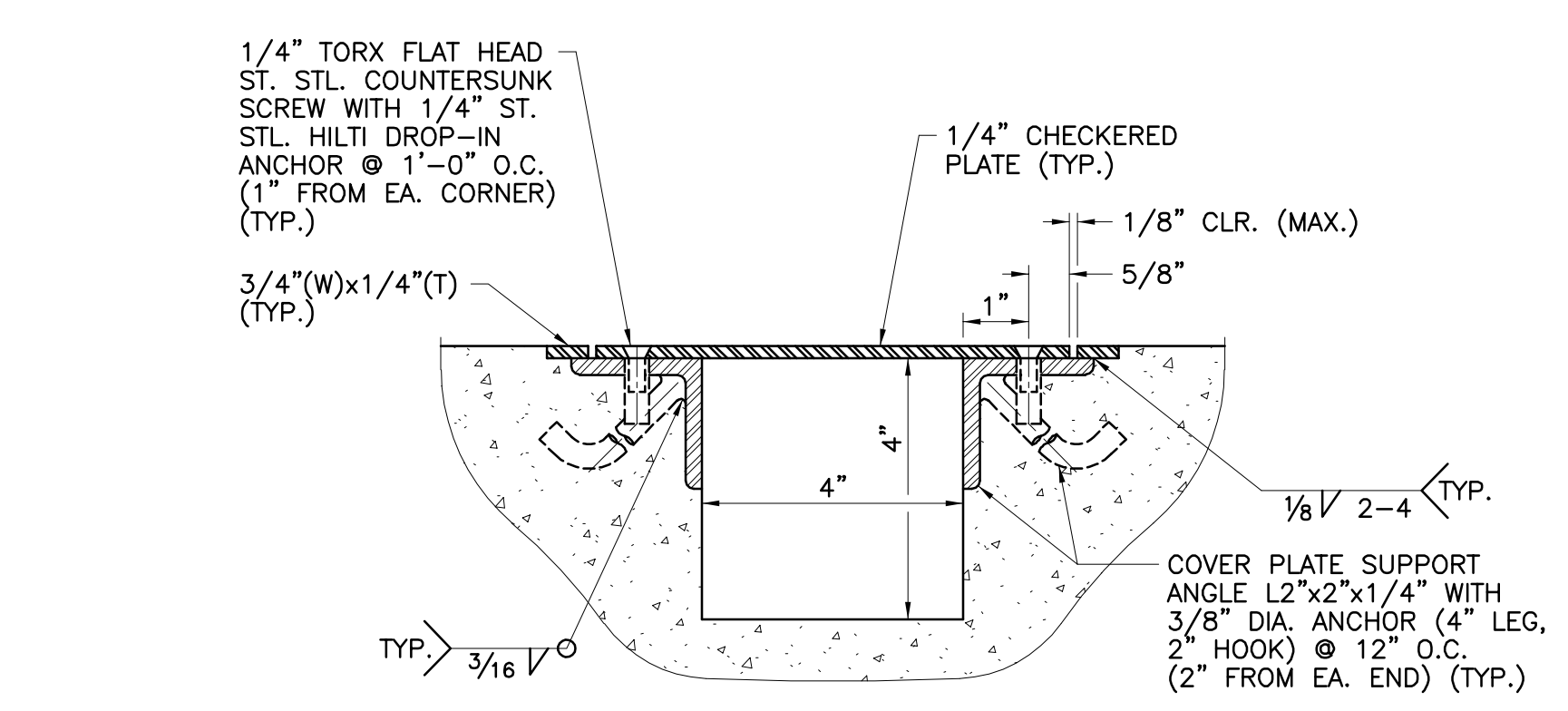
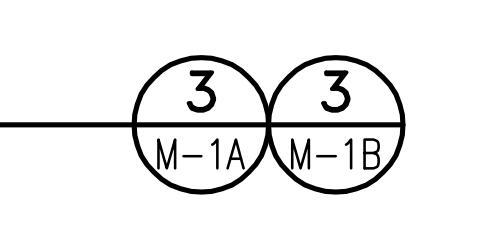
N.T.S.



- NOTE:**  
UNLESS NOTED OTHERWISE, ALL MATERIALS SHALL BE 316 STAINLESS STEEL.

**PUMP CABLE TROUGH DETAIL**

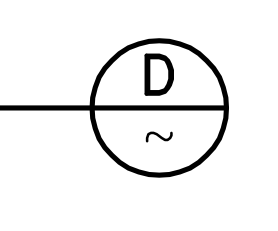
SCALE: 1 1/2"=1'-0"



- NOTE:**  
UNLESS NOTED OTHERWISE, ALL MATERIALS SHALL BE 316 STAINLESS STEEL.

**COVER PLATE/CABLE TROUGH SECTION**

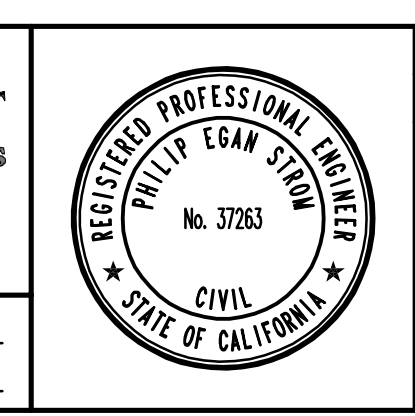
N.T.S.



48 hours **BEFORE** excavation  
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Engineering Consultants  
3602 University Avenue • Riverside, CA 92501  
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APPROVED BY: *[Signature]*  
REGISTERED ENGINEER No. 37263 DATE 05/10/21



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED DWG. DATED 05/12/16	<i>[Signature]</i> 05/10/21

APPROVED BY:  
**Corey F. Wallace** 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS

JPM - JOSH P. MACPEEK KRIEGER & STEWART

EASTERN MUNICIPAL WATER DISTRICT  
**Armando G. Arroyo** 05/10/21  
PROJECT MANAGER

APPROVALS

PROJECT ENGR.	INITIAL	DATE
JPM	JPM	05/10/21
CONST. ADMIN.	PAK	05/10/21
INSPECTION	DB	05/10/21
MAINTENANCE		

DESIGNED		DATE	
PES		05/10/21	
DRAWN		DATE	
TMM		05/10/21	
TRACED		DATE	
JPM		05/10/21	
CHECKED		DATE	
JPM		05/10/21	
SUBMITTED		DATE	

SCALE: N/A

EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

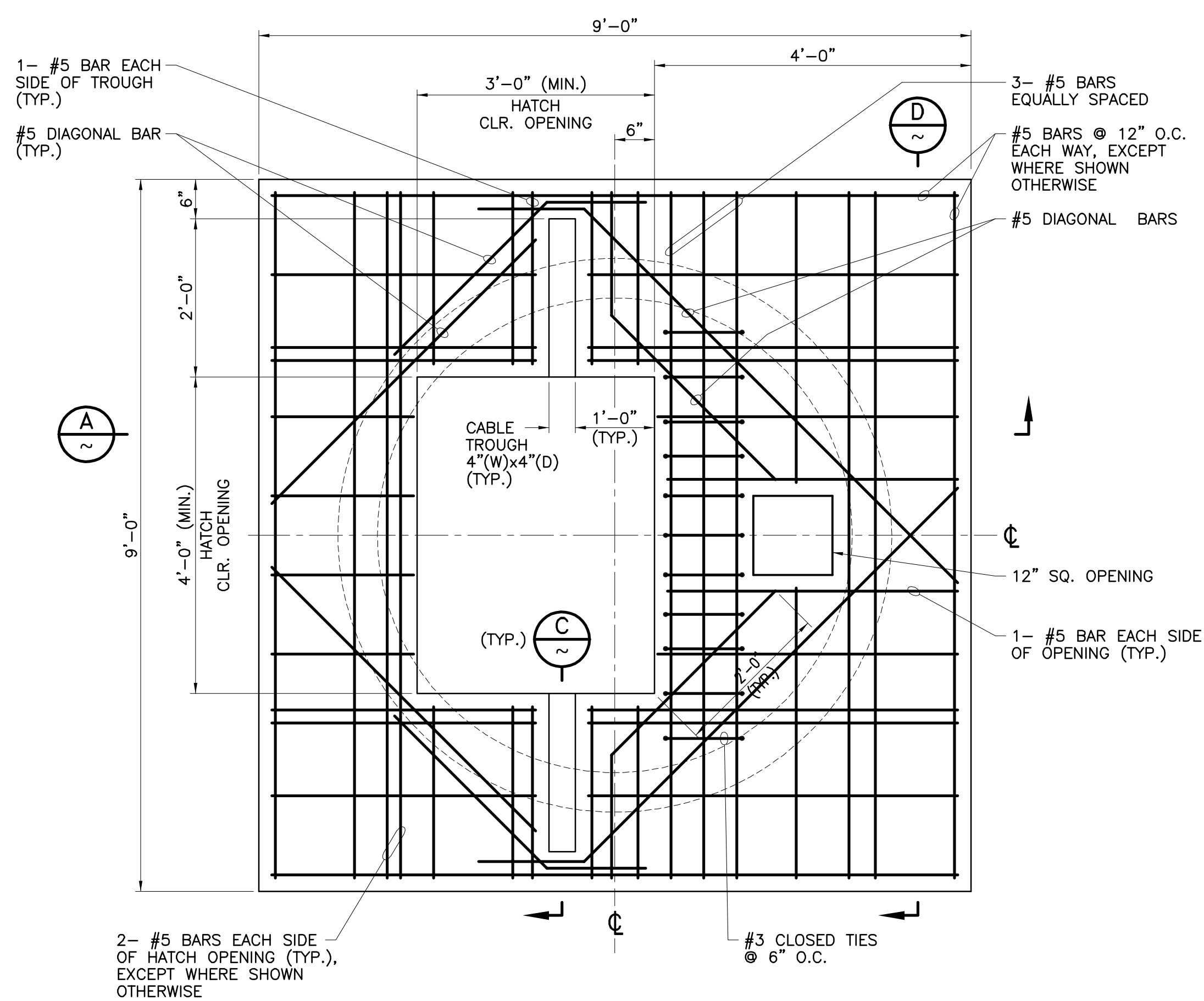
SEWAGE LIFT STATION (TRACT \_\_\_\_\_)

MISCELLANEOUS WET WELL DETAILS AND SECTIONS

I.D. \_\_\_\_\_  
S.A. \_\_\_\_\_  
W.O. \_\_\_\_\_  
C.O. \_\_\_\_\_  
COORD. \_\_\_\_\_  
SHT. OF \_\_\_\_\_  
D- \_\_\_\_\_  
M-2 \_\_\_\_\_



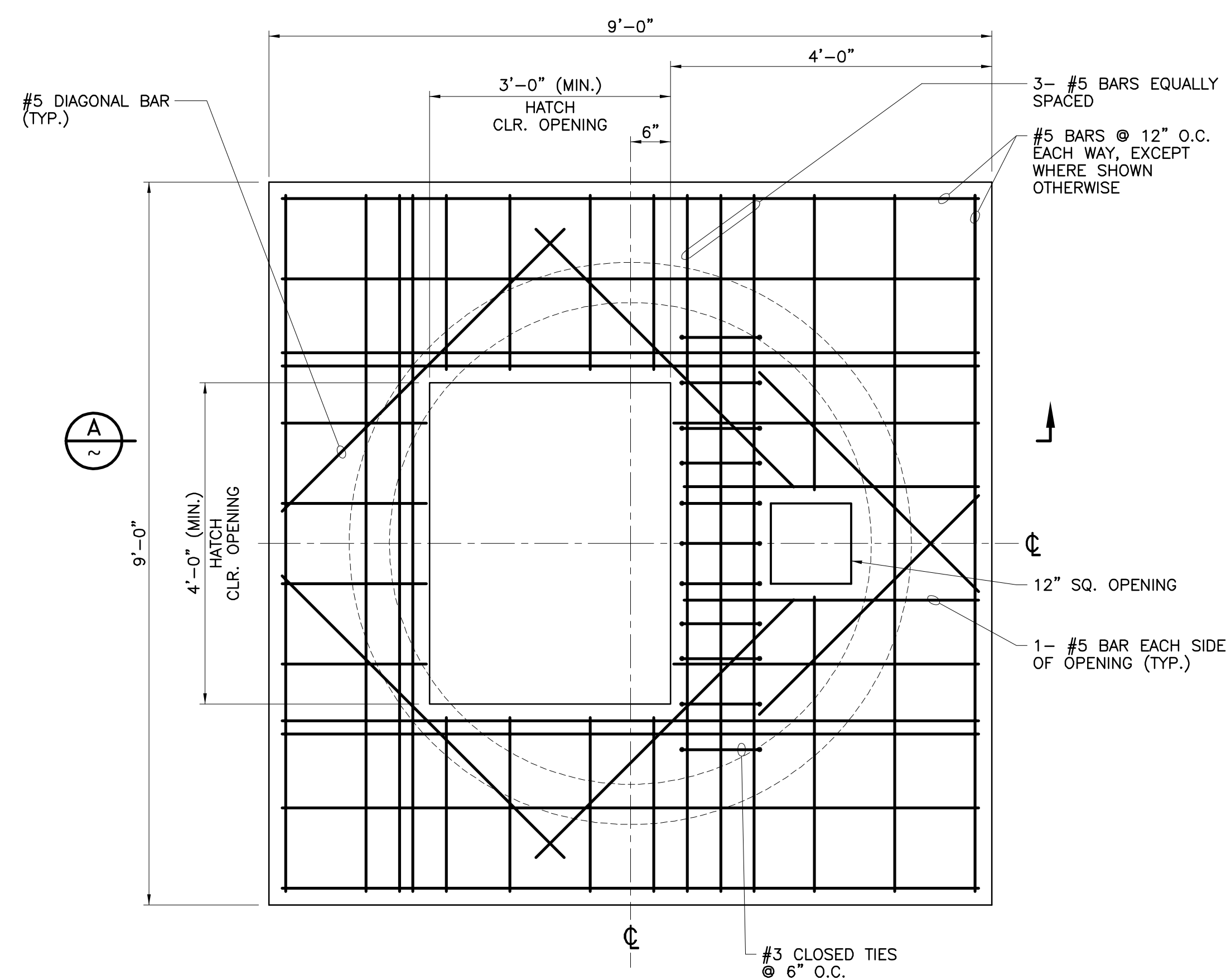
DWG. NO.: 04111-01-0310 FILE NO.: 491-53 UPDATE BY: TMM PROJ. ENG.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:41AM PLOT SCALE: 1=1



- NOTES:**
- HATCH FRAME AND CABLE TROUGH FRAME NOT SHOWN FOR CLARITY.
  - WET WELL ROOF MAY BE CAST-IN-PLACE ON TOP OF WET WELL OR IT MAY BE PRECAST ONSITE AND LIFTED INTO PLACE. FOR PRECAST ROOF, CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF ALL NECESSARY LIFTING DEVICES/SYSTEMS.

**WET WELL TOP MAT ROOF  
REINFORCING PLAN FOR 6'-0" WET WELL**

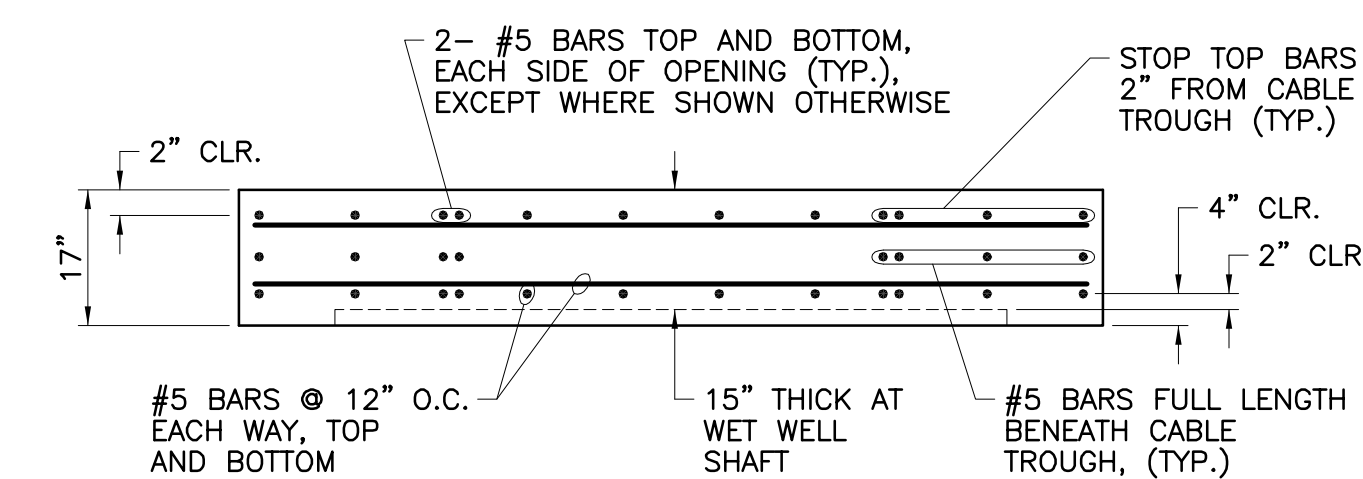
SCALE: 3/4"=1'-0"



- NOTES:**
- HATCH FRAME NOT SHOWN FOR CLARITY.
  - WET WELL ROOF MAY BE CAST-IN-PLACE ON TOP OF WET WELL OR IT MAY BE PRECAST ONSITE AND LIFTED INTO PLACE. FOR PRECAST ROOF, CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF ALL NECESSARY LIFTING DEVICES/SYSTEMS.

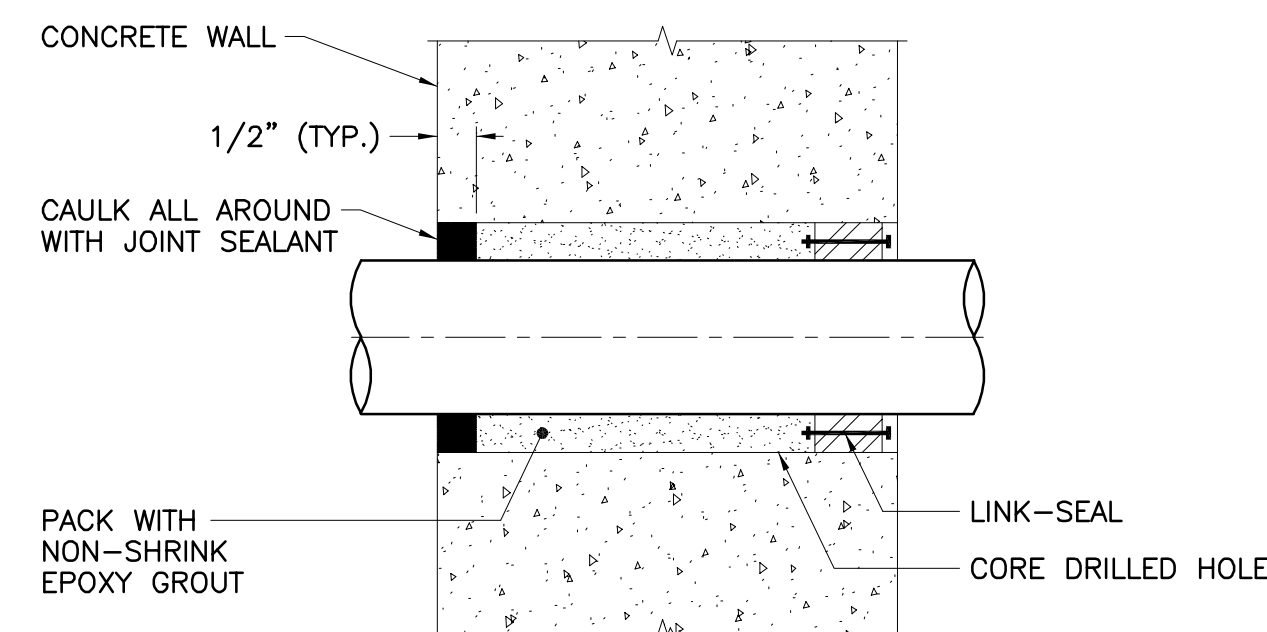
**WET WELL BOTTOM MAT ROOF  
REINFORCING PLAN FOR 6'-0" WET WELL**

SCALE: 3/4"=1'-0"



**SECTION D**

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

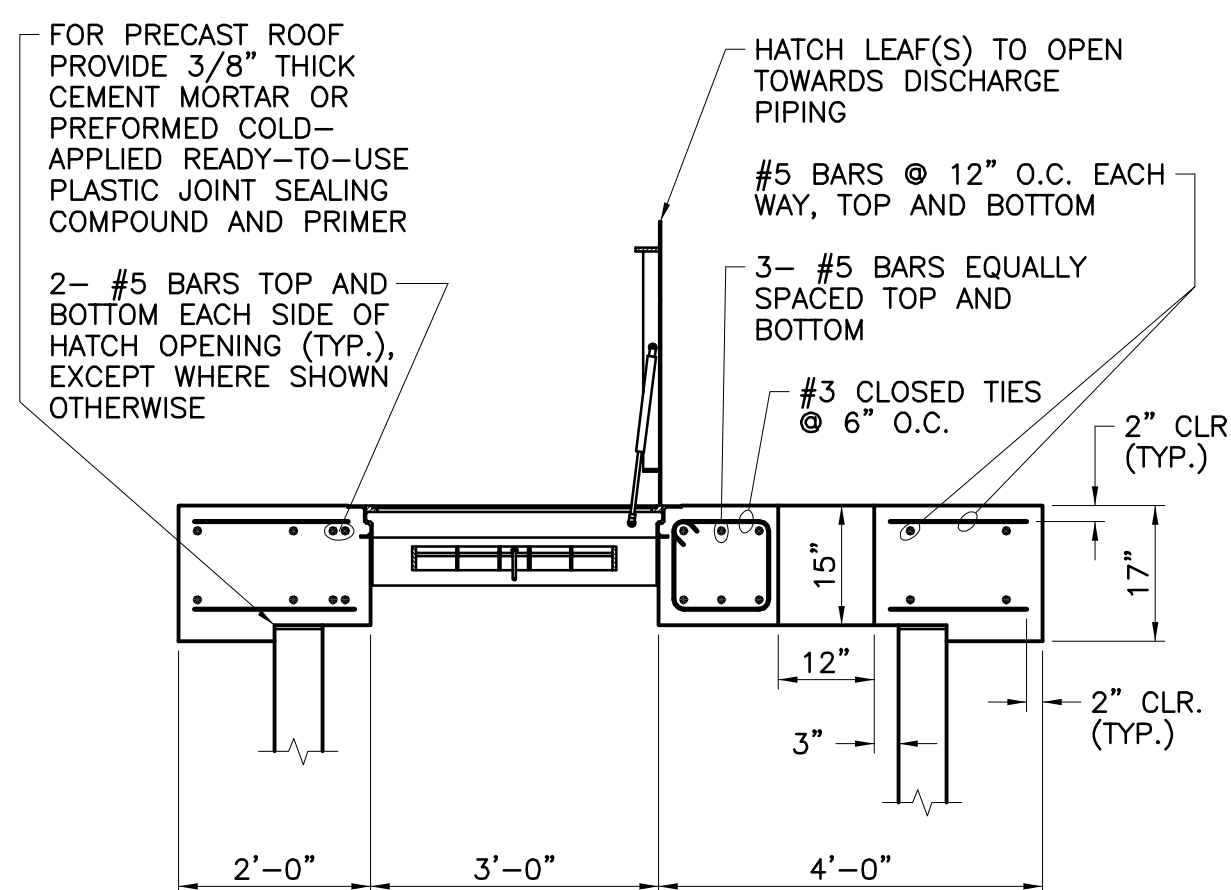


- NOTES:**
- JOINT SEALANT SHALL BE TWO COMPONENT, POLYURETHANE ELASTOMERIC SEALANT, SIKAFLEX-2C NS, AS MANUFACTURED BY SIKA, OR EQUAL. PROVIDE BACKER ROD OR TAPE AT BACK OF JOINT SEALANT.
  - LINK-SEAL SHALL BE LOCATED ON SIDE OF WALL/SLAB THAT WILL BE PERMANENTLY ACCESSIBLE. LINK-SEAL SHALL BE FOR CORROSIVE SERVICE WITH EPDM RUBBER AND STAINLESS STEEL BOLTS AND NUTS, AS MANUFACTURED BY GPT INDUSTRIES, OR EQUAL. SLEEVE DIAMETER SHALL BE PER MANUFACTURERS RECOMMENDATION.

**TYPICAL PIPE PENETRATION DETAIL**

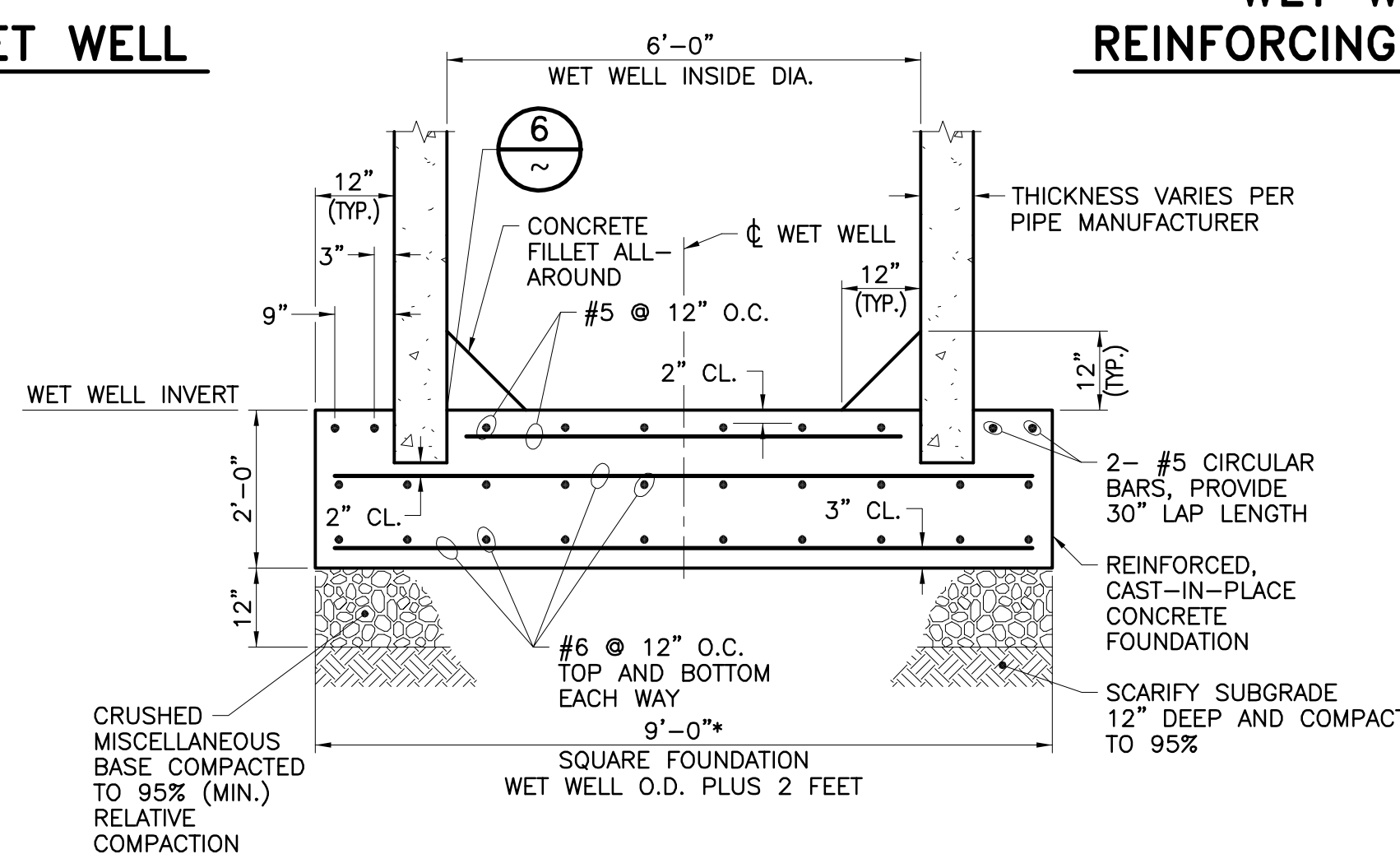
N.T.S.

