

**ADDENDUM NO. 2**  
**September 27, 2023**

**PROJECT: CITY OF ROPESVILLE**  
**DWSRF WATER TREATMENT PLANT**

**BID DATE: October 13, 2023**

The following changes and/or additions shall be made to the Plans, Specifications, and Contract Documents for the above referenced project. Bidder shall acknowledge receipt of this Addendum by signing below and returning this Addendum with the Bid.

**1) General**

Additional Information – The TCEQ Water Storage Tank General Construction Notes have been included in this addendum for reference.

Clarification – The tank foundation for the 60,000-gallon storage tank shall be included in Contract #3.

**2) Plans**

E1-E3 – Electrical Site Plan, Floor Plan and Riser Diagram have been modified to show underground secondary to building. Please see all attached electrical sheets.

**Prepared by:**

**JACOB | MARTIN**  
**TBPE Firm No. 2448**

\_\_\_\_\_  
**Bidder's Acknowledgment**

\_\_\_\_\_  
**Date**



**09/27/2023**

# **TCEQ WATER STORAGE TANK GENERAL CONSTRUCTION NOTES**

1. The water storage tank must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
2. All facilities for potable water storage shall be covered and designed, fabricated, erected, tested and disinfected in strict accordance with current American Water Works Association (AWWA) standards and shall be provided with the minimum number, size and type of roof vents, man ways, drains, sample connections, access ladders, overflows, liquid level indicators on-site, and other appurtenances as specified in these