5  
M-1A



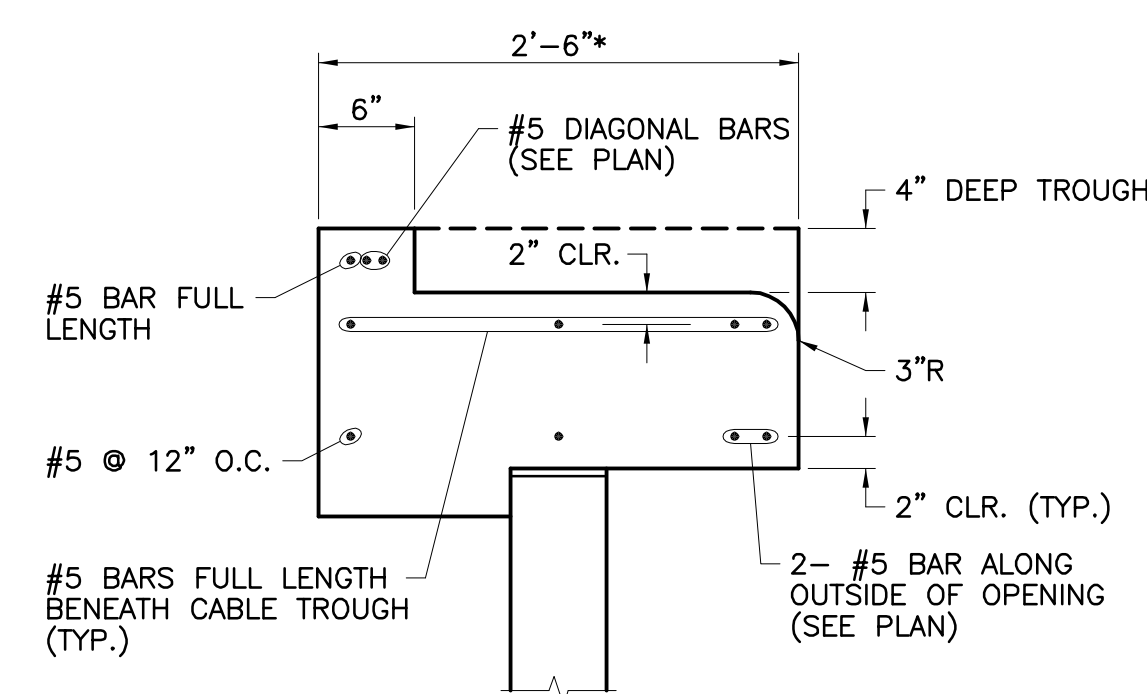
**WET WELL ROOF SECTION A**

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



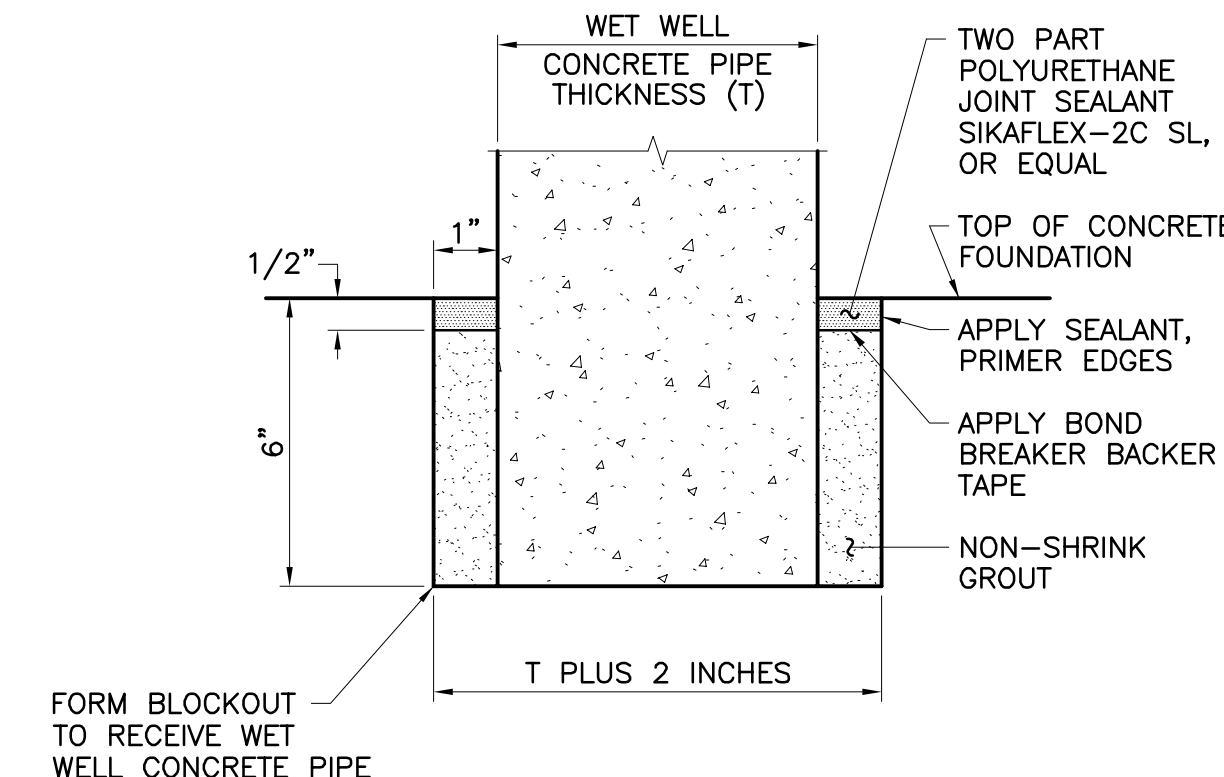
**WET WELL FOUNDATION SECTION B**

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



**SECTION C**

SCALE: 1"=1'-0"



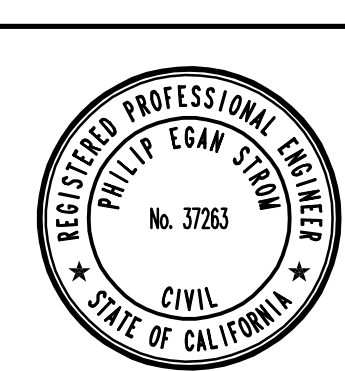
**FOUNDATION BLOCKOUT DETAIL 6**

N.T.S.

6  
M-1A

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REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED	
			DWG. DATED 05/12/16	

APPROVED BY:  
**Corey F. Wallace** 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS

JPM - JOSH P. MACPEEK KRIEGER & STEWART

EASTERN MUNICIPAL WATER DISTRICT  
**Armando G. Arroyo** 05/10/21  
PROJECT MANAGER

APPROVALS

PROJECT ENGR.	INITIAL	DATE
JPM	JPM	05/10/21
CONST. ADMIN.		
INSPECTION	BAK	05/10/21
MAINTENANCE	DB	05/10/21

DESIGNED	PES	DATE
		05/10/21
DRAWN	TMM	DATE
		05/10/21
TRACED		
CHECKED	JPM	DATE
		05/10/21
SUBMITTED		

SCALE: N/A

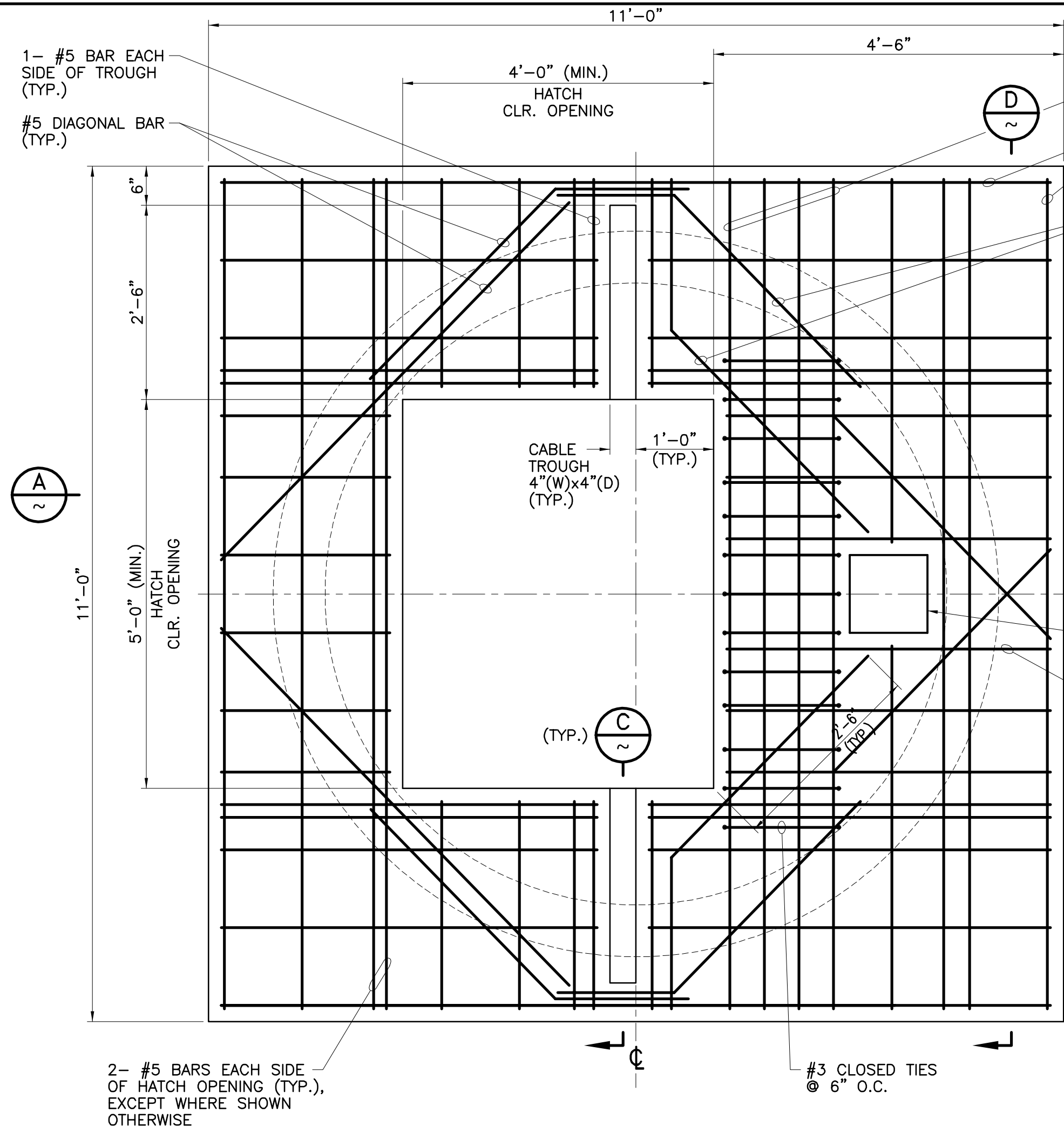
EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

SEWAGE LIFT STATION (TRACT \_\_\_\_\_)

**WET WELL STRUCTURAL PLANS,  
SECTIONS, AND DETAILS**  
(120 GPM TO 260 GPM CAPACITY)

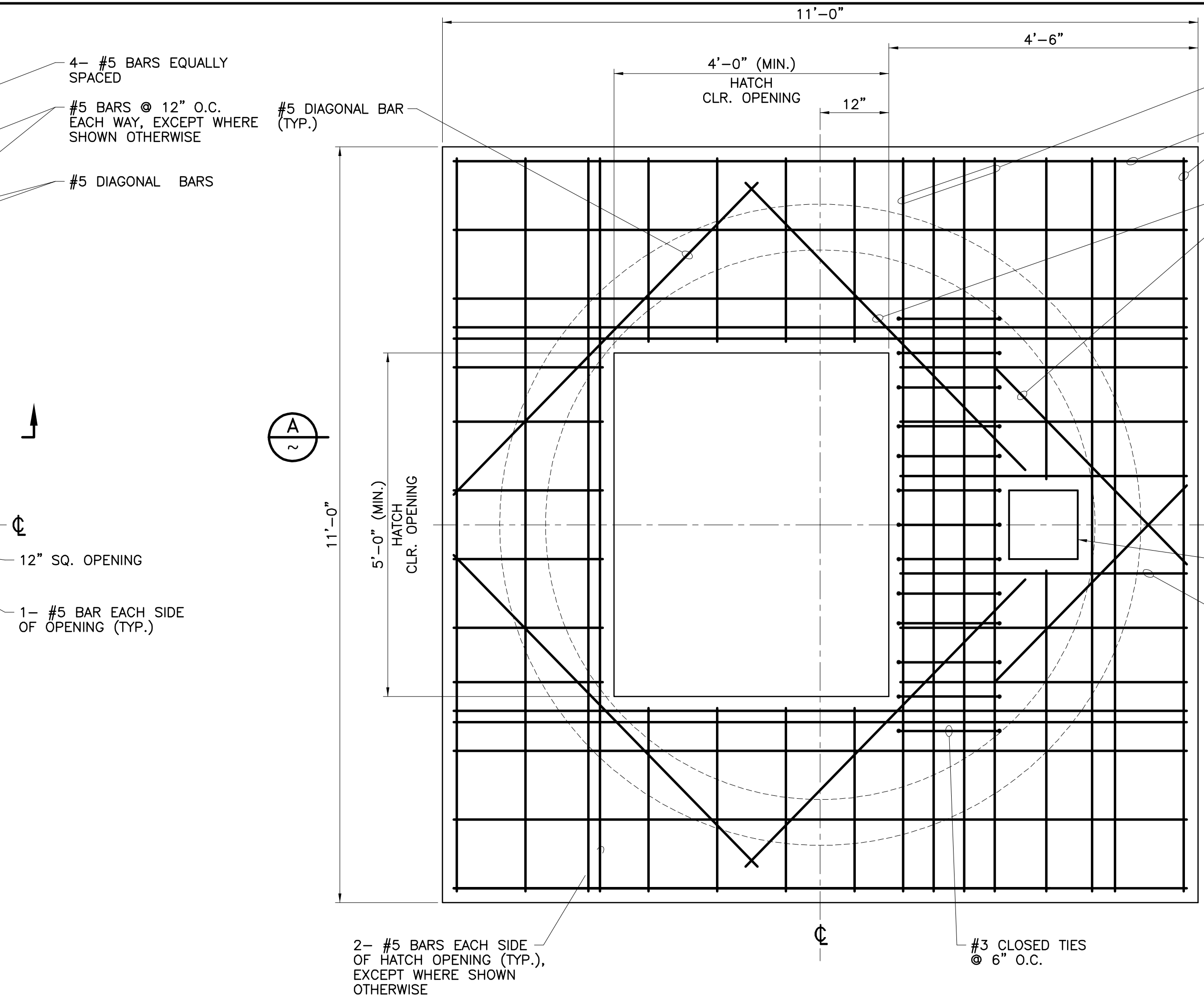
I.D.	
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W.O.	
C.O.	
COORD.	
SHT. OF	
D-	
S-1A	

DWG. NO.: 061001-01-531b FILE NO.: 491-53 UPDATE BY: TMM PROJ. ENG.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:41AM PLOT SCALE: 1"=1'



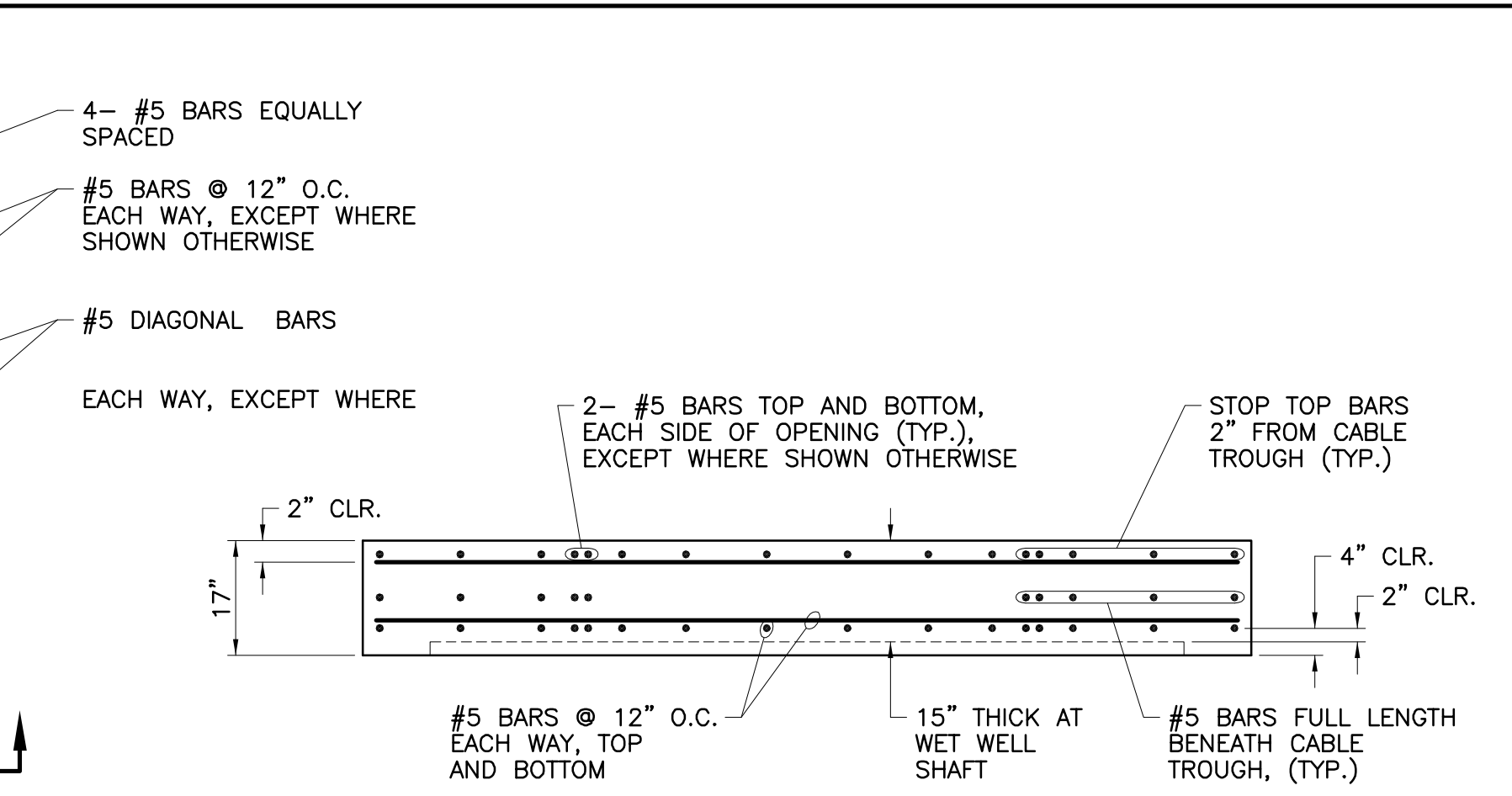
- NOTES:**
- HATCH FRAME AND CABLE TROUGH FRAME NOT SHOWN FOR CLARITY.
  - WET WELL ROOF MAY BE CAST-IN-PLACE ON TOP OF WET WELL OR IT MAY BE PRECAST ONSITE AND LIFTED INTO PLACE. FOR PRECAST ROOF, CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF ALL NECESSARY LIFTING DEVICES/SYSTEMS.

**WET WELL TOP MAT ROOF  
 REINFORCING PLAN FOR 8'-0" WET WELL**  
 SCALE: 3/4"=1'-0"

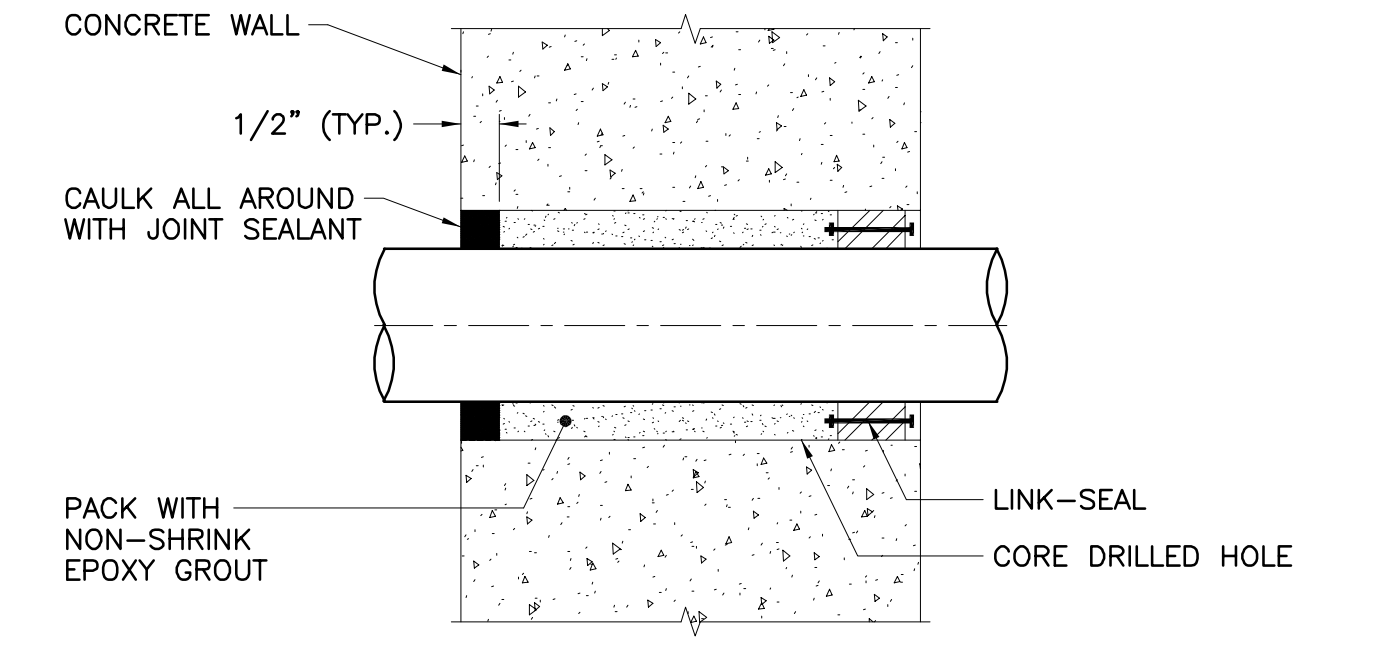


- NOTES:**
- HATCH FRAME NOT SHOWN FOR CLARITY.
  - WET WELL ROOF MAY BE CAST-IN-PLACE ON TOP OF WET WELL OR IT MAY BE PRECAST ONSITE AND LIFTED INTO PLACE. FOR PRECAST ROOF, CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF ALL NECESSARY LIFTING DEVICES/SYSTEMS.

**WET WELL BOTTOM MAT ROOF  
 REINFORCING PLAN FOR 8'-0" WET WELL**  
 SCALE: 3/4"=1'-0"

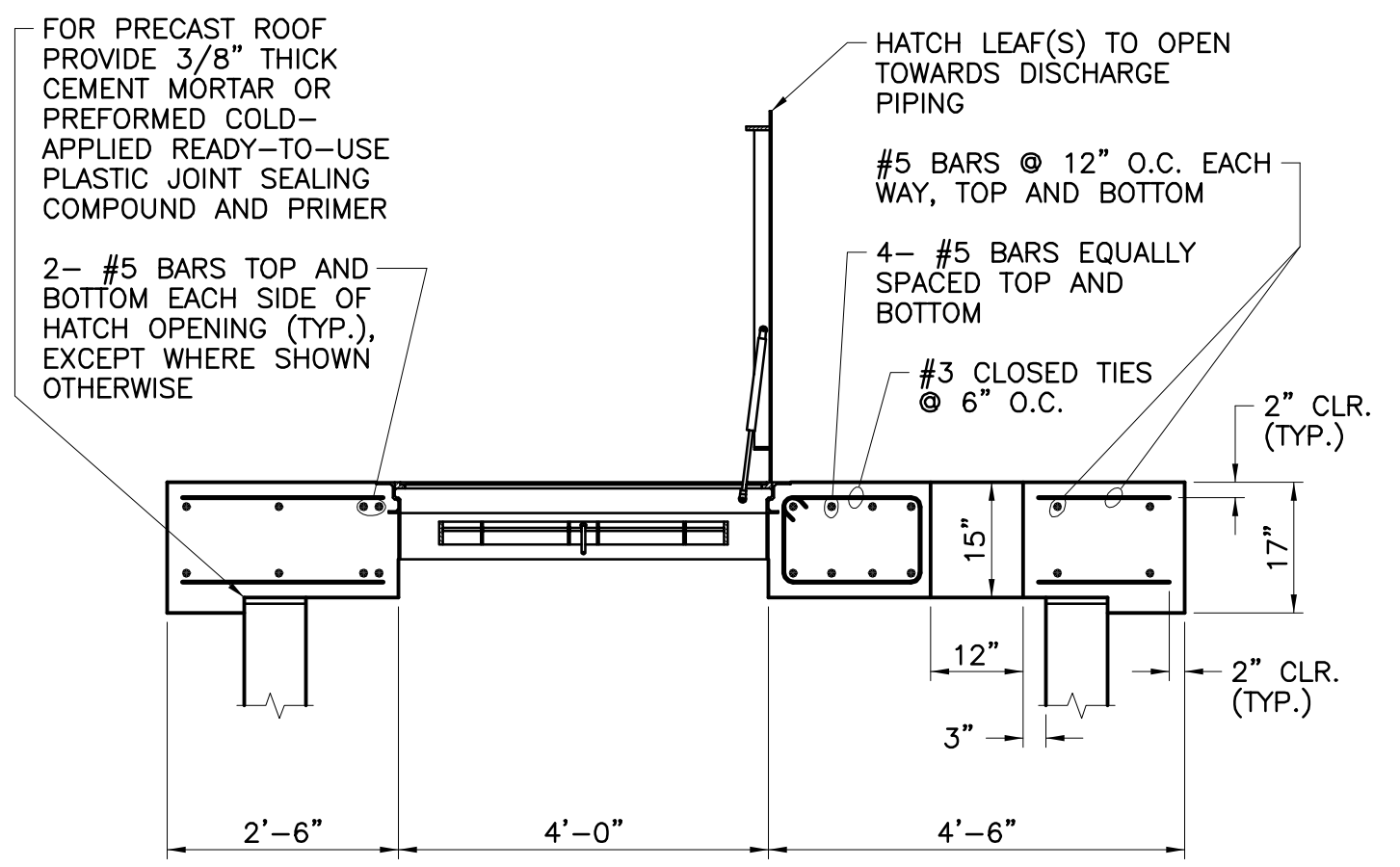


**SECTION D**  
 SCALE: 1/2"=1'-0"

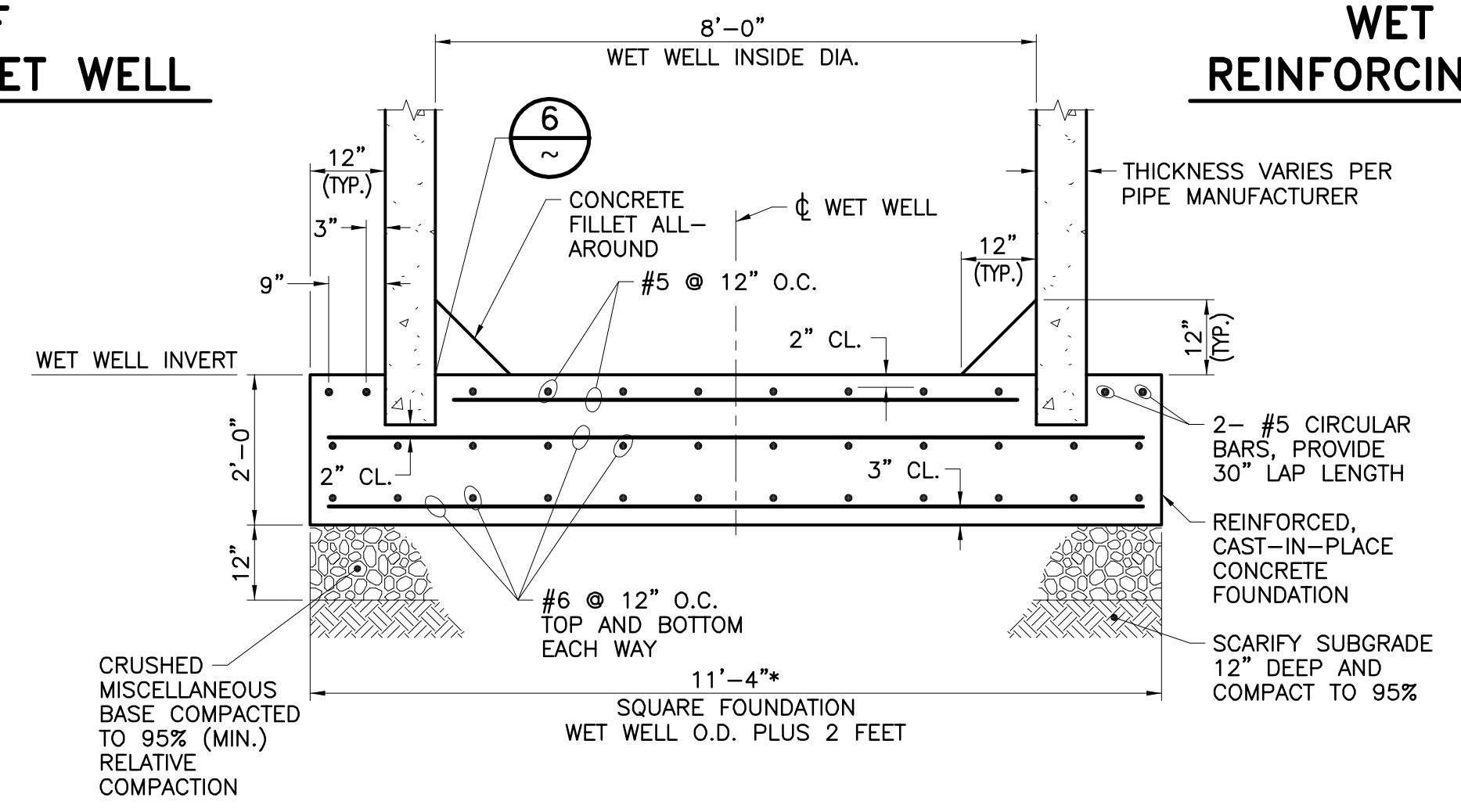


- NOTES:**
- JOINT SEALANT SHALL BE TWO COMPONENT, POLYURETHANE ELASTOMERIC SEALANT, SIKAFLEX-2C NS, AS MANUFACTURED BY SIKA, OR EQUAL. PROVIDE BACKER ROD OR TAPE AT BACK OF JOINT SEALANT.
  - LINK-SEAL SHALL BE LOCATED ON SIDE OF WALL/SLAB THAT WILL BE PERMANENTLY ACCESSIBLE. LINK-SEAL SHALL BE FOR CORROSIIVE SERVICE WITH EPDM RUBBER AND STAINLESS STEEL BOLTS AND NUTS, AS MANUFACTURED BY GPT INDUSTRIES, OR EQUAL. SLEEVE DIAMETER SHALL BE PER MANUFACTURERS RECOMMENDATION.

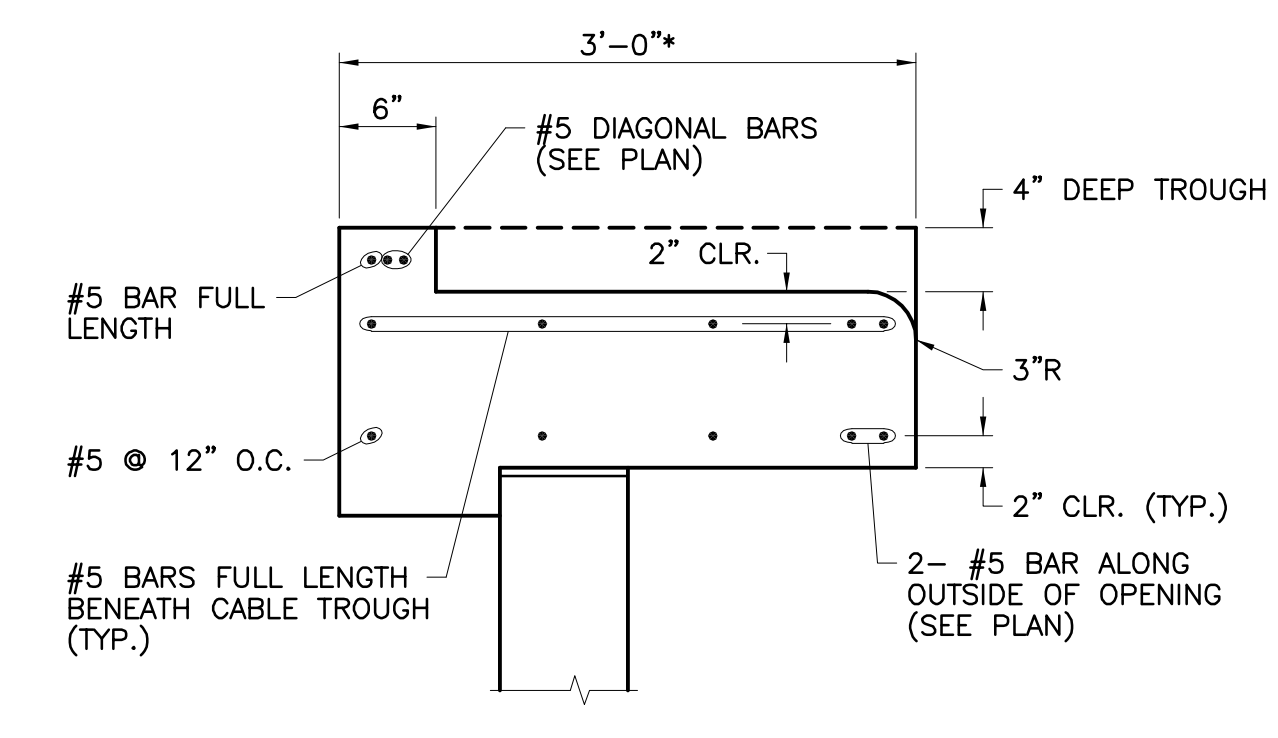
**TYPICAL PIPE PENETRATION DETAIL**  
 N.T.S.



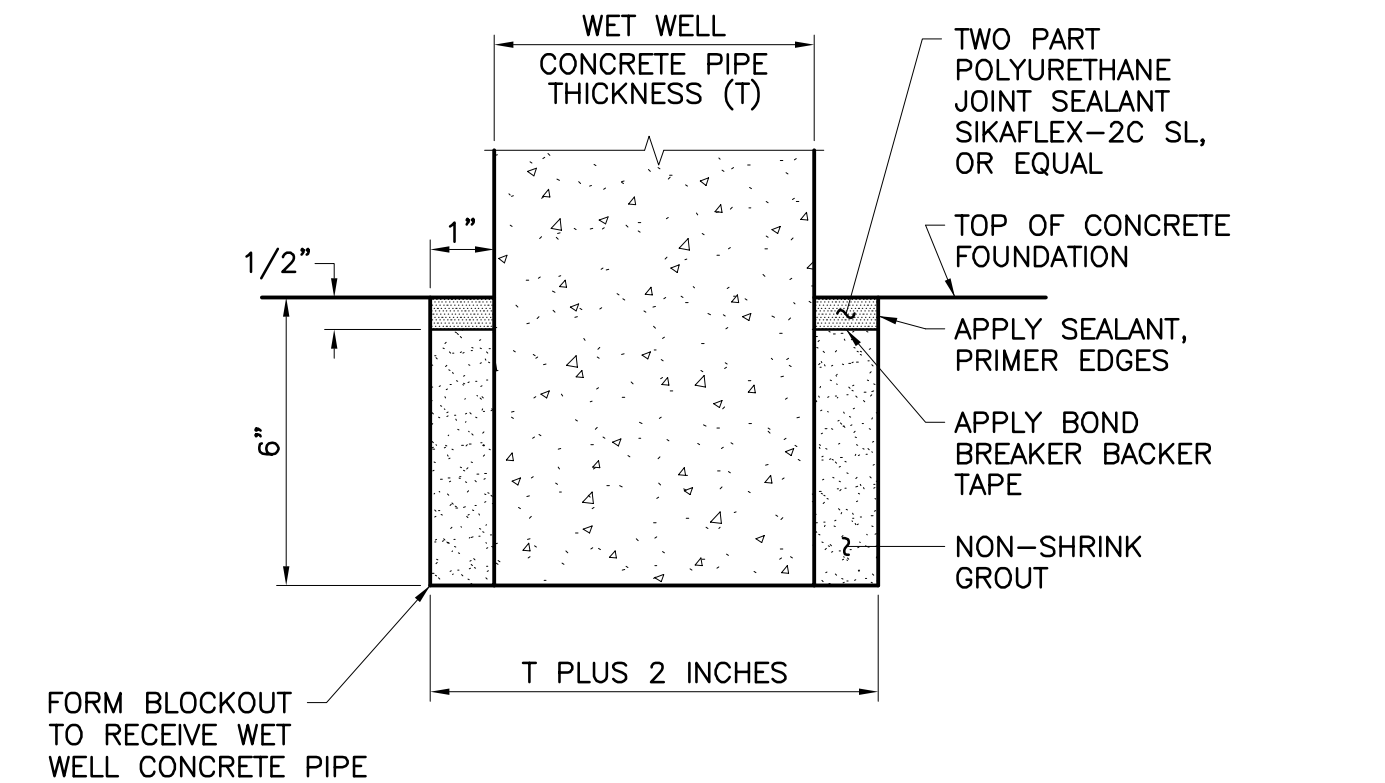
**WET WELL ROOF SECTION A**  
 SCALE: 1/2"=1'-0"



**WET WELL FOUNDATION SECTION B**  
 SCALE: 1/2"=1'-0"



**SECTION C**  
 SCALE: 1"=1'-0"



**FOUNDATION BLOCKOUT DETAIL 6**  
 N.T.S.



**K&S KRIEGER & STEWART Engineering Consultants**  
 3602 University Avenue • Riverside, CA 92501  
 www.kriegerandstewart.com • 951-684-6900  
 APPROVED BY: *Whip E. Stewart*  
 REGISTERED ENGINEER No. 37263 DATE 05/10/21



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED DWG. DATED 05/12/16	

APPROVED BY:  
**Corey F. Wallace** 05/10/21  
 DIRECTOR OF DEVELOPMENT SERVICES  
**Armando G. Arroyo** 05/10/21  
 PROJECT MANAGER  
**JPM - JOSH P. MACPEEK KRIEGER & STEWART**  
**EASTERN MUNICIPAL WATER DISTRICT**  
 REFERENCES  
 SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS

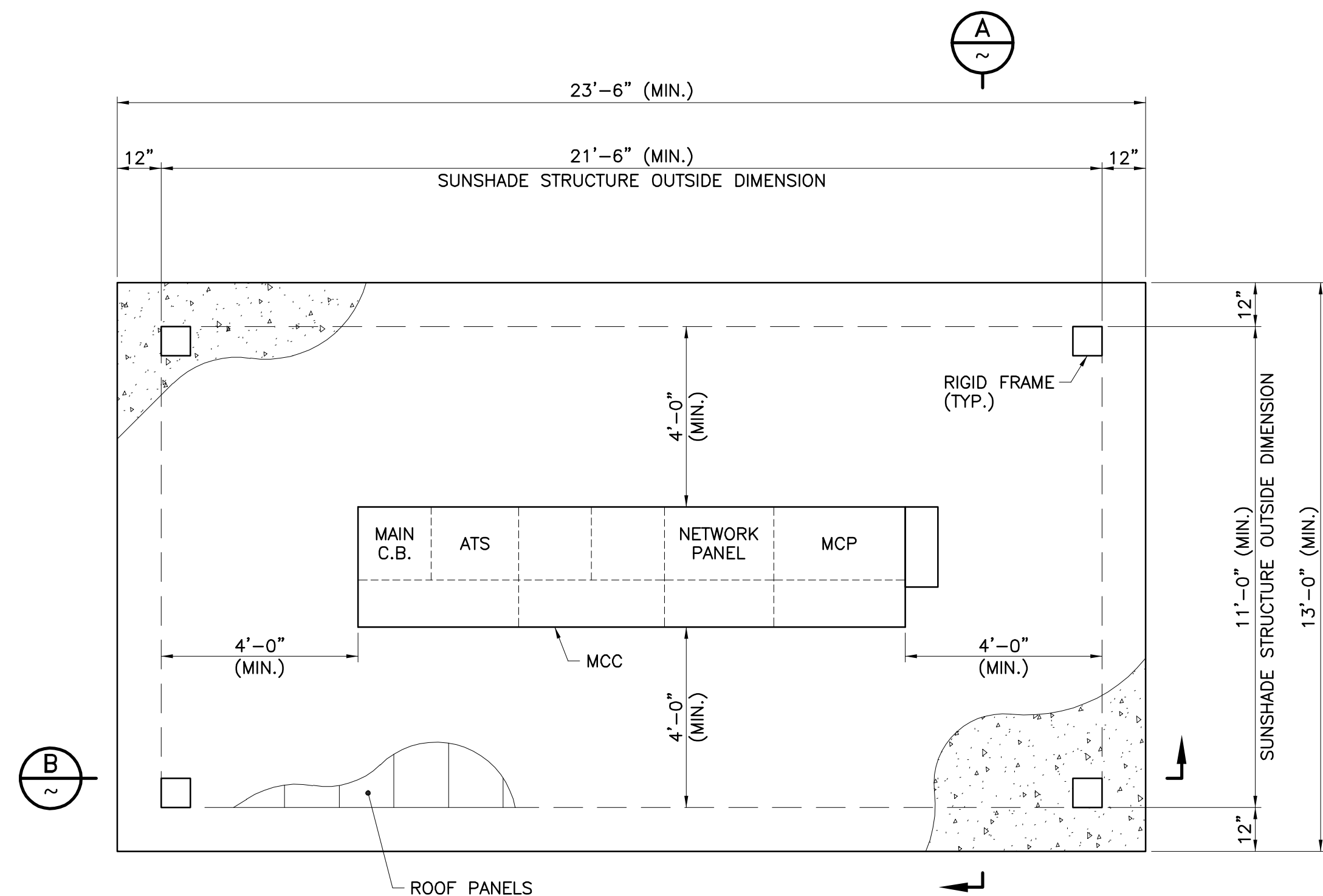
APPROVALS		DATE
PROJECT ENGR.	JPM	05/10/21
CONST. ADMIN.		
INSPECTION	BAK	05/10/21
MAINTENANCE	DB	05/10/21

DESIGNED PES 05/10/21  
 DRAWN TMM 05/10/21  
 TRACED  
 CHECKED JPM 05/10/21  
 SUBMITTED  
 SCALE: N/A

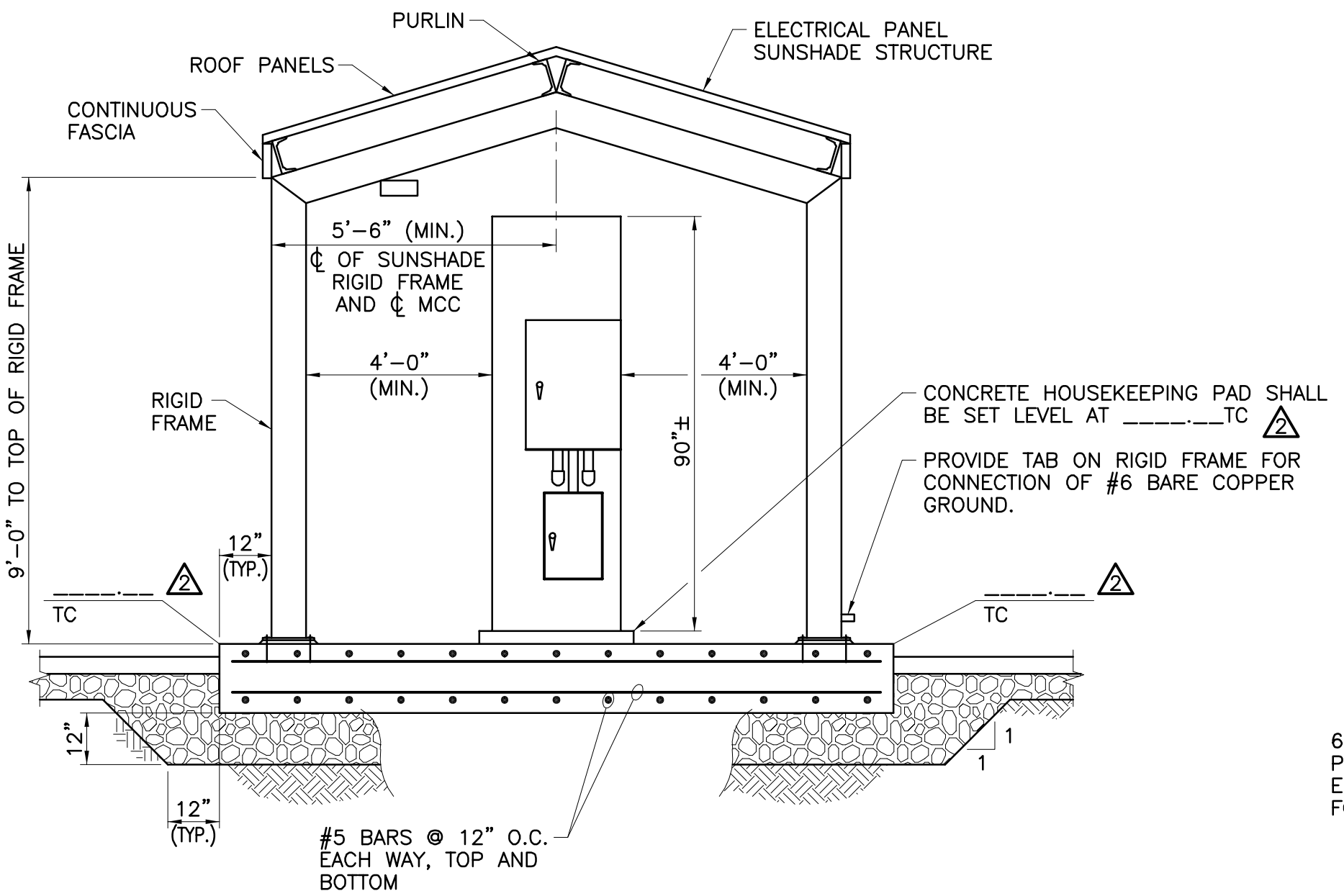
EASTERN MUNICIPAL WATER DISTRICT  
 RIVERSIDE COUNTY, CALIFORNIA  
 SEWAGE LIFT STATION (TRACT \_\_\_\_\_)  
**WET WELL STRUCTURAL PLANS, SECTIONS, AND DETAILS**  
 (260 GPM TO 500 GPM CAPACITY)

I.D.	
S.A.	
W.O.	
C.O.	
COORD.	
SHT. OF	
D-	
S-1B	

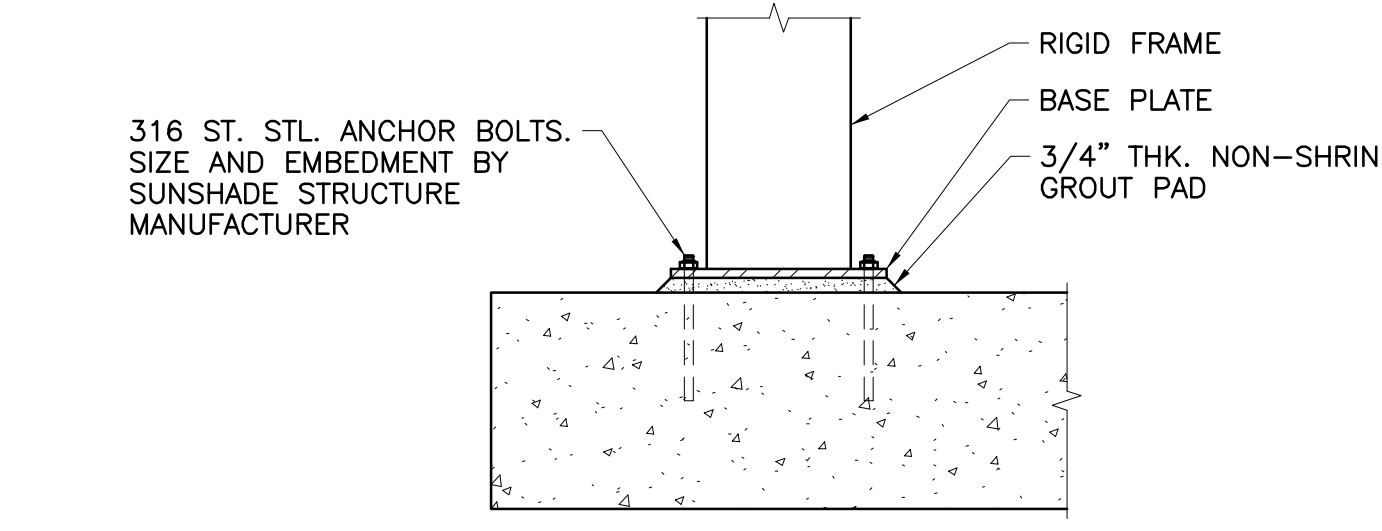
DWG. NO.: 06\_001\_481-582 FILE NO.: 491-53 UPDATE BY: TMM PROJ. ENG.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:43AM PLOT SCALE: 1=1



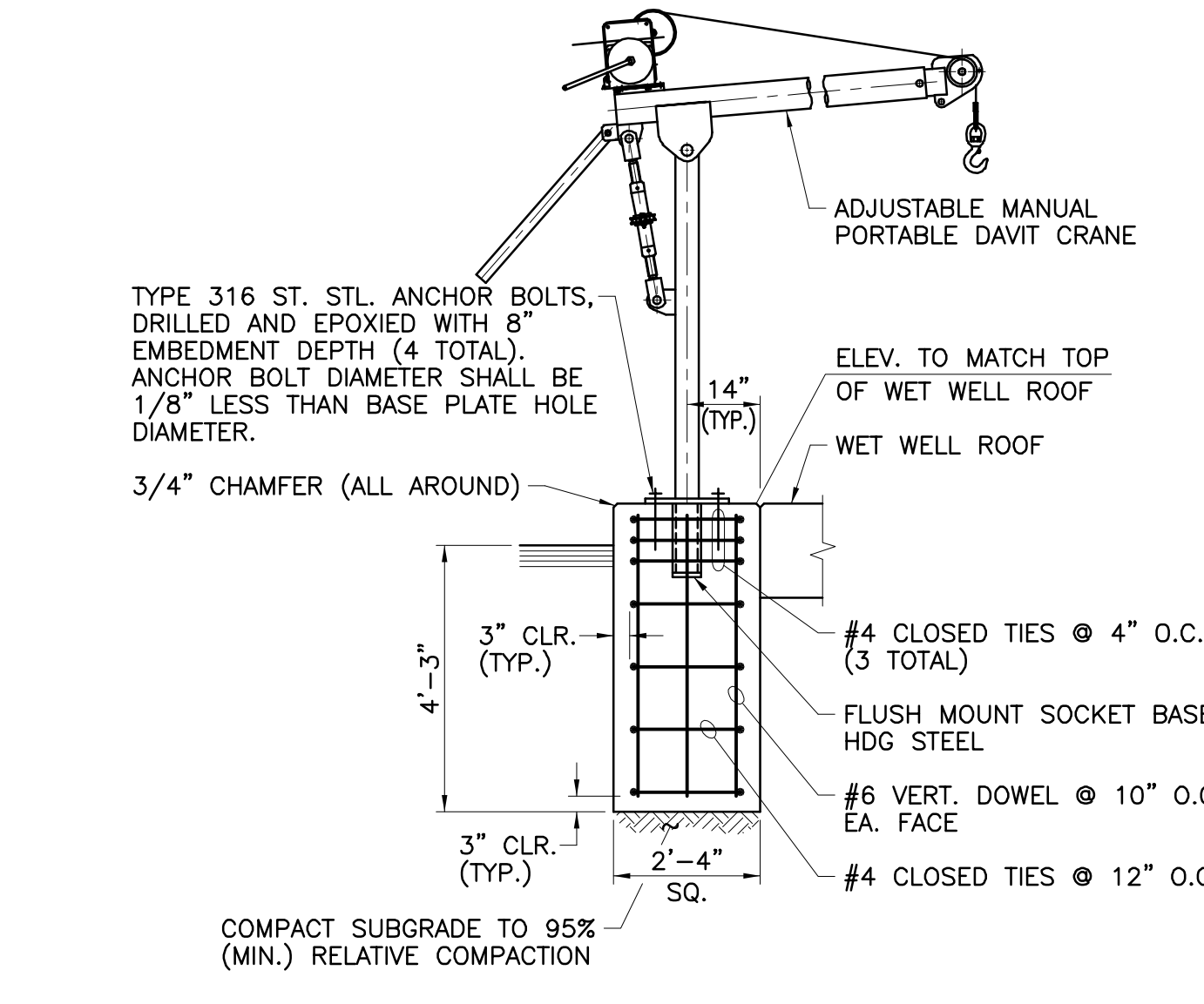
**FOUNDATION PLAN**  
SCALE: 3/8"=1'-0"



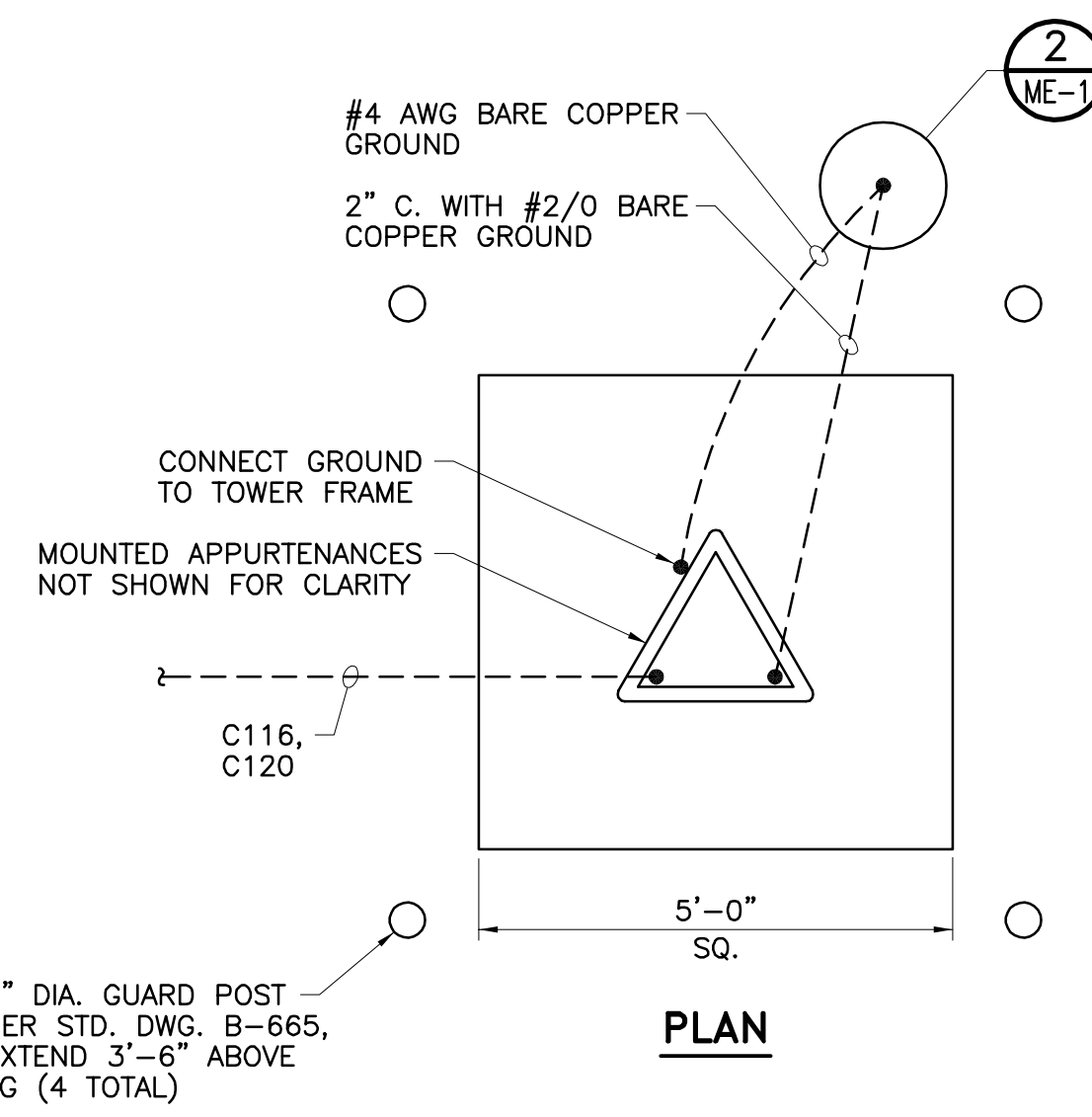
**SECTION**  
SCALE: 3/8"=1'-0"



**DETAIL**  
N.T.S.

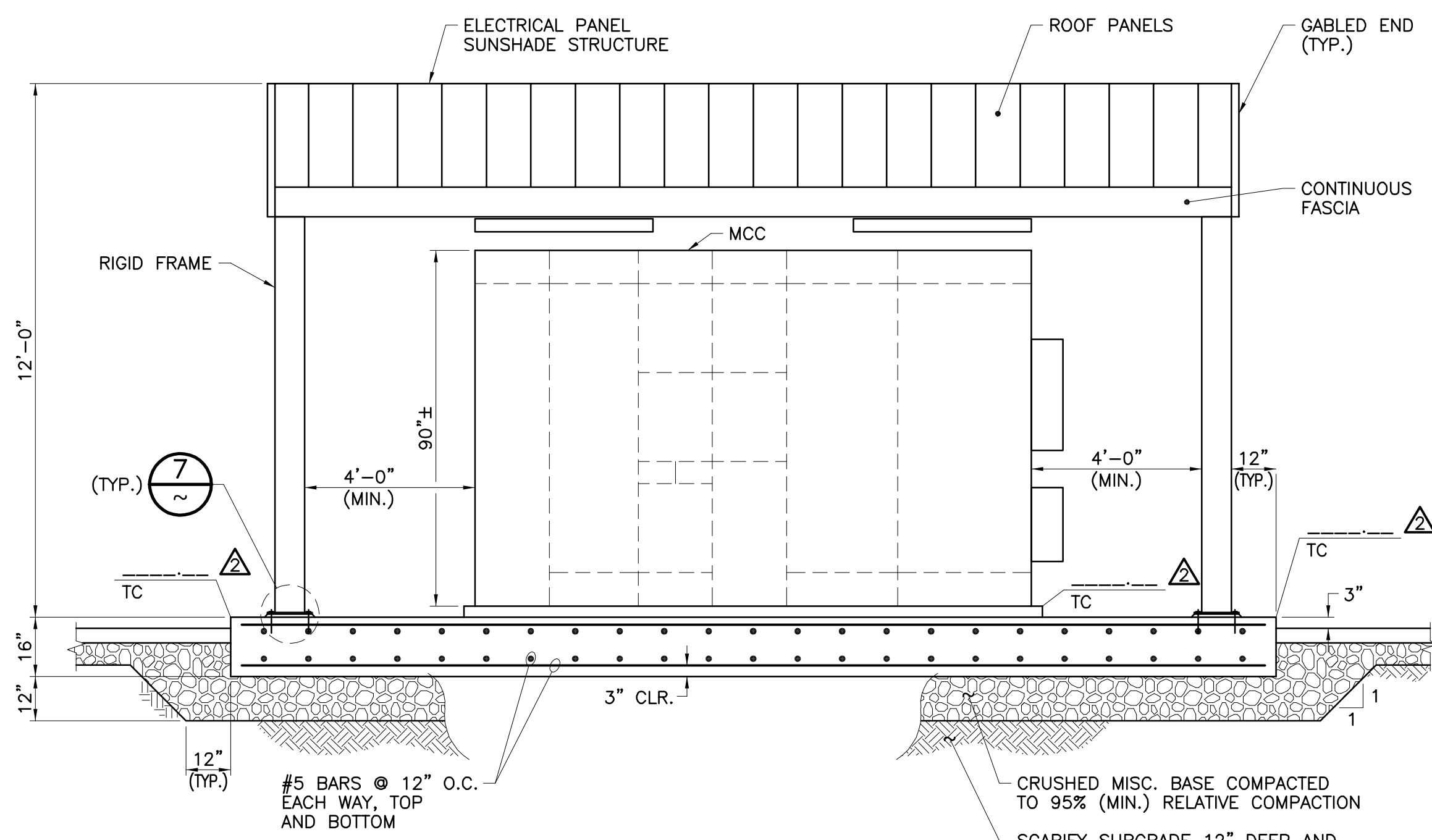


**DAVIT CRANE FOUNDATION DETAIL**  
SCALE: 3/8"=1'-0"



**PLAN**

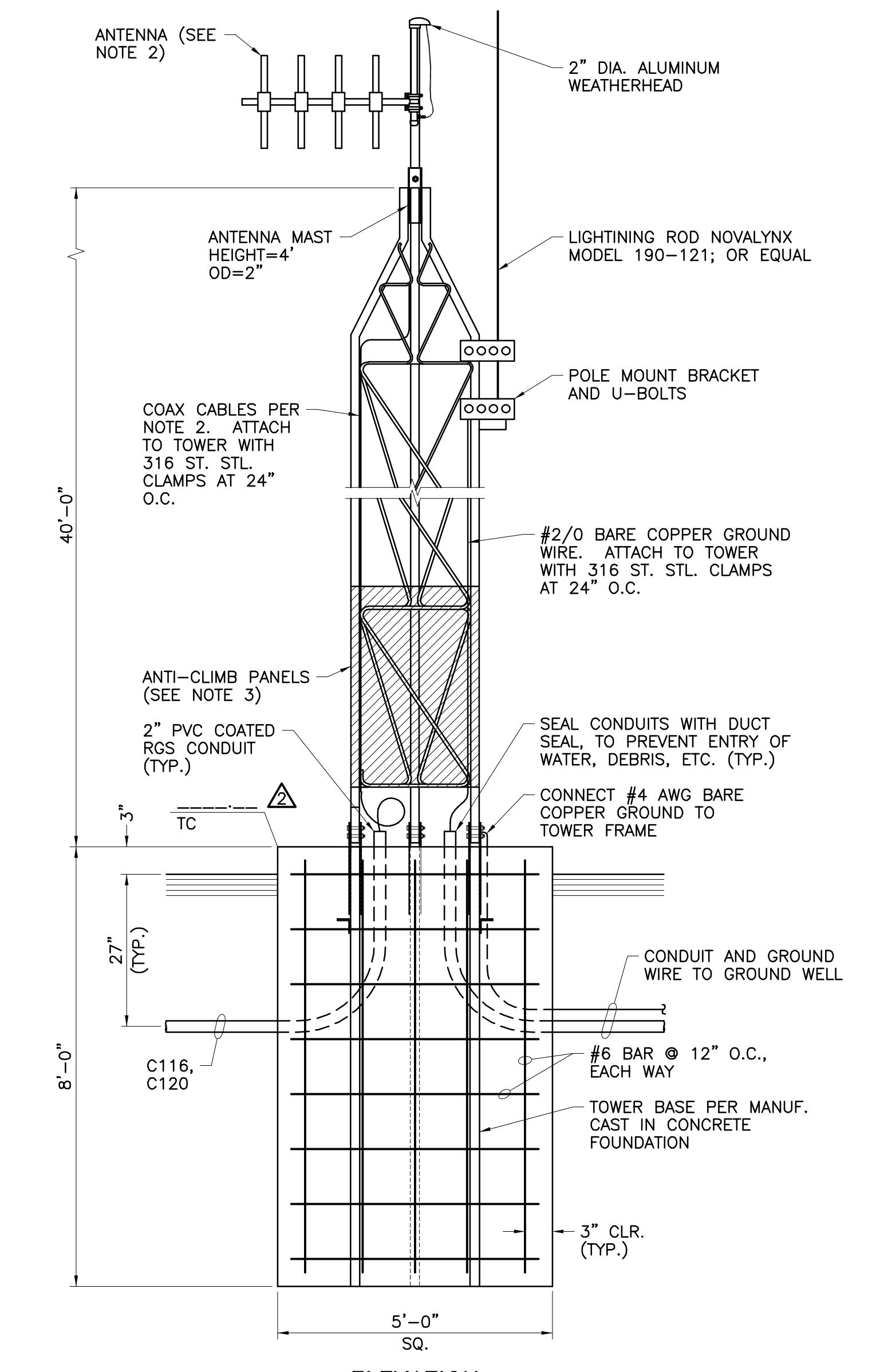
- NOTES:**
- 40' HINGED ALUMINUM FREE-STANDING TOWER, ANTENNA TOWER AND TILT BASE SHALL BE AS MANUFACTURED BY UNIVERSAL TOWERS, MODEL HD 35-40; OR APPROVED EQUAL. UNIVERSAL TOWERS 43900 GROESBECK HWY., CLINTON TOWNSHIP, MICHIGAN TEL: (586) 463-2560.
  - ANTENNA AND COAX CABLES TO BE SUPPLIED BY THE DISTRICT.
  - PROVIDE 10' ANTI-CLIMB PANELS NEAR THE BOTTOM OF THE RADIO TOWER. SECURE THE PANELS WITH STAINLESS STEEL HARDWARE.
  - FOUNDATION AND REINFORCING REQUIREMENTS ARE PROVIDED FOR BIDDING PURPOSES. ANTENNA MANUFACTURER TO PROVIDE CALCULATIONS STAMPED BY A REGISTERED ENGINEER IN CALIFORNIA TO VERIFY FOUNDATION REQUIREMENTS DURING CONSTRUCTION SUBMITTAL PHASE AND TO PROVIDE ANCHOR DETAILS.



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

**NOTE:**  
FOUNDATION DIMENSIONS AND REINFORCEMENT SHOWN HEREON ARE PRELIMINARY AND REPRESENT MINIMUM CONSTRUCTION REQUIREMENTS. ELECTRICAL PANEL AND SUNSHADE STRUCTURE MANUFACTURER SHALL DESIGN SUNSHADE STRUCTURE AND FOUNDATION, INCLUDING CONNECTIONS AND ANCHORAGES.

CRUSHED MISC. BASE COMPACTED TO 95% (MIN.) RELATIVE COMPACTION  
SCARIFY SUBGRADE 12" DEEP AND RECOMPACT TO 95% (MIN.) RELATIVE COMPACTION



**ELEVATION**

**FREESTANDING RADIO TOWER DETAIL**  
N.T.S.

(DEVELOPER ENGINEER'S COMPANY) IS ONLY RESPONSIBLE FOR THE WORK SPECIFIED PER THE DELTA REVISION 2 CHANGES

APPROVED BY: \_\_\_\_\_  
REGISTERED ENGINEER No. \_\_\_\_\_ DATE \_\_\_\_\_

REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED	
			DWG. DATED 07/11/13	

APPROVED BY: **Corey F. Wallace** 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS

JPM - JOSH P. MACPEEK KRIEGER & STEWART

EASTERN MUNICIPAL WATER DISTRICT  
**Armando G. Arroyo** 05/10/21  
PROJECT MANAGER

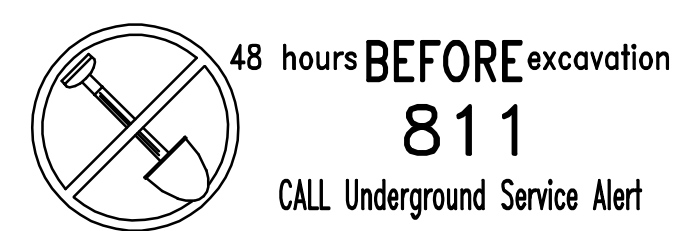
DATE	
DESIGNED	JPM 05/10/21
DRAWN	TMM 05/10/21
TRACED	
CHECKED	PES 05/10/21
SUBMITTED	

EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

SEWAGE LIFT STATION (TRACT \_\_\_\_\_)

**SUNSHADE STRUCTURE FOUNDATION PLAN, SECTIONS, AND MISCELLANEOUS DETAILS**

I.D.	
S.A.	
W.O.	
C.O.	
COORD.	
SHT. OF	
D-	
S-2	



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APPROVED BY: **Josh P. MacPeeK**  
REGISTERED ENGINEER No. 62220 DATE 05/10/21

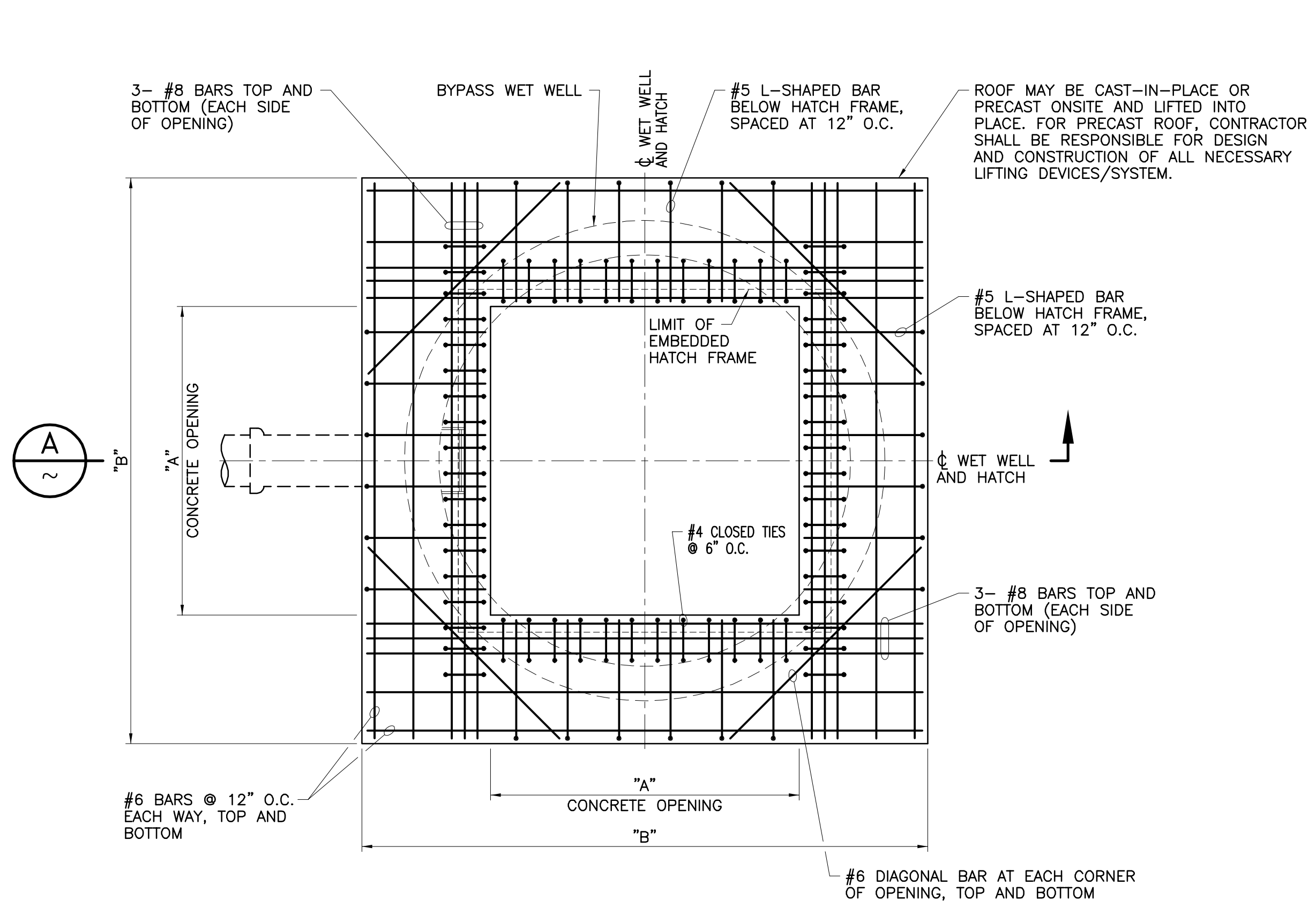


APPROVALS

SCALE: N/A



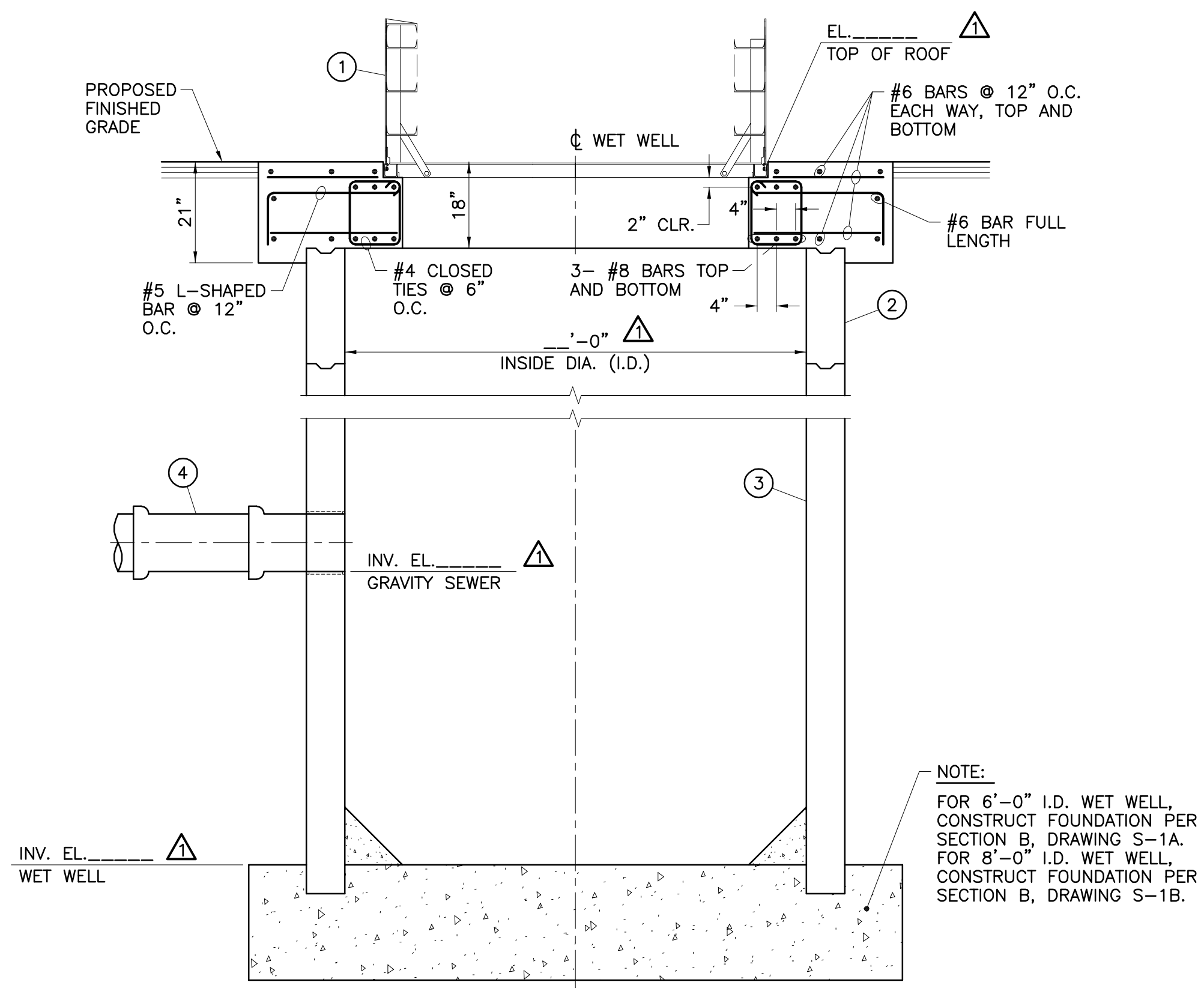
DWG. NO.: 06\_001\_481-583 FILE NO.: 491-53 UPDATE BY: TMM PROJ. ENG.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:43AM PLOT SCALE: 1=1



**BYPASS WET WELL  
STRUCTURAL ROOF PLAN**  
SCALE: 1/2"=1'-0"

BYPASS WET WELL DIMENSIONS

DIMENSION	6'-0" I.D.	8'-0" I.D.
"A"	4'-6"	6'-0"
"B"	9'-0"	11'-0"



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

- MATERIAL, EQUIPMENT, AND WORK DESCRIPTIONS FOR DRAWING S-3:**
- ACCESS HATCH—DOUBLE LEAF, ALL STAINLESS STEEL CONSTRUCTION AND DESIGNED FOR H-20-44 VEHICLE TRAFFIC LOADING.
  - REINFORCED CONCRETE LOW HEAD PRESSURE PIPE (RCPP) WITH FLUSH BELL-AND-SPIGOT JOINTS AND RUBBER GASKETS PER ASTM C-361. PIPE SECTIONS SHALL BE MINIMUM 8' LONG, TOP SECTION LENGTH SHALL BE ADJUSTED TO ACHIEVE REQUIRED WET WELL HEIGHT.
  - COAT INTERIOR SURFACES OF BYPASS WET WELL INCLUDING RCPP AND ROOF WITH FIELD APPLIED LINING SYSTEM. APPLY LINING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
  - GRAVITY SEWER PIPE. REFER TO SITE PLAN (DWG. C-1) AND DISTRICT'S GUIDELINES FOR SEWER SYSTEMS FOR SEWER SIZE, MATERIAL, AND ORIENTATION.

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APPROVED BY: *Josh P. MacPeeck*  
REGISTERED ENGINEER No. 62220 DATE 05/10/21



(DEVELOPER ENGINEER'S COMPANY)  
IS ONLY RESPONSIBLE FOR THE WORK  
SPECIFIED PER THE DELTA REVISION 1 CHANGES

APPROVED BY: \_\_\_\_\_  
REGISTERED ENGINEER No. \_\_\_\_\_ DATE \_\_\_\_\_

REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE

APPROVED BY:  
*Corey F. Wallace* 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES DATE

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD  
DRAWINGS, AND SPECIFICATIONS

JPM - JOSH P. MACPEECK KRIEGER & STEWART

EASTERN MUNICIPAL WATER DISTRICT  
*Armando G. Arroyo* 05/10/21  
PROJECT MANAGER DATE

APPROVALS

PROJECT ENGR.	INITIAL	DATE
	JFM	05/10/21

DESIGNED			DATE		
JPM	JPM	05/10/21			
DRAWN			DATE		
TMM	TMM	05/10/21			
TRACED			DATE		
CHECKED			DATE		
PES	PES	05/10/21			
SUBMITTED			DATE		

SCALE: N/A

EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

SEWAGE LIFT STATION (TRACT \_\_\_\_\_)

**BYPASS WET WELL DETAILS**

	I.D.
	S.A.
	W.O.
	C.O.
	COORD.
	SHT. OF
	D-
	S-3



ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	NORMALLY OPEN 30 MM PUSHBUTTON WITH METAL HOUSING - MOMENTARY TYPE		AIR INTAKE LOUVER IN 3R WRAP DOOR OF MCC OR DISTRIBUTION PANEL AT BOTTOM WITH GASKETS, FILTER, AND LOUVER PLATE.
	NORMALLY OPEN INTERLOCK		TIMER, LINE VOLTAGE TYPE, 24 HOUR WITH 15 MIN. INTERVALS ON/OFF SWITCH AND MANUAL START SWITCH
	NORMALLY CLOSED INTERLOCK		NORMALLY OPEN CONTACT TIMED TO CLOSE ON ENERGIZATION
	30 MM HAND-OFF-AUTO SWITCH WITH METAL HOUSING		NORMALLY CLOSED CONTACT TIMED TO OPEN ON ENERGIZATION
	CONDUCTORS - CONNECTED		TEMPERATURE SWITCH
	CONDUCTORS - NOT CONNECTED		THERMAL OVERLOAD RELAY
	TEMPERATURE SWITCH NORMALLY CLOSED		ELAPSED TIME METER
	INLINE FUSE (CLF INDICATES CURRENT LIMITING FUSE)		MOTOR STARTER CONTACTOR, NUMBER IDENTIFIES CONTACTOR
	TRANSFORMER		RELAY, TYPE PER ABBREVIATIONS, NUMBER IDENTIFIES RELAY
	THERMAL MAGNETIC BREAKER, 255 INDICATES FRAME SIZE, 100 INDICATES TRIP SIZE, 3P INDICATES NO. OF POLES.		PRESSURE TRANSMITTER
	MOTOR (NUMBER INDICATES HORSEPOWER)		PRESSURE SWITCH
	LIGHTING FIXTURE (TYPE AND MOUNTING AS NOTED)		UNLESS NOTED OTHERWISE, DENOTES A DRY CONTACT OFF RELAY TF1 TO TERMINAL BLOCK IN MCP FOR INPUT TO TELEMETRY
	CAST METAL DEVICE BOX WITH SWITCH (1 POLE, 20A, U.N.O.). U.N.O., DEVICE BOX SHALL BE RECESSED INTO WALL (STUD, MASONRY, OR CONCRETE). WEATHERPROOF WHERE OUT-OF-DOORS. 3W DENOTES 3 WAY SWITCH. 2P DENOTES 2 POLE SWITCH, ETC.		DENOTES A CONNECTION FROM MCP TERMINAL BLOCKS TO MCC BUCKET, ATS, FIELD DEVICE OR OTHER REMOTE TERMINAL
	JUNCTION BOX, CROUSE-HINDS CAST CONDULET DEVICE BOX. WEATHER-PROOF WHERE OUT-OF-DOORS. MIN. TWO GANG SIZE WITH SOLID COVER. PROVIDE LARGER SIZE IF NECESSARY FOR SPLICING.		PUSH TO TEST 30 MM INDICATOR LIGHT WITH METAL HOUSING, ALLEN BRADLEY MODEL No. 800T-010, OR EQUAL A = AMBER R = RED G = GREEN
	CONDUIT FITTING, CROUSE-HINDS CONDULET CONDUIT OUTLET BODY.		CAST METAL DEVICE BOX WITH DUPLEX CONVENIENCE RECEPTACLE, 1 POLE (U.N.O.), 120 VOLTS AC MTG HT 18" ABOVE FLOOR (U.N.O.). (F- INDICATES FLOOR MOUNTED, H- HAZARDOUS AREA EXPLOSION PROOF, WP- OUTDOOR WEATHER PROOF, GF- GROUND FAULT INTERRUPTER). RECESS INTO STUD WALLS, MASONRY WALLS, OR CONCRETE WALLS, AND PROVIDE WEATHERPROOF BOX IF OUT-OF-DOORS.
	JUNCTION BOX, MINIMUM 4"x4"x3". PROVIDE LARGER SIZE WHERE SPECIFIED OR REQUIRED FOR CONDUCTOR SIZE. WEATHERPROOF WHERE OUT-OF-DOORS.		ELECTRICAL DUCT BANK
	SEE LIGHTING SCHEDULE HEREON		CONDUIT (3/4" MINIMUM), RUN EXPOSED
	MCC (OR DISTRIBUTION PANEL) AIR SUPPLY OR EXHAUST WITH GRILL AND FILTER.		CONDUIT (1" MINIMUM), RUN BELOW GRADE OR CONCEALED
	MCC STRIP HEATER MOUNTED IN BOTTOM PORTION OF ELECTRICAL PANEL, 150 WATT, 120 VOLT, CHROMALOX, DAYTON, OR EQUAL.		FLEXIBLE CONDUIT CONNECTION
	MCC EXHAUST FAN No.1, ETC. AT TOP OF 3R WRAP WITH GASKETS, FILTER, AND LOUVERED PLATE. 4" DIAMETER, 120 VOLT, 100 CFM (MIN.), DAYTON, HOFFMAN, OR EQUAL.		CONDUIT (3/4" MINIMUM) WITH #12 CONDUCTORS, NUMBER INDICATED EXCLUDING REQUIRED GROUND, TO LP CKT. NUMBER SHOWN.
	LINE VOLTAGE THERMOSTAT MOUNTED IN MCC OR DISTRIBUTION PANEL. COOLING TYPE FOR EXHAUST OR SUPPLY FAN WITH 15° F. DIFFERENTIAL DAYTON, CHROMALOX, OR EQUAL. HEATING TYPE FOR STRIP HEATER WITH 3° TO 10° F. DIFFERENTIAL DAYTON, CHROMALOX, OR EQUAL.		PUSHBUTTON STATION, SUBSCRIPT INDICATES FUNCTION "S/S"=START-STOP, "S/LOS"=START/LOCK-OUT STOP, "J"=JOG, "T/LOS"=TEST/LOCK-OUT STOP
	SUPPLY FAN No.1, ETC. AT BOTTOM OF MCC OR DISTRIBUTION PANEL, WITH FILTER AND GRILL 4" DIAMETER, 120 VOLT, 100 CFM (MIN.), DAYTON, HOFFMAN, OR EQUAL.		FULL VOLTAGE NON-REVERSING COMBINATION MOTOR STARTER, WITH MOTOR CIRCUIT PROTECTOR AND AIR CONTRACTORS, SIZE 0 MINIMUM WITH THERMAL OVERLOADS AND AUXILIARY CONTACTS AS REQUIRED FOR CONTROL, AND ONE SARE N.O. AND ONE SPARE N.O. SUBSCRIPT INDICATES NEMA SIZE.
			DOOR MOUNTED MAGNETIC CONTACT SWITCH. SWITCH SHALL BE CORROSION-RESISTANT, HERMETICALLY SEALED, AND SUITABLE FOR SERVICE IN MOIST OR DUSTY ENVIRONMENTS. SWITCHES SHALL BE SCREW-FASTENED, SURFACE MOUNT TYPE, AND RATED 5A AT 120 VAC. SWITCH ASSEMBLY SHALL INCLUDE COVER, SPACER, AND STAINLESS STEEL MOUNTING SCREWS.

ABBREVIATIONS

A	AMPERES, AMMETER	H/A	HAND/AUTO	OC	ON CENTER
AC	ALTERNATING CURRENT	HDG	HOT DIPPED GALVANIZED SCH.40 STEEL CONDUIT	O.L.	OVERLOAD
AF	AMPERE FRAME	HOA	HAND/OFF/AUTO	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
AFF	ABOVE FINISHED FLOOR	HP	HORSE POWER	P	POLE, PHASE
AFRC	AIR FUEL RATIO CONTROLLER	HPS	HIGH PRESSURE SODIUM	PB	PULL BOX, PUSH BUTTON
AIC	AMPERES INTERRUPTING CAPACITY	HT	HEIGHT	PF	POWER FEEDER PER SINGLE LINE DIAGRAM
AR	ALARM RELAY	HTR	HEATER	PROVIDE	FURNISH, INSTALL & CONNECT
AT	AMPERE TRIP	HV	HIGH VOLTAGE (GENERALLY ABOVE 600V)	PT	POTENTIAL TRANSFORMER, PRESSURE TRANSDUCER
ATS	AUTOMATIC TRANSFER SWITCH	HZ	HERTZ (CYCLES PER SECOND)	PVC	POLYVINYL CHLORIDE
AUTO	AUTOMATIC	JB	JUNCTION BOX	REQD	REQUIRED
AWG	AMERICAN WIRE GAUGE	KVA	KILOVOLT-AMPERES	RGS	RIGID GALVANIZED STEEL CONDUIT
BC	BARE COPPER CONDUCTOR	KVAR	KILOVOLT-AMPERES, REACTIVE	RMS	ROOT MEAN SQUARE
BKR	BREAKER	KW	KILOWATTS	SCE	SOUTHERN CALIFORNIA EDISON
C.	CONDUIT	KWH	KILOWATT HOUR	SCH.	SCHEDULE
C101	CONDUIT No.101 WITH CONTROL POWER CONDUCTORS	L	LOAD	SEC	SECONDARY, SECONDS
CB	CIRCUIT BREAKER	LED	LIGHT EMITTING DIODE	SEL	SELECTOR
CKT	CIRCUIT	LO	LUGS ONLY	SF	SUPPLY FAN
CO, C.O.	CONDUIT ONLY	LOS	LOCK-OUT STOP	SH	SHIELDED
COMPT	COMPARTMENT	LP	LIGHTING PANEL	SPEC	SPECIFICATIONS
CONC	CONCRETE	LTG	LIGHTING	SSMS	SOLID STATE MOTOR STARTER
CPT	CONTROL POWER TRANSFORMER	LV	LOW VOLTAGE (GENERALLY BELOW 600V)	SW	SWITCH
CR	CONTROL RELAY	M	MOTOR	SYM.	SYMMETRICAL
CT	CURRENT TRANSFORMER	MAX	MAXIMUM	T1	TRANSFORMER NO.1
CU	COPPER	MCC	MOTOR CONTROL CENTER	T.C.	TIME CLOSE
DC	DIRECT CURRENT	MCM	THOUSAND CIRCULAR MILLS	TDR	TIME DELAY RELAY
DET	DETAIL	MCP	MAIN CONTROL PANEL OR MOTOR CIRCUIT PROTECTOR	TEL	TELEPHONE, TELEMETRY
DIAG	DIAGRAM	MIN	MINIMUM	T.O.	TIME OPEN
DS	DISCONNECT SWITCH	MP	MOISTURE PROTECTION CONTROL MODULE	TRANSF.	TRANSFORMER
E	EMERGENCY	MR	MOTOR CONTACTOR RELAY	TS	TEMPERATURE SWITCH
EF	EXHAUST FAN	MSF	MAIN SERVICE FEEDER	TYP.	TYPICAL
EL	ELEVATION	MTD	MOUNTED	UG	UNDERGROUND
ENCL	ENCLOSURE/ENCLOSED	MTG. HT.	MOUNTING HEIGHT	UON	UNLESS OTHERWISE NOTED
EQUIP	EQUIPMENT	MTS	MANUAL TRANSFER SWITCH	VA	VOLT-AMPS
ETM	ELAPSE TIME METER	N	NORMAL	W/	WITH
FDR	FEEDER	N/A	NOT APPLICABLE	WM	WATTMETER
FLA	FULL LOAD AMPERAGE	NC	NORMALLY CLOSED	W/O	WITHOUT
FLEX	FLEXIBLE	NCTO	NORMALLY CLOSED, TIMED TO OPEN ON ENERGIZING	WP	WEATHERPROOF
FUT	FUTURE	NEC	NATIONAL ELECTRICAL CODE (LATEST EDITION)	XFMR	TRANSFORMER
G	GREEN GROUND CONDUCTOR, GENERATOR	NIC	NOT IN CONTRACT	ZS	POSITION SWITCH
GALV	GALVANIZED	NO	NORMALLY OPEN		
GF	GENERATOR FEEDER	NOTC	NORMALLY OPEN, TIMED TO CLOSE ON ENERGIZING		
GF1	GROUND FAULT INTERRUPTER	NTS	NOT TO SCALE		
GND, GRD	GROUND				

LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	DESCRIPTION	REMARKS
A	POLE MOUNTED EXTERIOR WORK LIGHT AND AREA LIGHT (15± HIGH). ONE WORK LIGHT AND ONE AREA LIGHT. WORK LIGHT SHALL BE 133W LED WITH A MINIMUM OF 16,000 LUMENS AT A KELVIN COLOR TEMPERATURE OF 4,000K. AREA LIGHT SHALL BE A LED WITH A KELVIN COLOR TEMPERATURE OF 4,000K MEETING THE REQUIREMENTS OF THE COUNTY OF RIVERSIDE ORDINANCE No.655 AND BE PROVIDED WITH A PHOTO CELL. LIGHTS SHALL BE PROVIDED WITH GASKETED SQUARE ALUMINUM HOUSING AND SHALL BE MOUNTED HORIZONTAL ON 10" ARMS WITH IMPACT RESISTANT LENS AND OPERATE ON 120VAC. WORK LIGHT AND AREA LIGHT SHALL BE MOUNTED 180 DEGREES APART ON TOP OF A 4" SQUARE STRAIGHT ALUMINUM POLE, 12' LONG. FIXTURES AND POLE SHALL BE DARK BRONZE POWDER COAT FINISH AND SHALL BE FURNISHED WITH ALL NECESSARY MOUNTING BRACKETS AND HARDWARE.	SEE DETAIL 3 ON DWG. ME-1 FOR LIGHT POLE FOUNDATION REQUIREMENTS.
B	POLE MOUNTED EXTERIOR WORK LIGHT AND AREA LIGHT (20± HIGH). ONE WORK LIGHT AND ONE AREA LIGHT. WORK LIGHT SHALL BE 133W LED WITH A MINIMUM OF 16,000 LUMENS AT A KELVIN COLOR TEMPERATURE OF 4,000K. AREA LIGHT SHALL BE A LED WITH A KELVIN COLOR TEMPERATURE OF 4,000K MEETING THE REQUIREMENTS OF THE COUNTY OF RIVERSIDE ORDINANCE No.655 AND BE PROVIDED WITH A PHOTO CELL. LIGHTS SHALL BE PROVIDED WITH GASKETED SQUARE ALUMINUM HOUSING AND SHALL BE MOUNTED HORIZONTAL ON 10" ARMS WITH IMPACT RESISTANT LENS AND OPERATE ON 120VAC. WORK LIGHT AND AREA LIGHT SHALL BE MOUNTED 180 DEGREES APART ON TOP OF A 4" SQUARE STRAIGHT ALUMINUM POLE, 18' LONG. FIXTURES AND POLE SHALL BE DARK BRONZE POWDER COAT FINISH AND SHALL BE FURNISHED WITH ALL NECESSARY MOUNTING BRACKETS AND HARDWARE.	SEE DETAIL 3 ON DWG. ME-1 FOR LIGHT POLE FOUNDATION REQUIREMENTS.
C	LED LIGHT FIXTURE, 48" LONG, 3000 LUMEN LIGHT EMISSION, MEDIUM LIGHT DISTRIBUTION, 0-10V DIMMING DRIVER, 4000K COLOR TEMPERATURE, AND 80CRI. LIGHT FIXTURE SHALL HAVE A ONE-PIECE HOUSING AND LOW PROFILE FROSTED ACRYLIC LENS/DIFFUSER WITH CONTINUOUS GASKET, STAINLESS STEEL LATCHES AND WET LOCATION FITTING. LIGHT FIXTURE SHALL BE SUITABLE FOR MULTI-VOLT POWER INPUT OPERATION ON 120VAC TO 277VAC AND RATED NEMA 4X. LIGHT FIXTURE SHALL BE SERIES FEM LED AS MANUFACTURED BY LITHONIA LIGHTING, OR EQUAL.	SEE DWG. E-6. FIXTURE SHALL BE COMPLETE WITH ALL MOUNTING HARDWARE, CONNECTORS, AND ADAPTERS. FIXTURE SHALL BE SUPPORTED BY STRUT CHANNEL, 12 GAUGE HDG STEEL, 1 5/8" x 1 5/8" (MIN.) ATTACHED TO BOTTOM OF SUNSHADE ROOF MEMBERS. ALL SUPPORT HARDWARE SHALL BE STAINLESS STEEL.

JPM - JOSH P. MACPEEK KRIEGER & STEWART

REVISIONS		APPROVED BY:	EASTERN MUNICIPAL WATER DISTRICT		EASTERN MUNICIPAL WATER DISTRICT		RIVERSIDE COUNTY, CALIFORNIA	
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE	DESIGNED	PES	DATE	I.D.
					DRAWN	TMM	05/10/21	S.A.
					TRACED			W.O.
					CHECKED	JPM	05/10/21	C.O.
					SUBMITTED			COORD.
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APPROVED BY: *[Signature]*  
REGISTERED ENGINEER No. 37263 DATE 05/10/21



REVISIONS			
NO.	DATE	INITIAL	DESCRIPTION
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED DWG. DATED 05/12/16

APPROVALS	
PROJECT ENGR.	JPM 05/10/21
CONST. ADMIN.	BAK 05/10/21
INSPECTION	DB 05/10/21
MAINTENANCE	

APPROVED BY:	
Corey F. Wallace	05/10/21
Armando G. Arroyo	05/10/21

SCALE:	
N/A	

**ELECTRICAL SYMBOLS, ABBREVIATIONS, AND LIGHTING FIXTURE SCHEDULE**

DWG. NO.: 06\_001-481-531 FILE NO.: 491-53 UPDATE BY: TMM PROJ. ENCL.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:44AM PLOT SCALE: 1=1



**SCHEDULE OF CONDUIT AND CONDUCTORS**

CONDUIT NO.	QTY.	SIZE	POWER CONDUCTORS	QTY.	SIZE	CONTROL CONDUCTORS	FROM	TO	REMARKS
MSF1			CONDUIT ONLY (C.O.)		N/A	N/A	SCE SERVICE VAULT	SCE TRANSFORMER	SIZE AND NUMBER OF CONDUITS PER SCE REQUIREMENTS
MSF2			C.O.		N/A	N/A	SCE TRANSFORMER	SERVICE PEDESTAL	SIZE AND NUMBER OF CONDUITS PER SCE REQUIREMENTS
MSF3	1	SEE TABLE	SEE TABLE				SERVICE PEDESTAL	MAIN BREAKER	SERVICE POWER TO MAIN BREAKER
MSF4			3- #4/0, 1- #4/0 GRD.		N/A	N/A	MAIN BREAKER	ATS	RUN IN WIREWAY
MSF5			3- #4/0, 1- #4/0 GRD.		N/A	N/A	ATS	MCC-BUS	
GF1	1	SEE TABLE	SEE TABLE				STANDBY GENERATOR	ATS	GENERATOR POWER TO ATS
PF1	2	SEE TABLE	SEE TABLE (3)		N/A	N/A	MCC	PUMP No.1 JUNCTION BOX	POWER FOR PUMP No.1 AND SPARE C.O.
PF2	2	SEE TABLE	SEE TABLE (3)		N/A	N/A	MCC	PUMP No.2 JUNCTION BOX	POWER FOR PUMP No.2 AND SPARE C.O.
PF3	1	1"	3- #12, 1- #12 GRD.				LIGHTING PANEL	ODOR CONTROL JUNCTION BOX	POWER FOR FUTURE ODOR CONTROL. PROVIDE 5' EXTRA CABLE LENGTH AND COIL UP IN JUNCTION BOX
C101	1	1"	2- #8, 1- #10 GRD.		N/A	N/A	LIGHTING PANEL	STANDBY GENERATOR	POWER FOR BATTERY CHARGER/JACKET WATER HEATER/ALTERNATOR SPACE HEATER
C102				1	1"	10- #14, 1- #14 GRD.	MCP	STANDBY GENERATOR	GENERATOR RUN AND FAIL ALARMS, AND SPARES (8)
C103				1	3/4"	4- #14, 1- #14 GRD.	MCP	FLOAT/TRANSMITTER JUNCTION BOX	CONTROLS FOR HWL AND HHWL FLOATS, CONNECT TO TERMINAL STRIP IN JUNCTION BOX
C104	1	3/4"	4- #12, 1- #12 GRD.		N/A	N/A	LIGHTING PANEL	OUTSIDE AREA LIGHT(S)	POWER FOR AREA LIGHT(S)
C105				2	1"	C.O.	ODOR CONTROL PAD	WET WELL	USE LONG RADIUS BENDS
C106				1	3/4"	C.O.	MCP	ODOR CONTROL PAD	FOR FUTURE EYEWASH FLOW SWITCH ALARM
C107				1	3/4"	2- #14, 1- #14 GRD.	ATS	STANDBY GENERATOR	24V GENERATOR START/STOP SIGNAL
C108				2	3/4"	C.O.	NETWORK PANEL	GATE JUNCTION BOX	SPARE CONDUITS FOR FUTURE GATE SWITCH AND SECURITY
C109				1	3/4"	C.O.	GATE JUNCTION BOX	GATE JUNCTION BOX	SPARE CONDUIT FOR FUTURE GATE SWITCH
C110	1			1	1" (4)	PER FLOW METER MANUF. (5)	MCP	FLOW METER	4-20MA INSTANTANEOUS FLOW SIGNAL
C111	1	3/4"	C.O.	1	1"	6- #14, 1- #14 GRD. (6)	MCP	PUMP No.1 JUNCTION BOX	CONTROLS FOR PUMP No.1 AND SPARE C.O.
C112	1	3/4"	C.O.	1	1"	6- #14, 1- #14 GRD. (6)	MCP	PUMP No.2 JUNCTION BOX	CONTROLS FOR PUMP No.2 AND SPARE C.O.
C113				1	2" (4)	2- 4C #18 SHIELDED TWISTED PAIR CABLE	MCP	FLOAT/TRANSMITTER JUNCTION BOX	WET WELL LEVEL, ROUTE CABLES THROUGH JUNCTION BOX
C114	1	3/4"	2- #12, 1- #12 GRD.				MCP	RECEPTACLE IN FLOAT/TRANSMITTER JB	LASER PURGE AIR COMPRESSOR POWER, LIGHTING PANEL CKT. 11
C115				1	1"	3C #16 SHIELDED CABLE	STANDBY GENERATOR	MCP	FUEL TANK LEVEL TRANSMITTER
C116				1	2"	C.O.	RADIO LIGHTING ARRESTOR PANEL	ANTENNA TOWER	ANTENNA TOWER
C117	1	3/4"	2- #12, 1- #12 GRD.		N/A	N/A	MCP	CANOPY LIGHTING	POWER FOR CANOPY LIGHTING
C118				1	1"	CAT5E CABLE	MCP	STANDBY GENERATOR	STATUS AND ALARMS (CONNECT CAT5E CABLE TO PORT 5 ON KINGFISHER)
C119					1"	C.O.	NETWORK PANEL	OUTSIDE AREA LIGHTS	SPARE CONDUIT FOR FUTURE CAMERA/SECURITY
C120					2"	C.O.	NETWORK PANEL	ANTENNA TOWER	
C121					1"	CAT6 CABLE	NETWORK PANEL	DPF EMISSIONS MONITOR CONTROLLER	
C122					1"	C.O.	NETWORK PANEL	PULLBOX IN STREET ROW	SPARE CONDUIT FOR LEASED CABLE LINE

**ELECTRICAL DESIGN CRITERIA**

REQUIRED PUMPING UNIT HP (1)	NEC MOTOR FULL LOAD AMPERAGE	MINIMUM REQUIRED STARTER SIZE (2)	MINIMUM REQUIRED CONDUIT & CONDUCTORS FOR PUMP POWER FEED (PF1, PF2) (3)	MINIMUM REQUIRED GENERATOR SIZE (7)	MINIMUM REQUIRED CONDUIT & CONDUCTORS FOR MAIN SERVICE FEED (MSF3) AND GENERATOR FEED (GF1)	TOTAL KVA
7.5	11	1	1"C., 3- #12, 1- #12 GRD	50 kW	1 1/2"C., 3- #4, 1- #4 GRD	26
10	14	1	1"C., 3- #12, 1- #12 GRD	50 kW	1 1/2"C., 3- #4, 1- #4 GRD	31
15	21	2	1"C., 3- #10, 1- #10 GRD	50 kW	1 1/2"C., 3- #2, 1- #2 GRD	42
20	27	2	1"C., 3- #8, 1- #10 GRD	100 kW	1 1/2"C., 3- #2, 1- #2 GRD	52
25	34	2	1 1/2"C., 3- #6, 1- #8 GRD	100 kW	2"C., 3- #1/0, 1- #1/0 GRD	64
30	40	3	1 1/2"C., 3- #6, 1- #8 GRD	100 kW	2"C., 3- #1/0, 1- #1/0 GRD	74
40	52	3	2"C., 3- #4, 1- #6 GRD	150 kW	2 1/2"C., 3- #2/0, 1- #2/0 GRD	94
50	65	3	2"C., 3- #2, 1- #4 GRD	150 kW	2 1/2"C., 3- #3/0, 1- #3/0 GRD	116

**NOTES:**

- PUMPING UNIT MOTOR HORSEPOWER (HP) BASED ON HYDRAULIC CONDITIONS AND SPECIFIC PUMPING UNIT FURNISHED. FOR HP NOT SPECIFIED, GO TO NEXT LARGER SIZE.
- NEMA MOTOR STARTER SIZE
- CONDUCTOR SIZE BASED ON NEC MOTOR DATA AND MAXIMUM CONDUCTOR LENGTH OF 100 FEET. TWO CONDUITS REQUIRED, ONE FOR POWER CONDUCTORS, AND ONE SPARE.
- PROVIDE RIGID HDG, PVC COATED CONDUIT.
- PROVIDE MANUFACTURER'S RECOMMENDED CABLE, CONTINUOUS FROM FLOW METER TO SIGNAL CONVERTER IN MCP WITH 1- #12 GRD.
- DESIGN ENGINEER/CONTRACTOR SHALL CONFIRM NUMBER OF CONDUCTORS REQUIRED FOR ACTUAL PUMPING EQUIPMENT FURNISHED.
- GENSET MANUFACTURER SHALL CONFIRM REQUIRED GENERATOR SIZE FOR ACTUAL EQUIPMENT FURNISHED, INCLUDING STEP STARTING OF PROPOSED PUMPS. USE ACTUAL PUMP MOTOR PERFORMANCE FOR GENSET SIZING (SKVA AND FLA).
- CONNECT 2-#14 TO GENERATOR RUN, 5-#14 TO GENERATOR COMMON FAIL, 2-#14 TO DPF HIGH PRESSURE. CONNECT REMAINING SPARES TO MCP TERMINAL STRIP.

DWG. NO.: 04-001-481-533 FILE NO.: 491-53 UPDATE BY: TMM PROJ. ENG.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:45AM PLOT SCALE: 1=1

(DEVELOPER ENGINEER'S COMPANY)  
IS ONLY RESPONSIBLE FOR THE WORK  
SPECIFIED PER THE DELTA REVISION 2 CHANGES

APPROVED BY \_\_\_\_\_  
REGISTERED ENGINEER No. \_\_\_\_\_ DATE \_\_\_\_\_

JPM - JOSH P. MACPEEK KRIEGER & STEWART



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Engineering Consultants  
3602 University Avenue • Riverside, CA 92501  
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APPROVED BY *[Signature]*  
REGISTERED ENGINEER No. 37263 DATE 05/10/21



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED	<i>[Signature]</i> 05/10/21
			DWG. DATED 05/12/16	

APPROVED BY:  
*Corey F. Wallace* 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES DATE

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD  
DRAWINGS, AND SPECIFICATIONS

EASTERN MUNICIPAL WATER DISTRICT  
*Armando G. Arroyo* 05/10/21  
PROJECT MANAGER DATE

APPROVALS

PROJECT ENGR.	INITIAL	DATE
JPM		05/10/21
BAK		05/10/21
DB		05/10/21

DESIGNED	PES	DATE
		05/10/21
DRAWN	TMM	DATE
		05/10/21
TRACED	JPM	DATE
		05/10/21
CHECKED	JPM	DATE
		05/10/21
SUBMITTED		DATE

SCALE: N/A

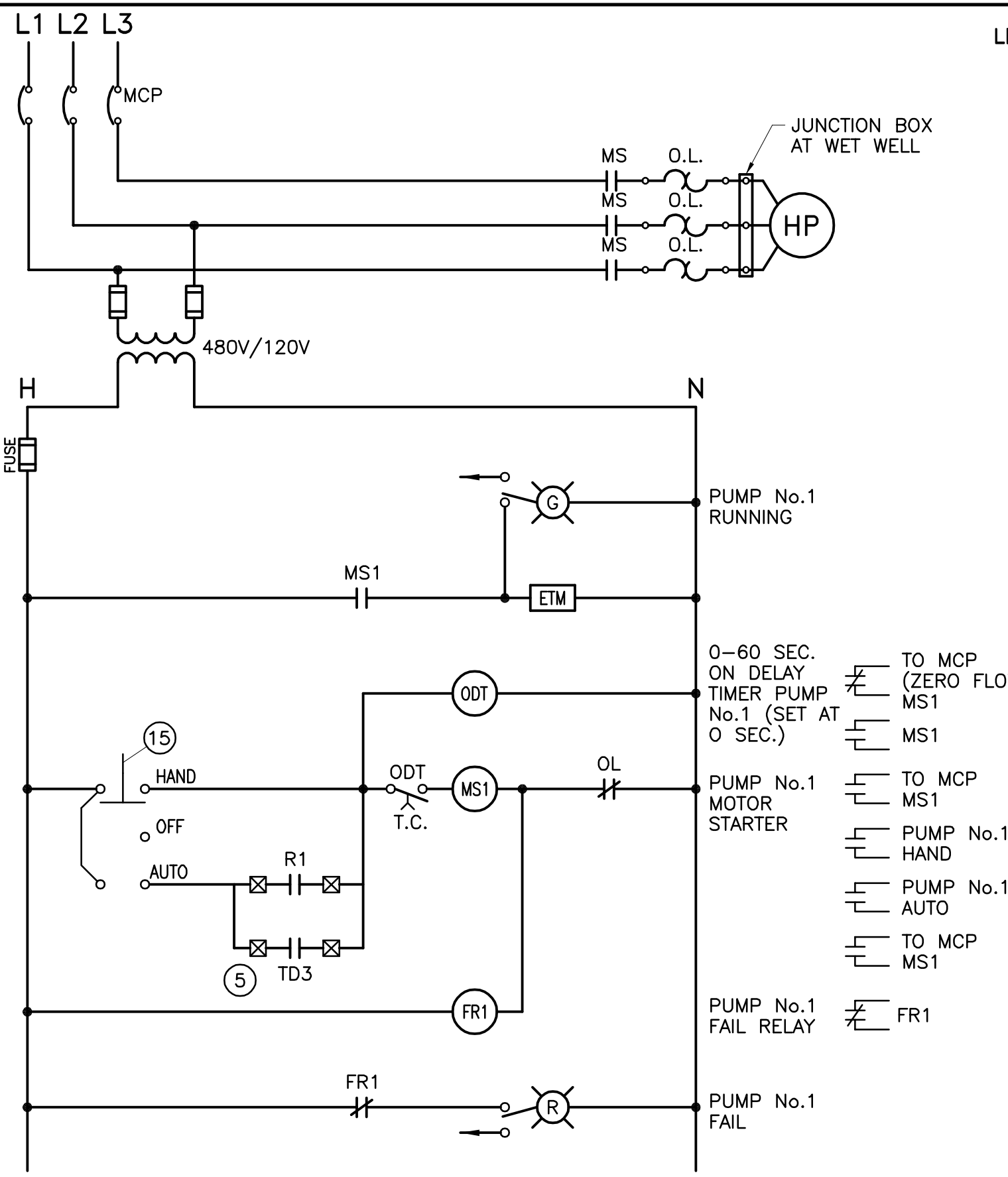
EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

SEWAGE LIFT STATION (TRACT \_\_\_\_\_)

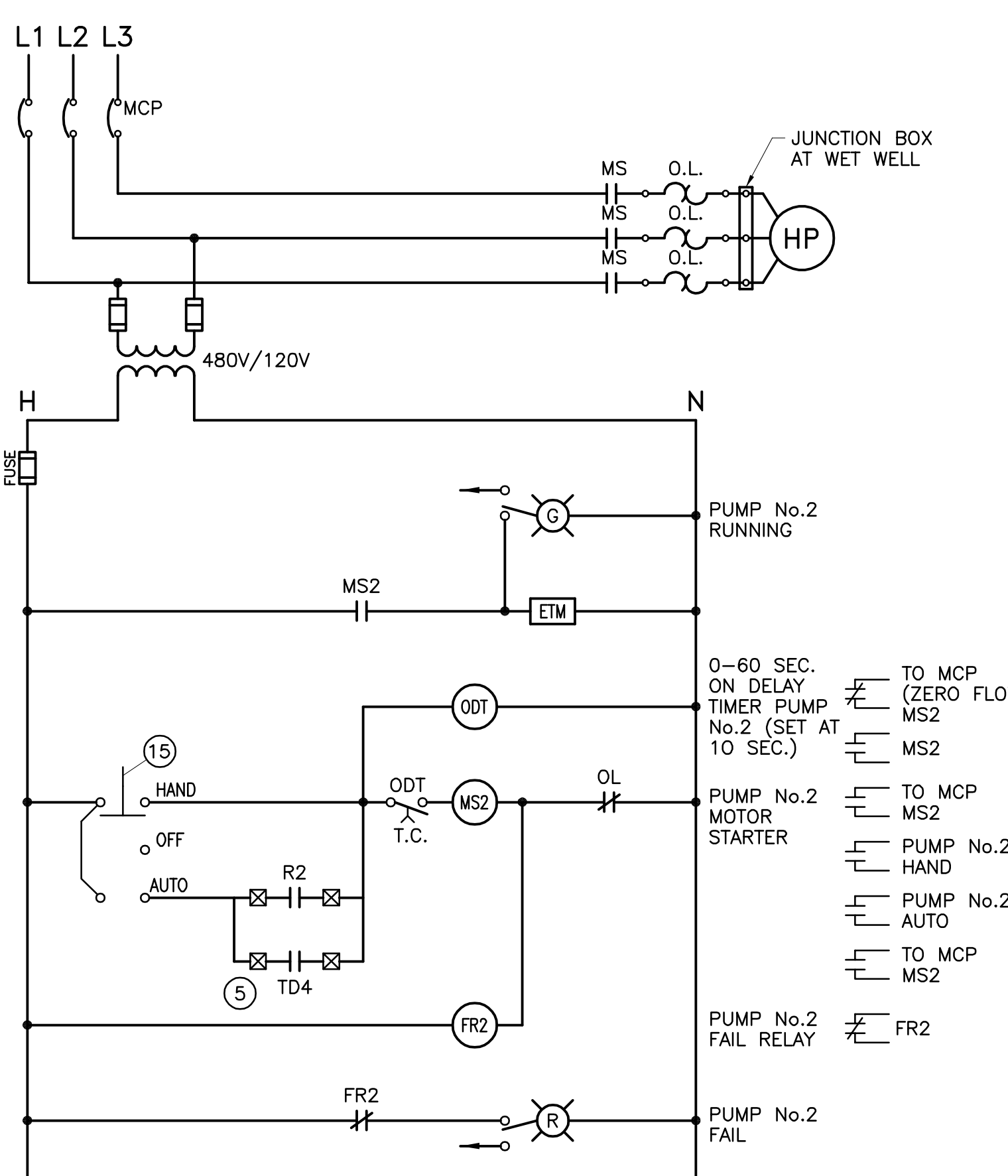
**SCHEDULE OF CONDUIT AND CONDUCTORS**

I.D. \_\_\_\_\_  
S.A. \_\_\_\_\_  
W.O. \_\_\_\_\_  
C.O. \_\_\_\_\_  
COORD. \_\_\_\_\_  
SHT. \_\_\_\_\_ OF \_\_\_\_\_  
D- \_\_\_\_\_  
E-3

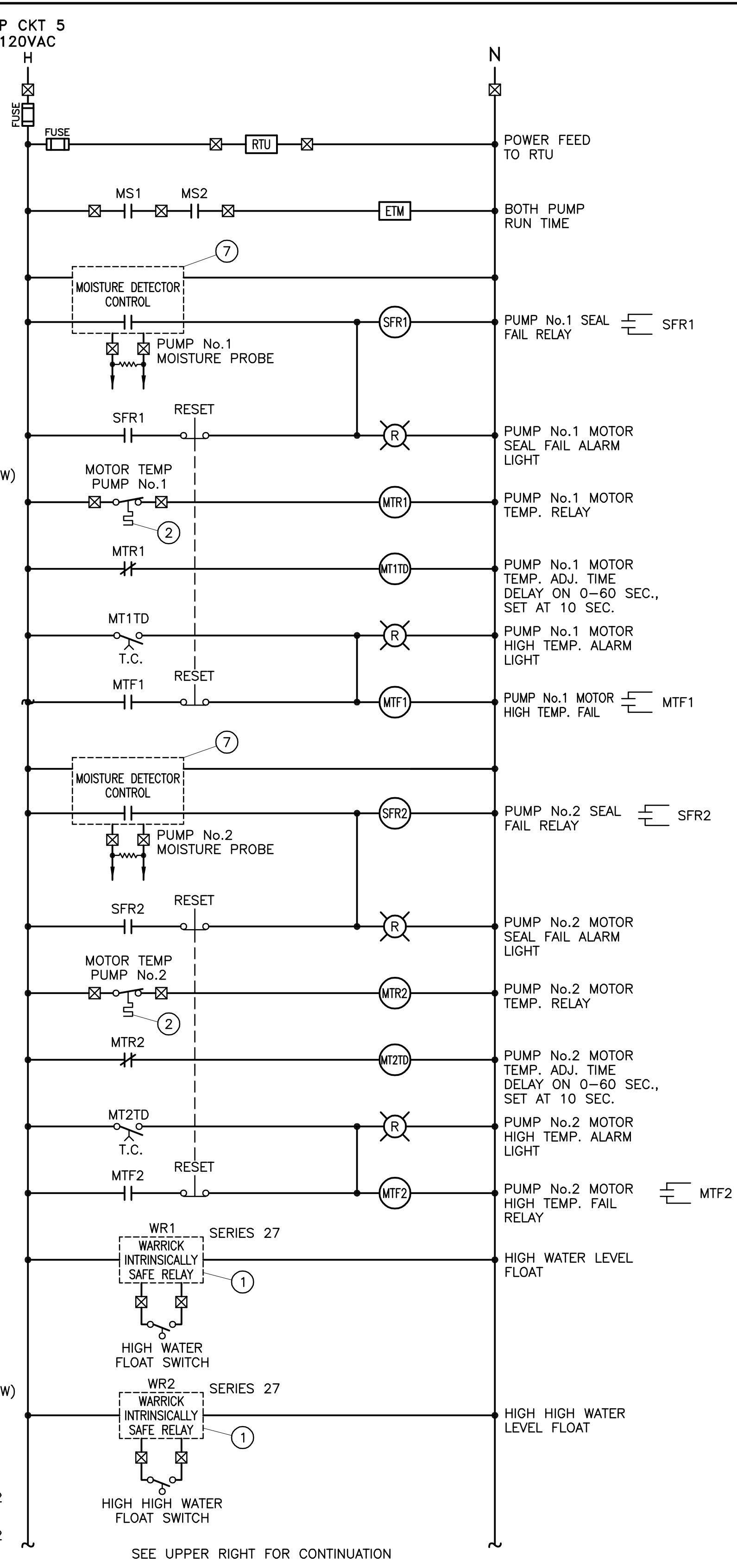




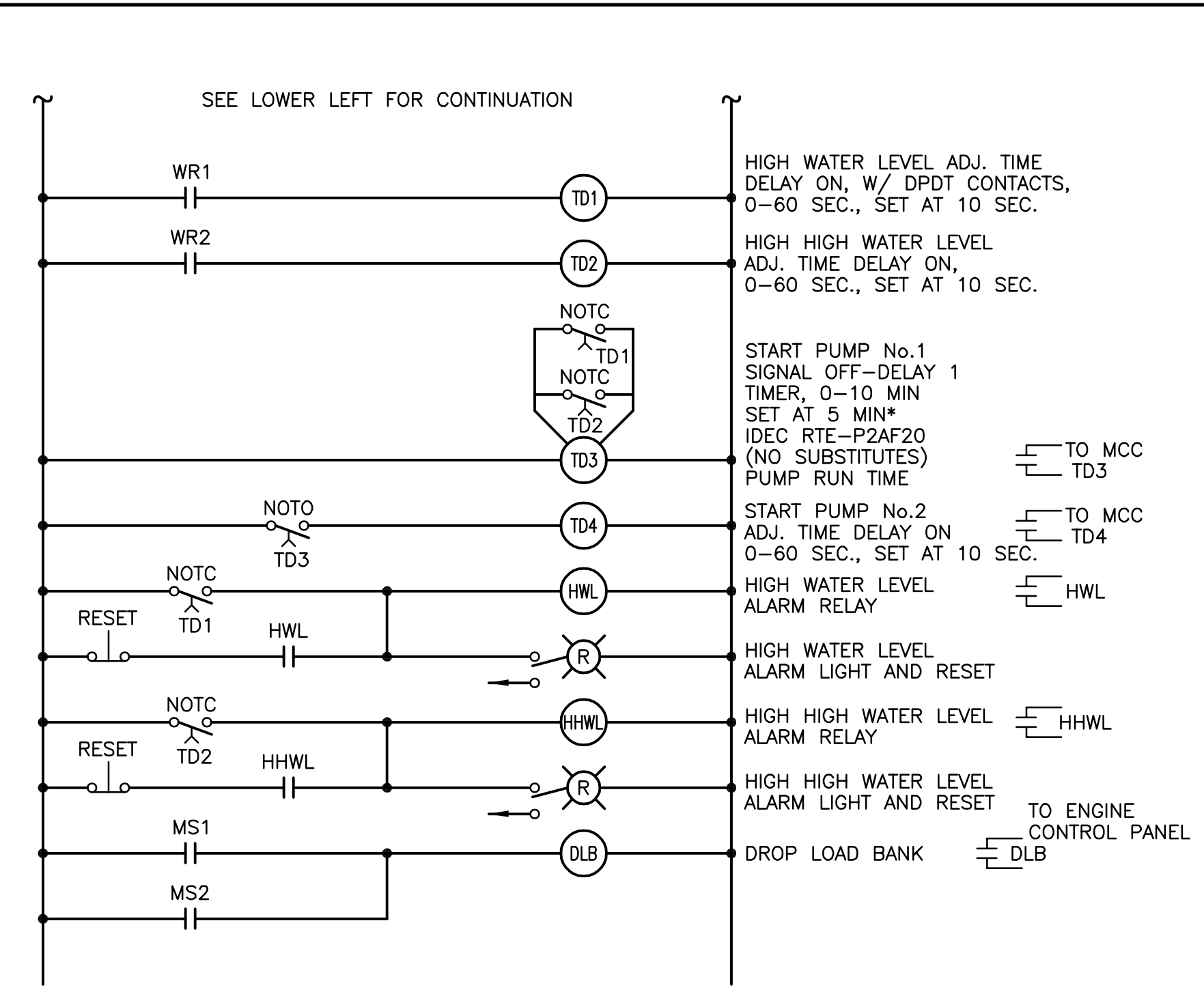
**PUMP CONTROL DIAGRAM FOR PUMP No.1**  
LOCATED IN THE MCC BUCKET (3)(8)(9)



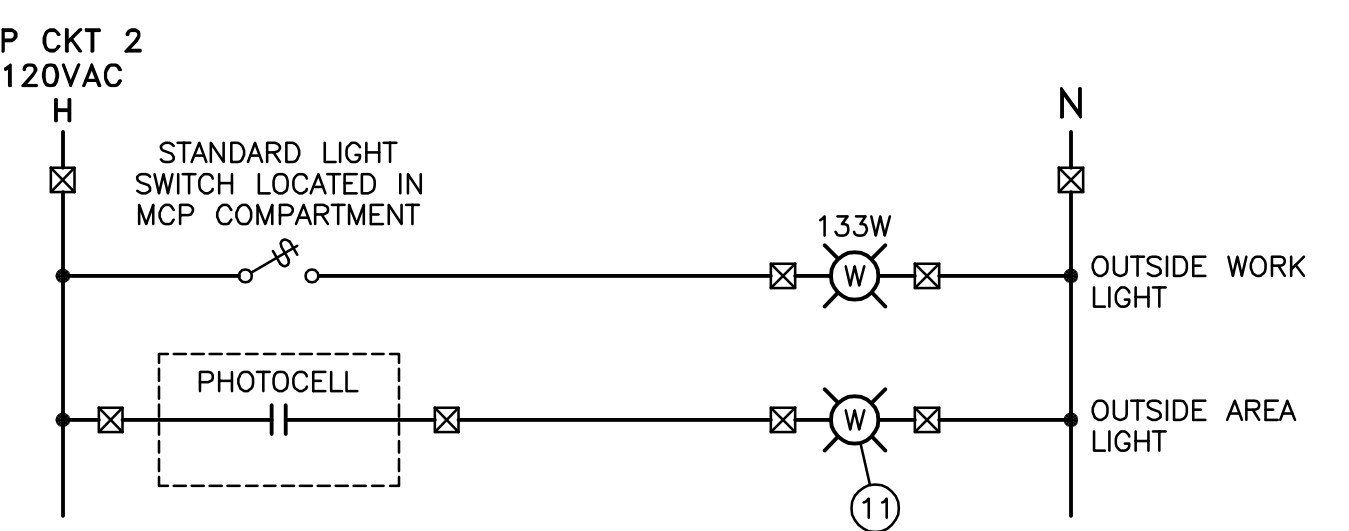
**PUMP CONTROL DIAGRAM FOR PUMP No.2**  
LOCATED IN THE MCC BUCKET (3)(8)(9)



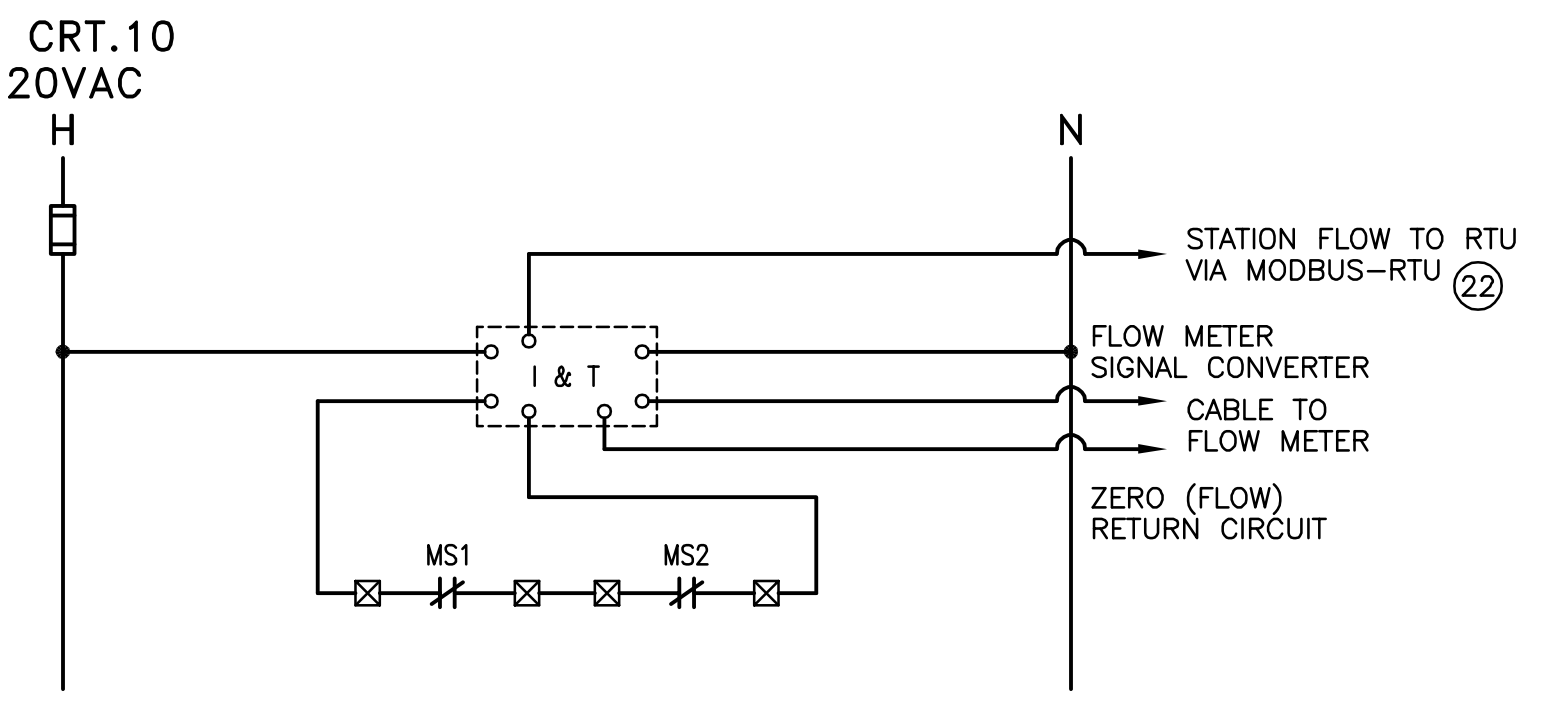
**MCP CONTROL DIAGRAM**  
LOCATED IN THE MCP PANEL (4)(8)(9)



**MCP CONTROL DIAGRAM (CONT.)**  
LOCATED IN THE MCP PANEL (4)(8)(9)



**AREA/WORK LIGHT CONTROL DIAGRAM**  
LOCATED IN THE MCP PANEL



**FLOW METER CONTROL DIAGRAM**  
LOCATED IN MCP

- MATERIAL, EQUIPMENT, AND WORK DESCRIPTIONS FOR DRAWINGS E-4 AND E-5:**
- WARRICK INTRINSICALLY SAFE RELAY (NO SUBSTITUTES).
  - NORMALLY CLOSED, OPENS ON HIGH TEMPERATURE.
  - LIGHTS, STARTERS, ETM'S, OVERLOAD RELAYS, AND HOA SWITCHES SHALL BE LOCATED WITHIN MCC BUCKETS AS SHOWN HEREON.
  - RELAYS, LIGHTS, SELECTOR SWITCHES, AND ETM SHALL BE LOCATED IN THE MAIN CONTROL PANEL AS SHOWN HEREON.
  - USE CONTACT FROM TD3 FOR PUMP No.1 AND TD4 FOR PUMP No.2.
  - CONTRACTOR TO PROVIDE TERMINAL BLOCKS TB-1 AND TB-2 IN MCP WIRED TO STATUS/ALARM SIGNALS AS SHOWN. CONTRACTOR SHALL CONNECT FROM MCP TERMINAL BLOCKS TO RTU TERMINAL BLOCK. CONTRACTOR SHALL TERMINATE CONDUCTORS ON RTU TERMINAL BLOCK AND LABEL CONDUCTORS USING WIRING NUMBER DESIGNATION SHOWN HEREON. (IE. 4-1, 4-4, ETC.)
  - MOISTURE DETECTION MODULE TO BE FURNISHED BY PUMP MANUFACTURER.
  - ALL SELECTOR SWITCHES, PUSH BUTTONS, AND LIGHTS SHALL BE HEAVY DUTY NEMA 4/13. LIGHTS SHALL BE PUSH-TO-TEST TYPE.
  - CONTRACTOR SHALL SUBMIT A CONTROL PANEL LAYOUT DRAWING SHOWING ALL ALARM LIGHTS, SWITCHES, AND NAME PLATES FOR DISTRICT'S REVIEW AND APPROVAL.
  - RTU, INCLUDING RTU TERMINAL BLOCK SHALL BE DISTRICT FURNISHED, CONTRACTOR INSTALLED.
  - AREA LIGHT SHALL MEET THE REQUIREMENTS OF THE COUNTY OF RIVERSIDE ORDINANCE No.655.
  - DOOR SWITCH LOCATED ON RTU PANEL, TO BE CONNECTED TO RTU INPUT BY DISTRICT.
  - GENERATOR HOA SWITCH, CLOSED WHEN HOA SWITCH IS IN AUTO POSITION.
  - NORMALLY CLOSED CONTACT FROM GENERATOR EMERGENCY STOP PUSHBUTTON. OPEN CONTACT WHEN EMERGENCY STOP PUSHBUTTON IS DEPRESSED.
  - MULTIPLE CONTACT HOA SWITCH FOR "AUTO" AND "HAND" POSITION SIGNALS TO RTU.
  - PROVIDE CABLE PER MANUFACTURERS REQUIREMENTS TO SYNCHRONIZE SIGNALS FROM TRANSDUCERS TO AVOID INTERFERENCE BETWEEN SIGNALS.
  - NORMALLY CLOSED CONTACT FROM GENERATOR CIRCUIT BREAKER, OPEN CONTACT WHEN GENERATOR CIRCUIT BREAKER IS OPEN.
  - PHOENIX 24 VDC MINIATURE POWER RELAY WITH PHOENIX PLC RELAY BASE, NO SUBSTITUTES. LOCATE IN MCP.
  - DIN RAIL MOUNTED CONTROL RELAY WITH 24 VDC COIL AND 10 AMP RATED CONTACTS (DPDT), LOCATE IN MCP.
  - DISTRICT FURNISHED RELAY LOCATED IN RTU PANEL.
  - CONTRACTOR SHALL CONNECT TO CONTACTS ON DISTRICT FURNISHED RELAY LOCATED IN RTU PANEL.
  - PROVIDE CAT5E CABLE BETWEEN FLOW METER SIGNAL CONVERTOR AND RTU (CONNECT TO PORT 6 ON KINGFISHER).
  - TDR 0-10 MINUTES, SET AT 5 MIN.

DWG. NO.: 491-53; DATE: 05/10/21; FILE NO.: 491-53; UPDATE BY: TMM; PROJ. ENG.: JPM; PLOT DATE: 07/16/21; PLOT TIME: 9:46AM; PLOT SCALE: 1=1

48 hours BEFORE excavation  
**811**  
CALL Underground Service Alert

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APPROVED BY: *[Signature]*  
REGISTERED ENGINEER No. 37263 DATE 05/10/21



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED	<i>[Signature]</i> 05/10/21

APPROVED BY:  
**Corey F. Wallace** 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS

JPM - JOSH P. MACPEEK KRIEGER & STEWART

EASTERN MUNICIPAL WATER DISTRICT  
**Armando G. Arroyo** 05/10/21  
PROJECT MANAGER

APPROVALS

PROJECT ENGR.	INITIAL	DATE
JPM	JPM	05/10/21
CONST. ADMIN.	BAK	05/10/21
INSPECTION	DB	05/10/21
MAINTENANCE		

DESIGNED	PES	DATE
		05/10/21
DRAWN	TMM	DATE
		05/10/21
TRACED	JPM	DATE
		05/10/21
CHECKED	JPM	DATE
		05/10/21
SUBMITTED		DATE

SCALE: N/A

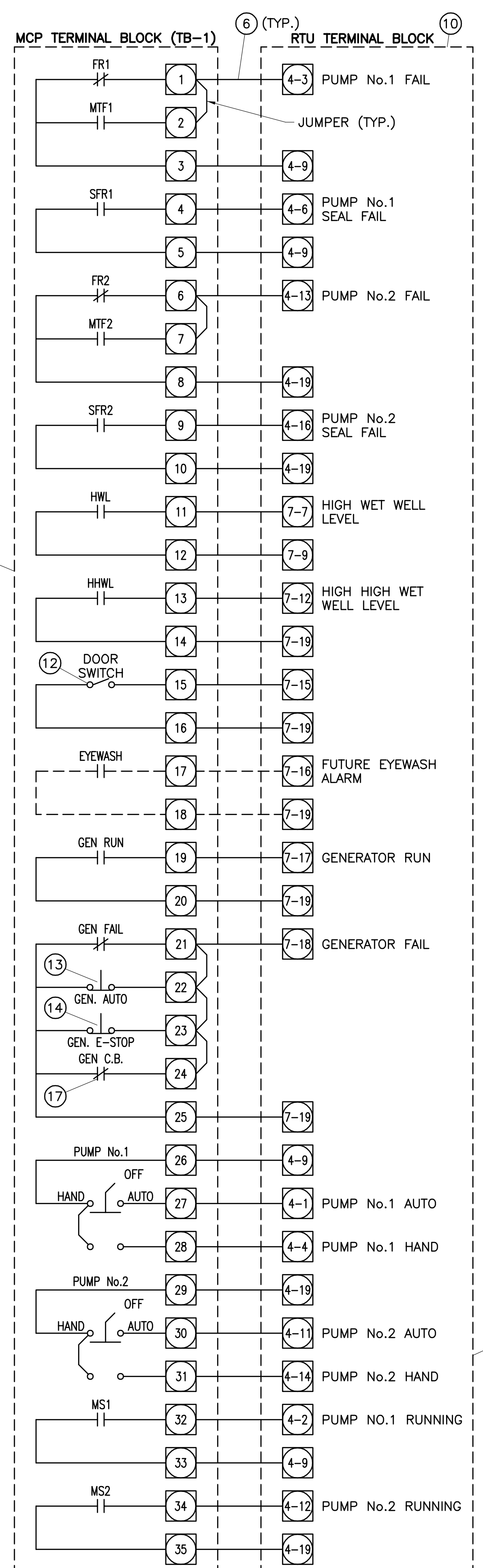
EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

SEWAGE LIFT STATION (TRACT )

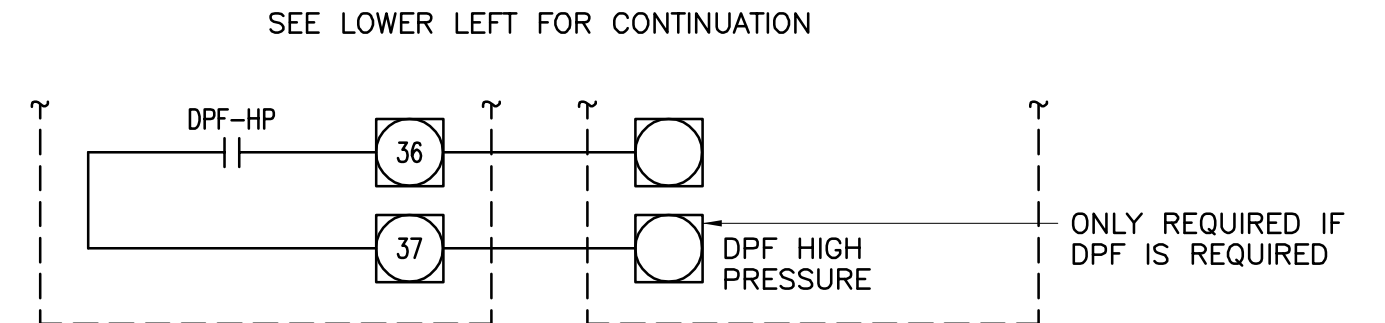
**CONTROL DIAGRAMS**

I.D.  
S.A.  
W.O.  
C.O.  
COORD.  
SHT. OF  
D-  
E-4

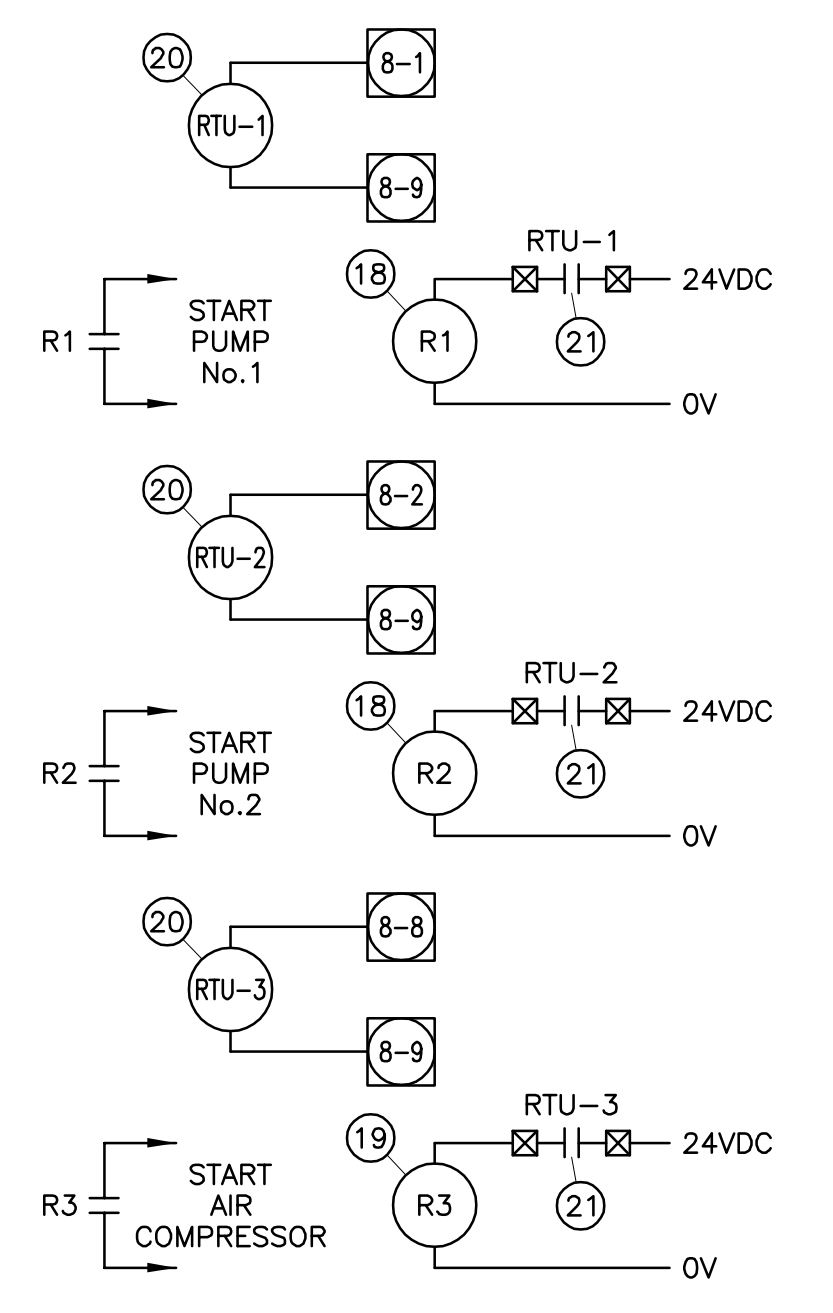
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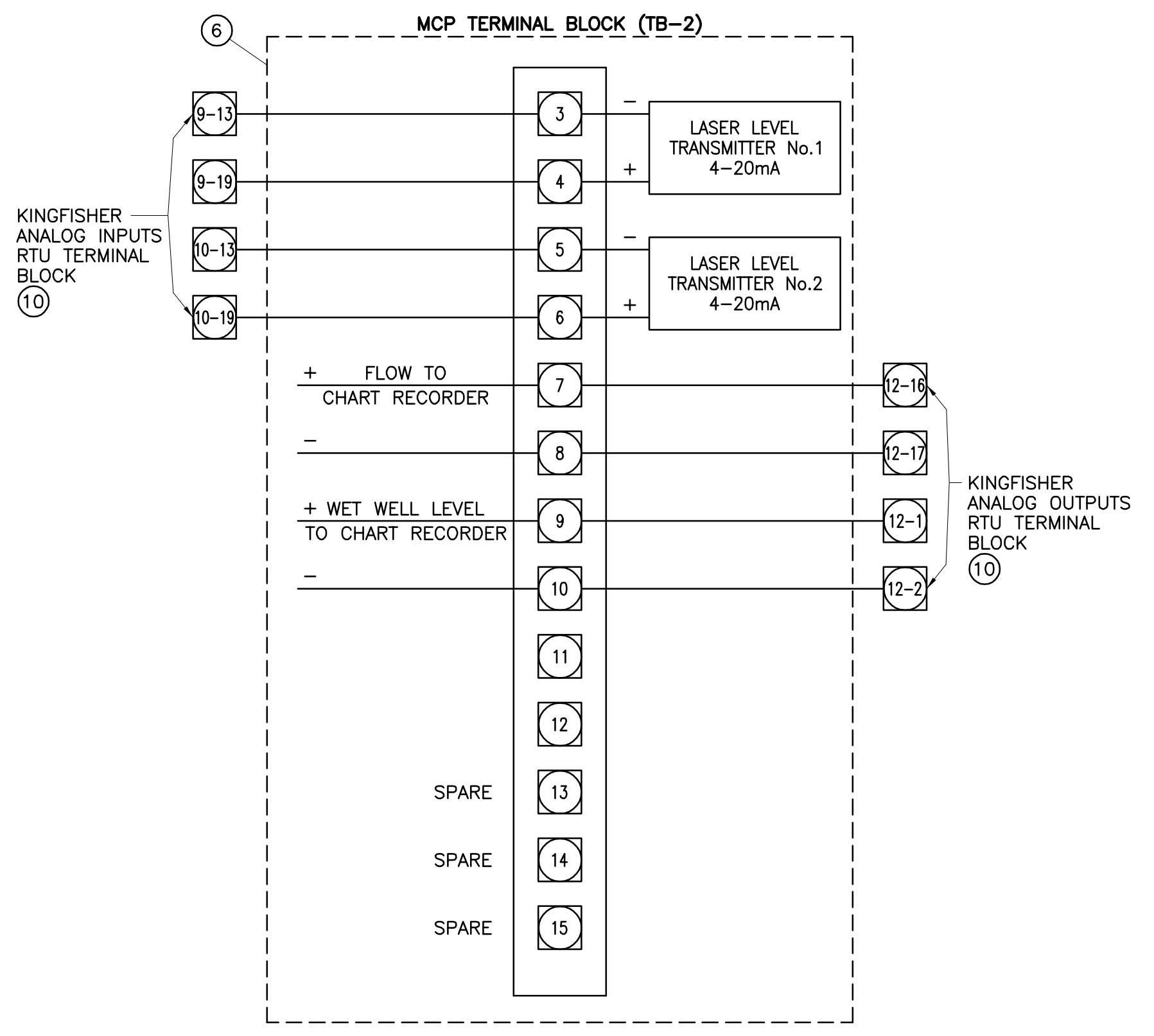
**RTU STATUS/ALARM SIGNAL WIRING DIAGRAM**



**RTU STATUS/ALARM SIGNAL WIRING DIAGRAM (CONT.)**

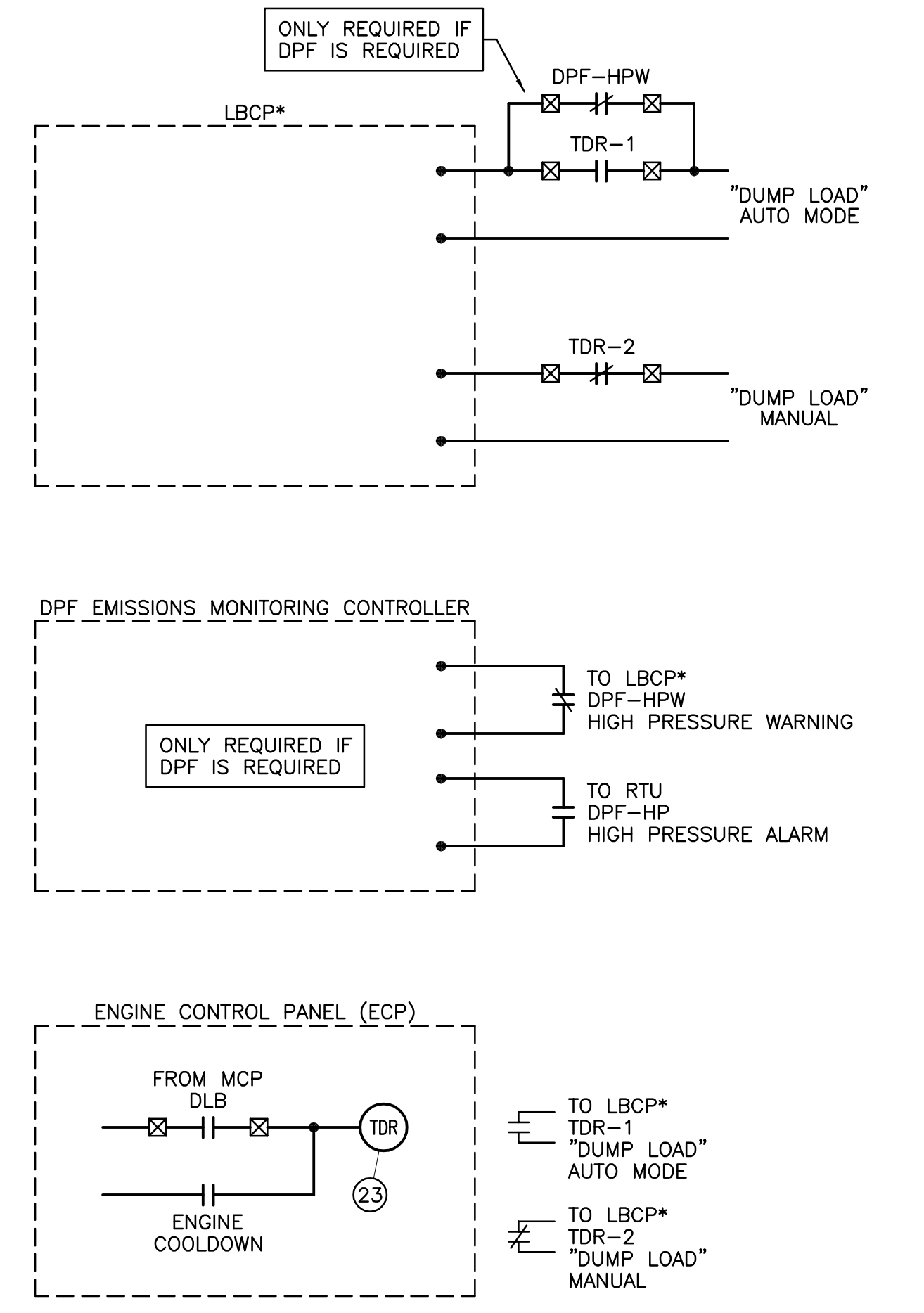


**RTU SIGNAL WIRING DIAGRAM**



**RTU STATUS/ALARM SIGNAL WIRING DIAGRAM**

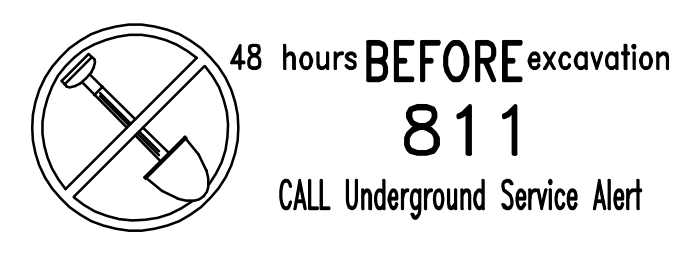
**NOTE:**  
SEE DRAWING E-4 FOR MATERIAL, EQUIPMENT, AND WORK DESCRIPTIONS.



\*LBCP = LOAD BANK CONTROL PANEL

**NOTE:**  
TDR AND WIRING BETWEEN ECP, DPF EMISSIONS MONITORING CONTROLLER, AND LBCP BY GENERATOR MANUFACTURER

**DPF/LOAD BANK SCHEMATIC**



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APPROVED BY: *Josh P. MacPeeck*  
REGISTERED ENGINEER No. 62220 DATE 05/10/21



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED DRAWINGS, AND SPECIFICATIONS	<i>JPM</i> 05/10/21

APPROVED BY:  
*Corey F. Wallace* 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS

JPM - JOSH P. MACPEECK KRIEGER & STEWART

EASTERN MUNICIPAL WATER DISTRICT  
*Armando G. Arroyo* 05/10/21  
PROJECT MANAGER

APPROVALS

PROJECT ENGR.	INITIAL	DATE
JPM	JPM	05/10/21
CONST. ADMIN.		
INSPECTION	BAK	05/10/21
MAINTENANCE	DB	05/10/21

DESIGNED	JPM	DATE
05/10/21	JPM	05/10/21
DRAWN	TMM	DATE
05/10/21	TMM	05/10/21
TRACED		
CHECKED	PES	DATE
05/10/21	PES	05/10/21
SUBMITTED		

SCALE: N/A

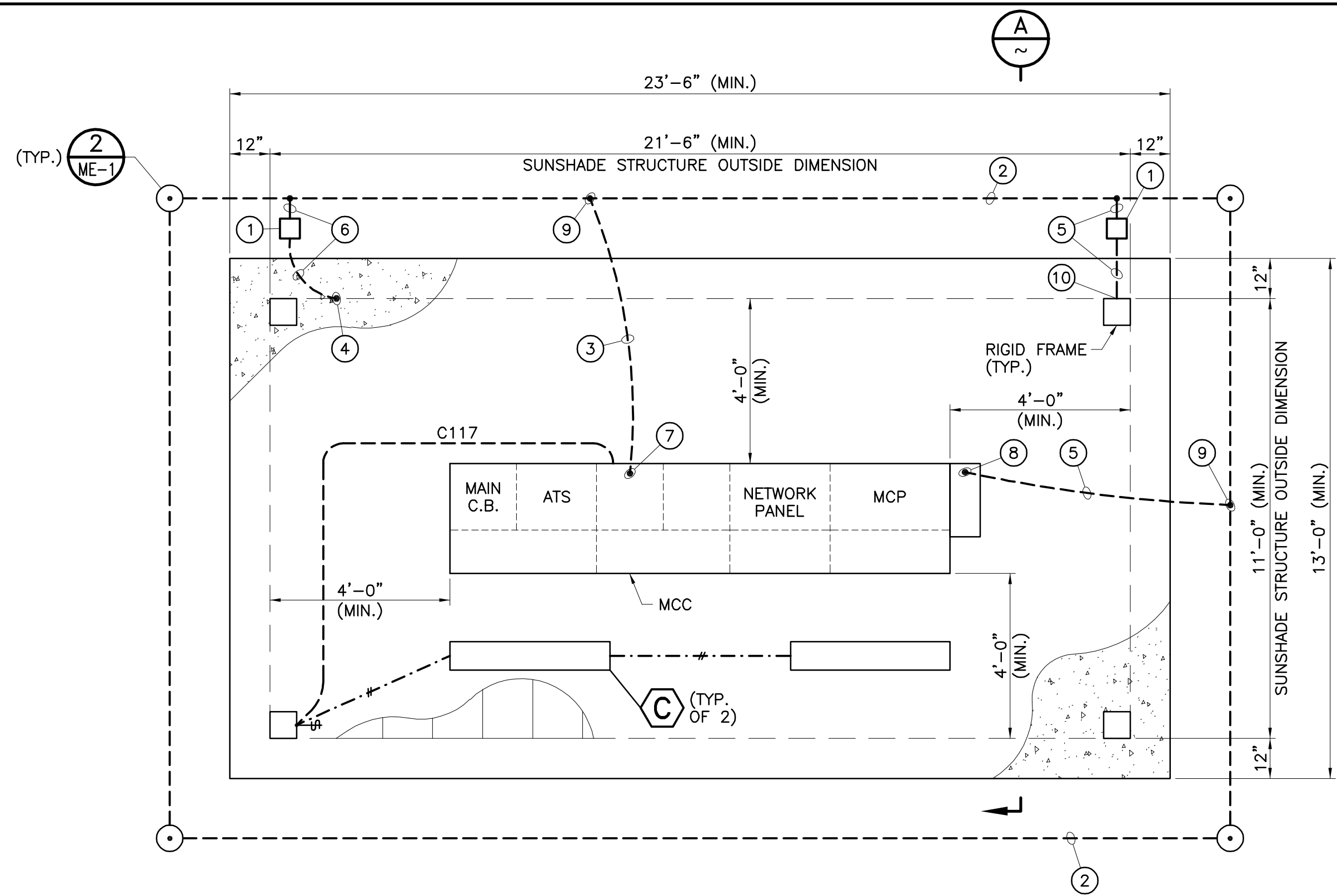
EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

SEWAGE LIFT STATION (TRACT \_\_\_\_\_)

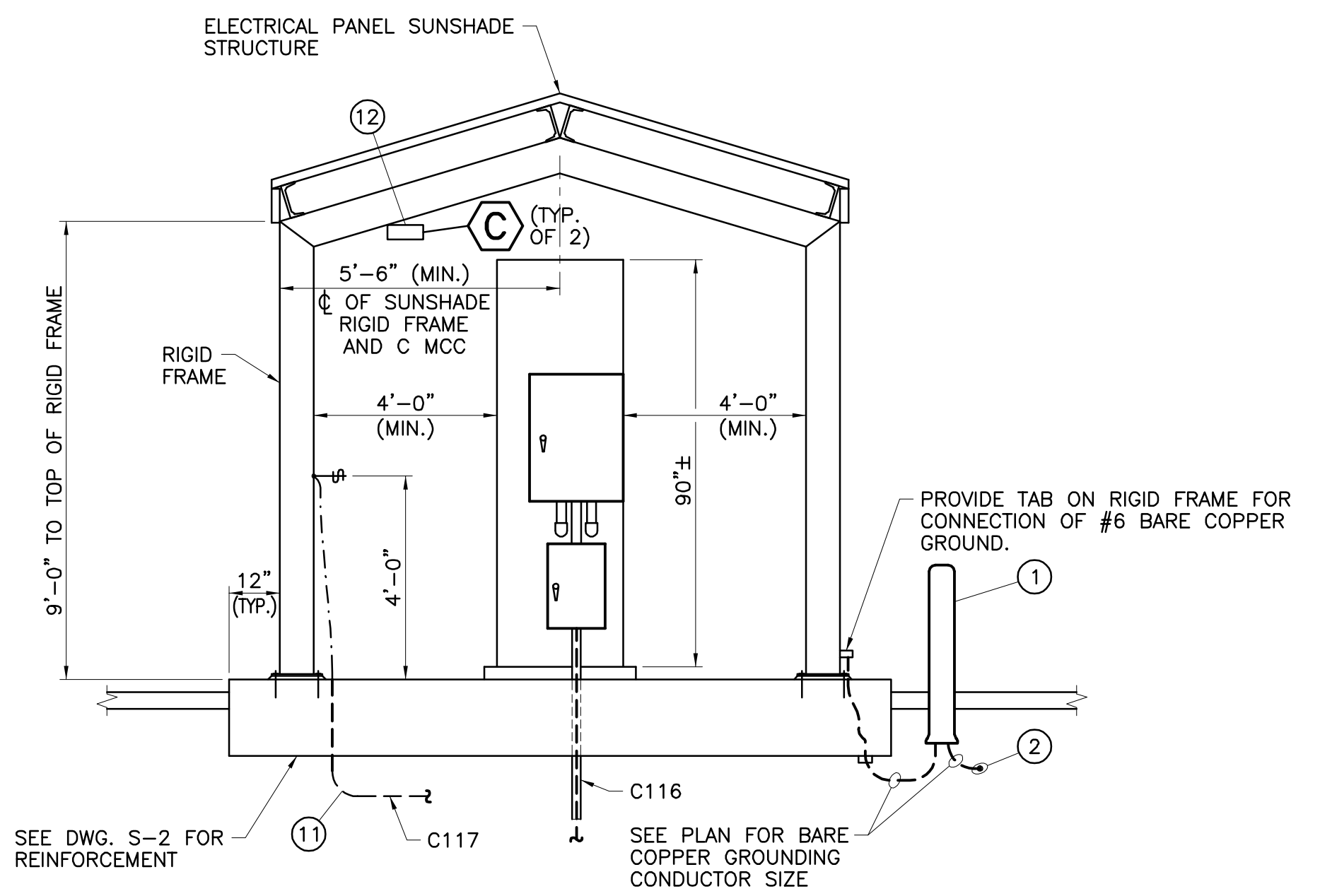
**RTU STATUS/ALARM SIGNAL WIRING DIAGRAMS**

I.D.	
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C.O.	
COORD.	
SHT. OF	
D-	
E-5	

DWG. NO.: 06\_001\_481-536 FILE NO.: 491-53 UPDATE BY: TMM PROJ. ENG.: JPM PLOT DATE: 07/16/21 PLOT TIME: 9:47AM PLOT SCALE: 1=1

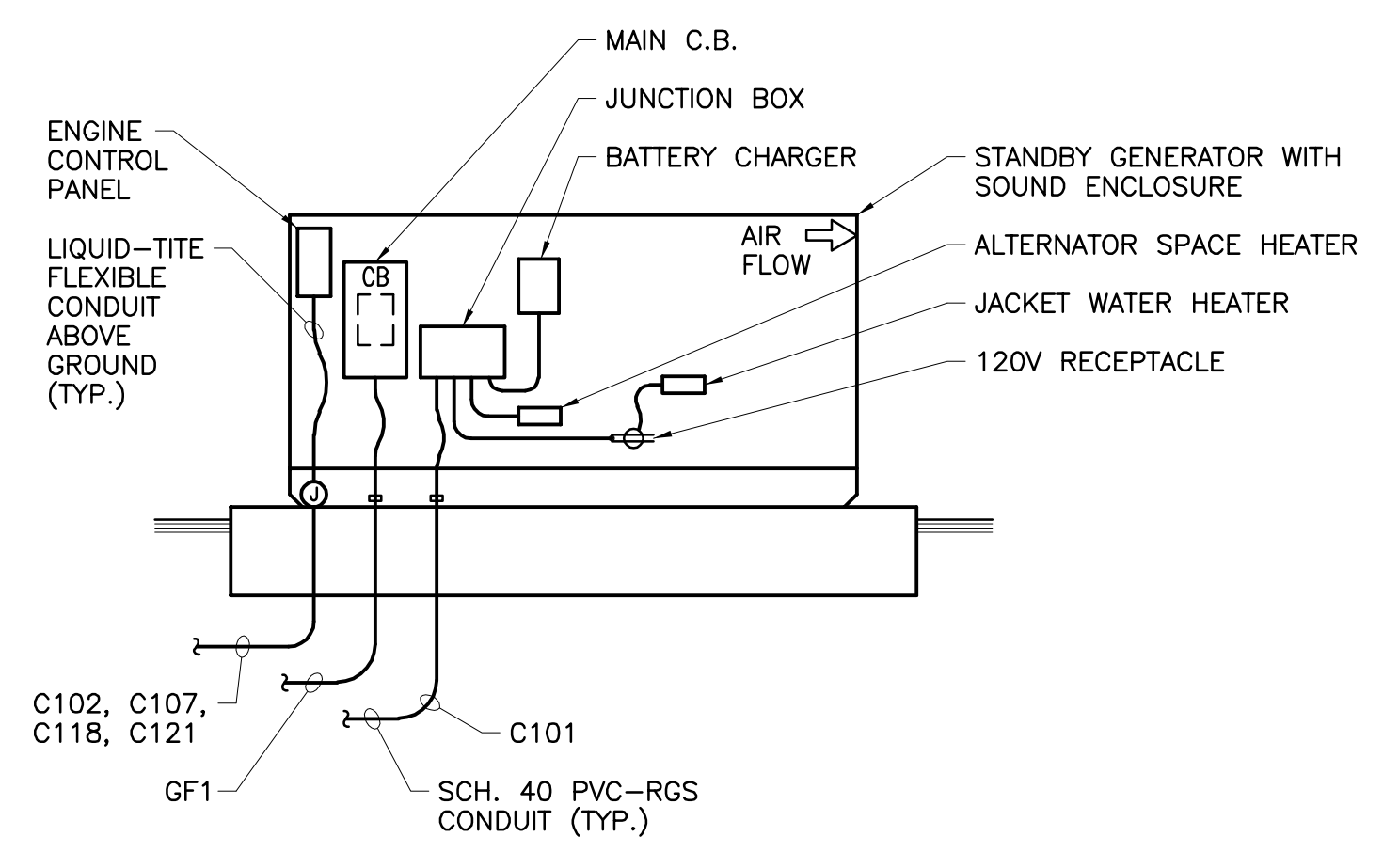


**GROUNDING AND LIGHTING PLAN**  
SCALE: 3/8"=1'-0"



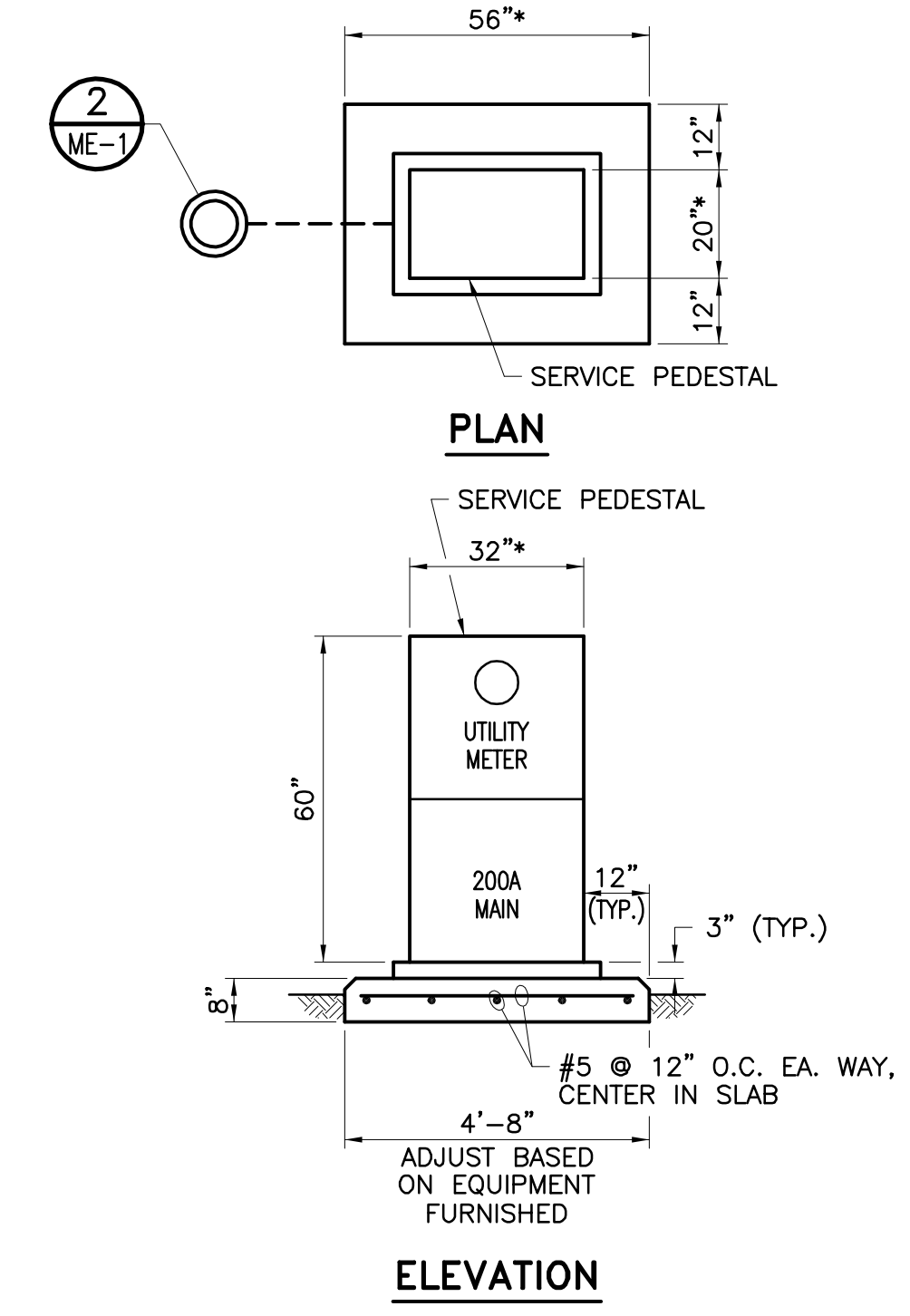
**SECTION**  
SCALE: 3/8"=1'-0"

- MATERIAL, EQUIPMENT, AND WORK DESCRIPTIONS FOR DRAWING E-6:**
- ① SOLID STATE DECOUPLER (SSD) RATED FOR 2,100 AMPS-RMS FOR 1 CYCLE AS MANUFACTURED BY DAIRYLAND ELECTRICAL INDUSTRIES. MOUNT SSD IN 42" HEIGHT FIBERGLASS PEDESTAL (DAIRYLAND PART No.MTP-42). SSD AND PEDESTAL SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. (TYPICAL OF 2).
  - ② #1/0 BARE COPPER CONDUCTOR GROUND LOOP.
  - ③ #1/0 BARE COPPER GROUNDING CONDUCTOR.
  - ④ CONNECT #4 BARE COPPER GROUNDING CONDUCTOR TO BOTTOM MAT OF REBAR (CAD WELD).
  - ⑤ #6 BARE COPPER GROUNDING CONDUCTOR.
  - ⑥ #4 BARE COPPER GROUNDING CONDUCTOR.
  - ⑦ CONNECT #1/0 BARE COPPER GROUNDING CONDUCTOR TO MCC GROUND BUS BAR.
  - ⑧ CONNECT #6 BARE COPPER GROUNDING CONDUCTOR TO LIGHTING ARRESTOR.
  - ⑨ CAD WELD GROUNDING CONDUCTORS.
  - ⑩ CONNECT #6 BARE COPPER GROUNDING CONDUCTOR TO RIGID FRAME.
  - ⑪ STUB UP 1" PVC COATED RGS CONDUIT TO LIGHT SWITCH. MOUNT SWITCH TO SUNSHADE COLUMN.
  - ⑫ MOUNT LIGHTING FIXTURES 8'-0" ABOVE TOP OF SLAB. LIGHTING FIXTURES SHALL BE PLACED ON DOOR SIDE OF THE MCC AT EQUAL SPACING.



- NOTES:**
1. SEE CONDUIT SCHEDULE ON DWG. E-3 FOR CONDUIT SIZES AND CONDUCTOR NUMBER/SIZE.
  2. ALL BELOW GRADE CONDUIT SHALL BE INSTALLED WITH 27" MINIMUM COVER.
  3. ALL STANDBY GENERATOR ELECTRICAL COMPONENTS SHALL BE FACTORY PRE-WIRED TO A JUNCTION BOX LOCATED WITHIN THE SOUND ATTENUATING ENCLOSURE AND NEAR THE ELECTRICAL CONDUIT STUB-UP AREA.

**EMERGENCY STANDBY GENERATOR DETAIL** ①  
N.T.S. E-2



**SERVICE PEDESTAL DETAIL** ②  
SCALE: 3/8"=1'-0" C-1

811  
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APPROVED BY: *Josh P. MacPeeck*  
REGISTERED ENGINEER No. 62220 DATE 05/10/21



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE
Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED DWG. DATED 07/11/13	<i>JPM</i> 05/10/21

APPROVED BY:  
**Corey F. Wallace** 05/10/21  
DIRECTOR OF DEVELOPMENT SERVICES

REFERENCES  
SMALL SEWAGE LIFT STATION GUIDELINES, STANDARD DRAWINGS, AND SPECIFICATIONS

JPM - JOSH P. MACPEECK KRIEGER & STEWART

EASTERN MUNICIPAL WATER DISTRICT  
**Armando G. Arroyo** 05/10/21  
PROJECT MANAGER

APPROVALS

PROJECT ENGR.	JPM	05/10/21
CONST. ADMIN.	BAK	05/10/21
INSPECTION	DB	05/10/21
MAINTENANCE		

DESIGNED	JPM	DATE	05/10/21
DRAWN	TMM	05/10/21	
TRACED			
CHECKED	PES	05/10/21	
SUBMITTED			

SCALE: N/A

EASTERN MUNICIPAL WATER DISTRICT  
RIVERSIDE COUNTY, CALIFORNIA

SEWAGE LIFT STATION (TRACT )  
MCC/SUNSHADE GROUNDING AND LIGHTING PLAN, AND SERVICE PEDESTAL AND STANDBY GENERATOR DETAILS

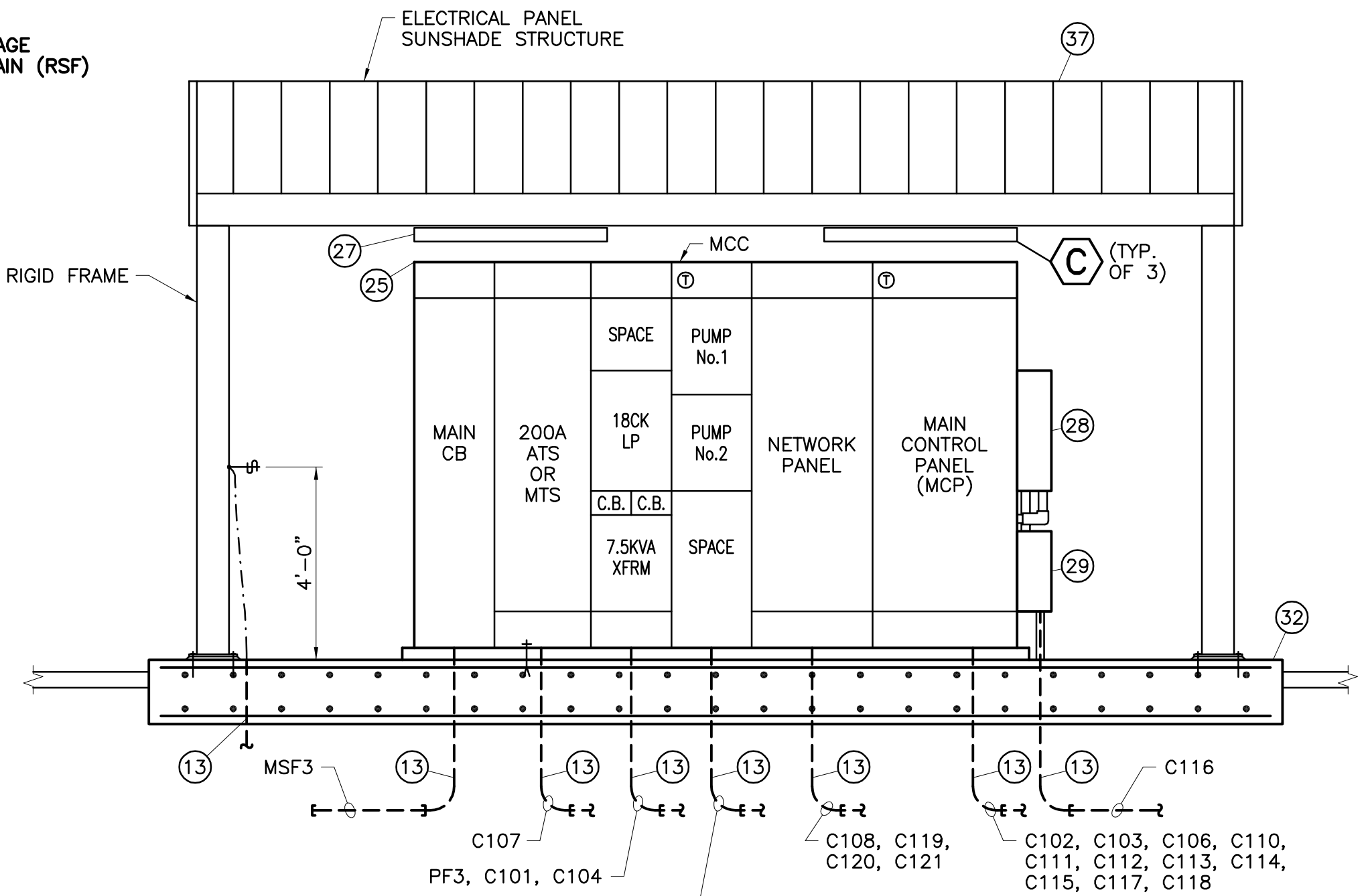
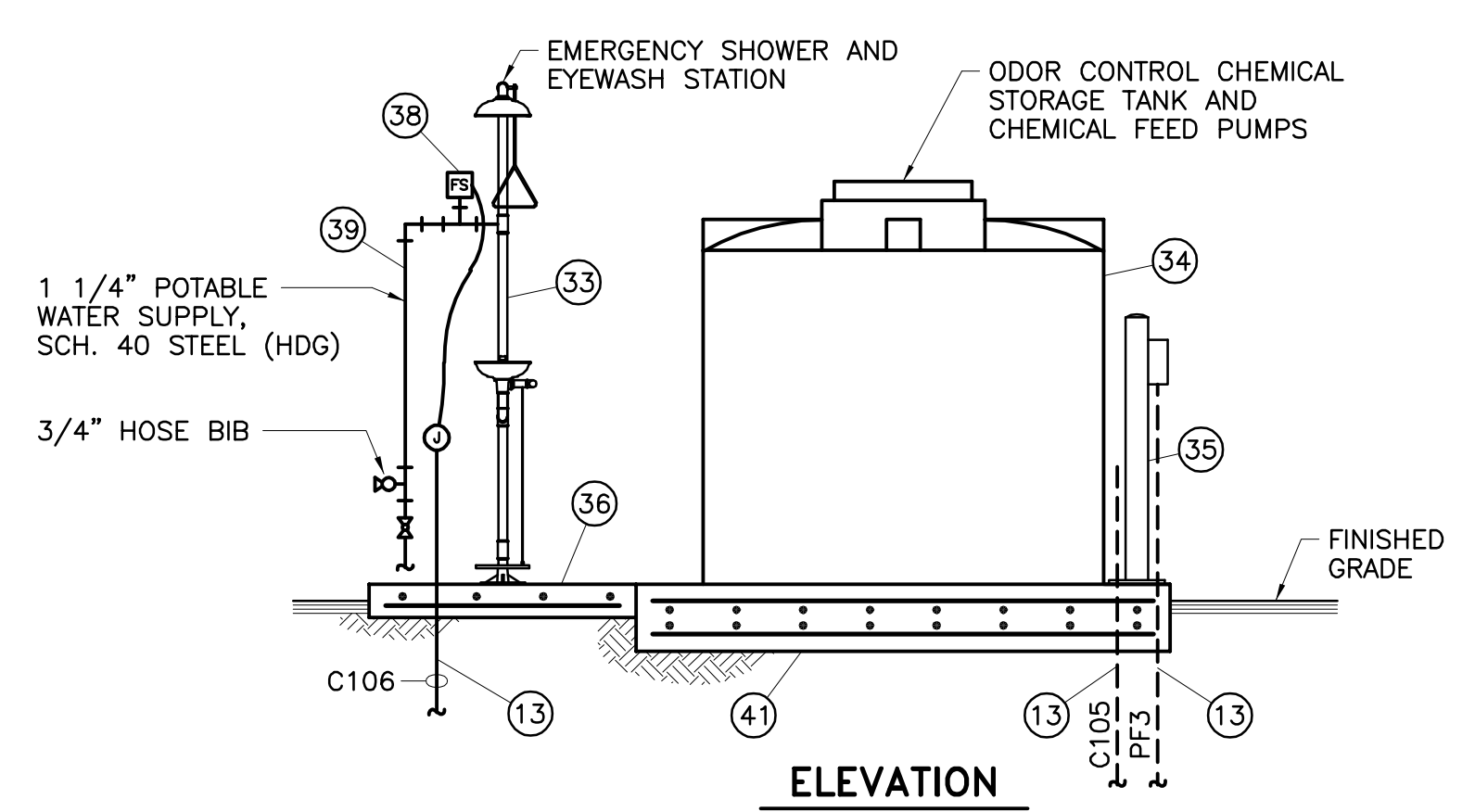
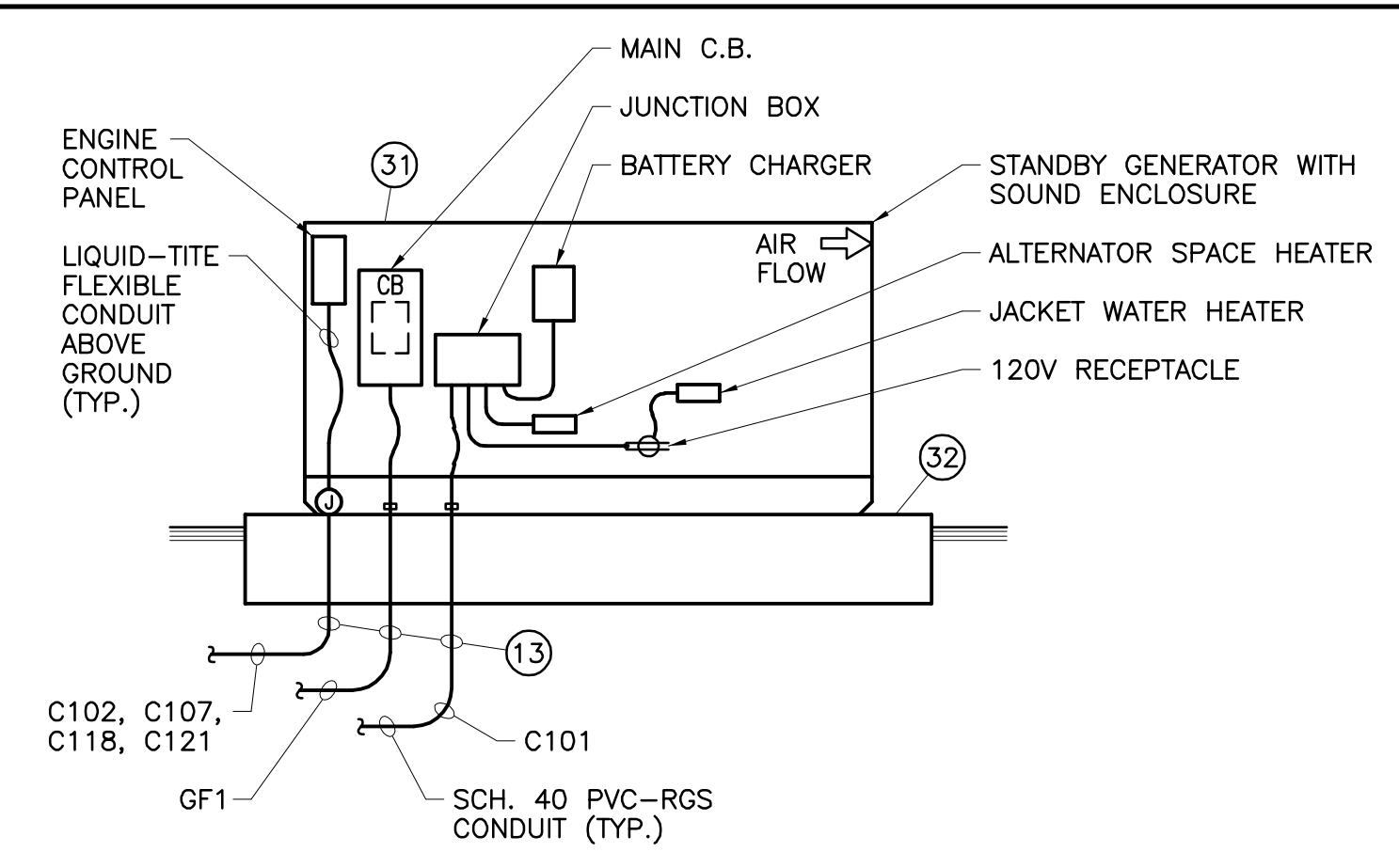
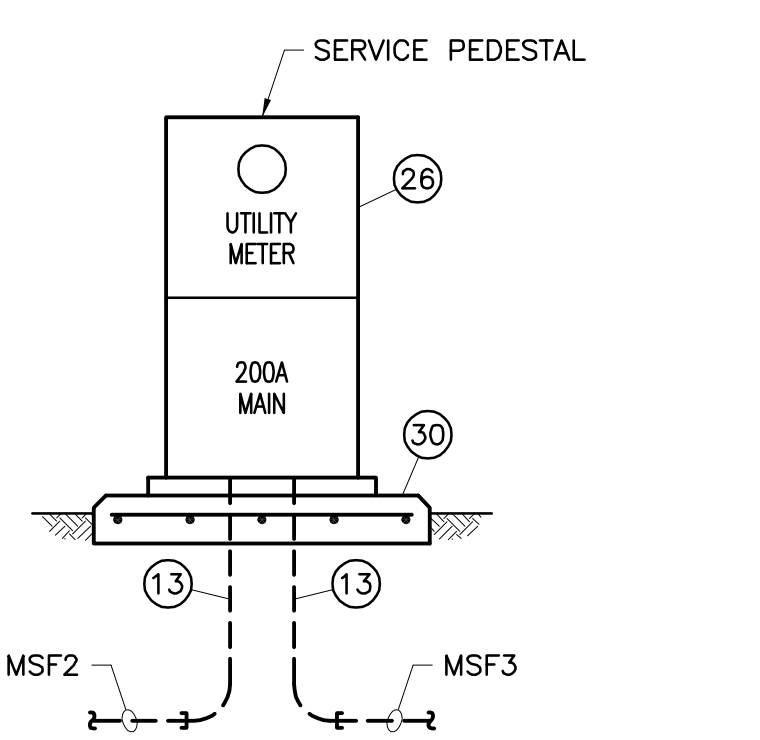
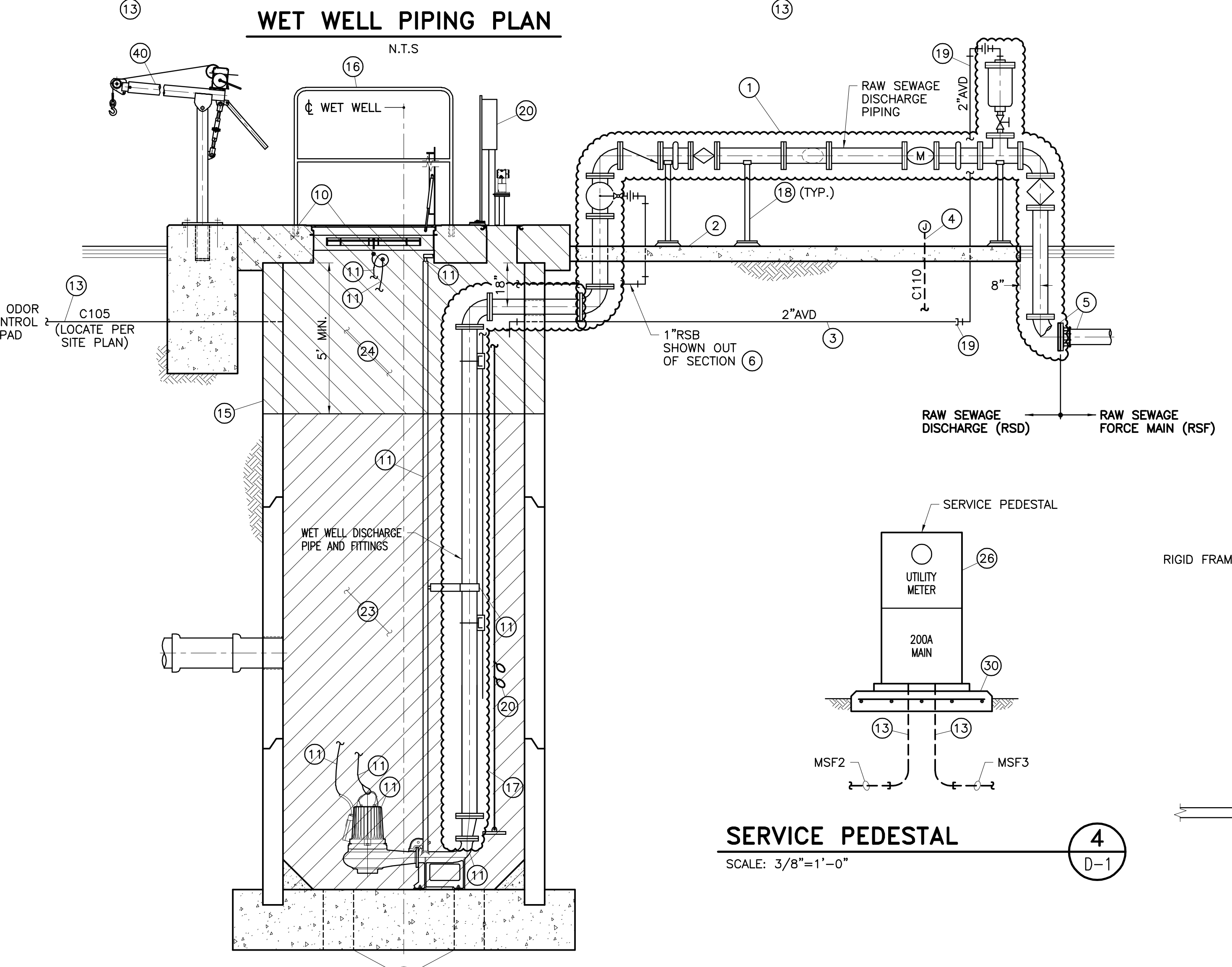
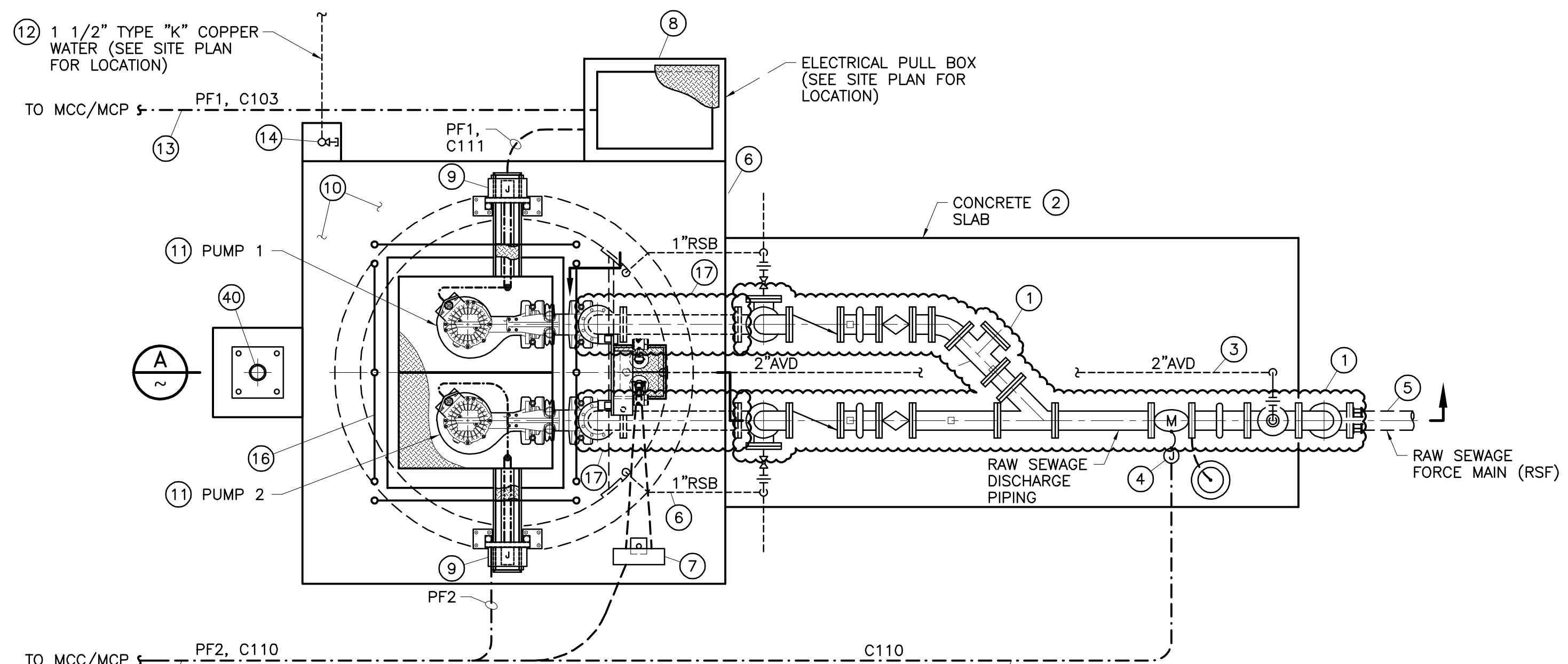
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E-6	







DWG. NO.: 491-53, UPDATE BY: TMM, PROJ. ENG.: JPM, PLOT DATE: 07/16/21, PLOT TIME: 9:49AM, PLOT SCALE: 1"=1'  
 48 hours BEFORE excavation  
 811  
 CALL Underground Service Alert



- DESCRIPTION OF DEMOLITION WORK FOR DRAWING D-2:**
- 1 REMOVE AND DISPOSE OF RAW SEWAGE DISCHARGE PIPING, VALVES, AND FITTINGS. REMOVE AND SALVAGE FLOW METER.
  - 2 REMOVE AND DISPOSE OF 6" THICK REINFORCED CONCRETE SUPPORT SLAB.
  - 3 REMOVE AND DISPOSE OF BELOW GRADE 2" AIR VALVE DRAIN (AVD) PIPING.
  - 4 REMOVE AND DISPOSE OF JUNCTION BOX AND VERTICAL CONDUIT RISER.
  - 5 FILL FORCE MAIN (RSF) WITH GROUT PER DISTRICT DETAILED PROVISIONS SECTION 03604 OR LIGHT WEIGHT CELLULAR CONCRETE AS APPROVED. INSTALL DUCTILE IRON BLIND FLANGE ON END OF BELOW GRADE FORCE MAIN.
  - 6 REMOVE AND DISPOSE OF 1" RAW SEWAGE BACKFLUSH (RSB) PIPING, VALVES, AND FITTINGS.
  - 7 REMOVE AND DISPOSE OF SUPPORT STANCHION, AND CABLE CAGE. REMOVE AND SALVAGE FLOAT/TRANSMITTER JUNCTION BOX.
  - 8 REMOVE AND DISPOSE OF 2'x3" ELECTRICAL PULL BOX.
  - 9 REMOVE AND DISPOSE OF PUMP JUNCTION BOX, SUPPORT STANCHION, AND PUMP CABLE CAGE.
  - 10 REMOVE AND DISPOSE OF WET WELL REINFORCED CONCRETE ROOF AND ACCESS HATCH.
  - 11 REMOVE AND SALVAGE SUBMERSIBLE PUMPING UNIT, INCLUDING PUMP, BASE ELBOW, GUIDE RAIL AND SUPPORT BRACKETS, PUMP POWER AND CONTROL CABLES (DISCONNECT AT ABOVE GROUND JUNCTION BOX), AND LIFTING CHAIN / CABLE.
  - 12 REMOVE AND DISPOSE OF 1 1/2" WATERLINE.
  - 13 REMOVE CONDUCTORS FROM CONDUIT. ABANDON IN PLACE ALL BELOW GRADE CONDUIT DEEPER THAN 36". REMOVE AND DISPOSE OF ALL BELOW GRADE CONDUIT AND CONDUCTORS SHALLOWER THAN 36". REMOVE VERTICAL CONDUIT RISER AND PROVIDE CONDUIT CAPS AT THE ENDS OF ALL ABANDONED CONDUIT.
  - 14 REMOVE AND DISPOSE OF 1 1/2" ANGLE VALVE, VERTICAL RISER, AND CONCRETE ENCASEMENT. CAP 1 1/2" WATERLINE.
  - 15 REMOVE AND DISPOSE OF UPPER 5' (MINIMUM) OF WET WELL SHAFT.
  - 16 REMOVE AND SALVAGE REMOVABLE HANDRAIL.
  - 17 REMOVE AND DISPOSE OF WET WELL DISCHARGE PIPING, FITTINGS, AND PIPE SUPPORTS.
  - 18 REMOVE AND DISPOSE OF ABOVE GRADE PIPE SUPPORTS.
  - 19 REMOVE AND DISPOSE OF ABOVE GRADE 2" AIR VALVE DRAIN (AVD) PIPING AND FITTINGS, INCLUDING VERTICAL RISER AND ELBOW. INSTALL END PLUG.
  - 20 REMOVE AND DISPOSE OF WET WELL FLOATS AND CABLES. REMOVE AND SALVAGE LASER LEVEL TRANSMITTER AND AIR COMPRESSOR.
  - 21 FILL SEWER WITH CONTROL DENSITY FILL PER DISTRICT DETAILED PROVISIONS SECTION 02252.
  - 22 CORE DRILL WET WELL FOUNDATION IN 4 PLACES, EQUALLY SPACED. EACH CORE DRILL SHALL BE 12" IN DIAMETER.
  - 23 FILL REMAINING WET WELL SHAFT WITH SAND COMPACTED TO 90% RELATIVE COMPACTION.
  - 24 BACKFILL WITH SELECT FILL MATERIAL AND COMPACT TO 95% MINIMUM RELATIVE COMPACTION.
  - 25 REMOVE AND SALVAGE AUTOMATIC / MANUAL TRANSFER SWITCH, MCC, AND MAIN CONTROL PANEL.
  - 26 REMOVE AND SALVAGE ELECTRICAL SERVICE PEDESTAL.
  - 27 REMOVE AND SALVAGE CANOPY LED LIGHTS.
  - 28 REMOVE AND SALVAGE REMOTE TELEMETRY UNIT (RTU) AND ENCLOSURE.
  - 29 REMOVE AND SALVAGE LIGHTNING ARRESTOR ENCLOSURE.
  - 30 REMOVE AND DISPOSE OF 8" THICK REINFORCED CONCRETE SLAB.
  - 31 REMOVE AND SALVAGE EMERGENCY STANDBY GENERATOR, INCLUDING ACTIVE DIESEL PARTICULATE FILTER (IF SO EQUIPPED), SUB-BASE FUEL TANK, VIBRATION ISOLATOR SUPPORT PADS, CONTROL PANEL, BATTERY CHARGER, LOAD BANK, AND JACKET WATER HEATER.
  - 32 REMOVE AND DISPOSE OF 16" THICK REINFORCED CONCRETE FOUNDATION.
  - 33 REMOVE AND SALVAGE EMERGENCY SHOWER AND EYEWASH STATION.
  - 34 REMOVE AND SALVAGE ODOR CONTROL CHEMICAL STORAGE TANK AND CHEMICAL FEED PUMPS.
  - 35 REMOVE AND DISPOSE OF ODOR CONTROL GUARD POST AND JUNCTION BOX.
  - 36 REMOVE AND DISPOSE OF 6" THICK REINFORCED CONCRETE SLAB.
  - 37 REMOVE AND SALVAGE ELECTRICAL PANEL SUNSHADE STRUCTURE.
  - 38 REMOVE AND SALVAGE FLOW SWITCH AND TEE.
  - 39 REMOVE AND DISPOSE OF 1 1/4" POTABLE WATER PIPING AND HOSE BIB.
  - 40 REMOVE AND SALVAGE DAVIT CRANE, REMOVE AND DISPOSE OF DAVIT CRANE FOUNDATION.
  - 41 REMOVE AND DISPOSE OF 12" THICK REINFORCED CONCRETE FOUNDATION.

	<b>KRIEGER &amp; STEWART</b> Engineering Consultants 3602 University Avenue • Riverside, CA 92501 www.kriegerandstewart.com • 951-684-6900		<b>REVISIONS</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>INITIAL</th> <th>DESCRIPTION</th> <th>APP'D/DATE</th> </tr> </thead> <tbody> <tr> <td>Δ</td> <td>05/10/21</td> <td>JPM</td> <td>SUPERSEDES PREVIOUSLY APPROVED</td> <td></td> </tr> </tbody> </table>	NO.	DATE	INITIAL	DESCRIPTION	APP'D/DATE	Δ	05/10/21	JPM	SUPERSEDES PREVIOUSLY APPROVED		APPROVED BY: <b>Corey F. Wallace</b> 05/10/21 DIRECTOR OF DEVELOPMENT SERVICES	EASTERN MUNICIPAL WATER DISTRICT <b>Armando G. Arroyo</b> 05/10/21 PROJECT MANAGER	DATE DESIGNED JPM 05/10/21 DRAWN TMM 05/10/21 TRACED CHECKED PES 05/10/21 SUBMITTED	EASTERN MUNICIPAL WATER DISTRICT RIVERSIDE COUNTY, CALIFORNIA <b>SEWAGE LIFT STATION (TRACT _____)</b> <b>DEMOLITION PLAN, SECTION, AND DETAILS</b>	I.D. S.A. W.O. C.O. COORD. SHT. OF D- D-2			
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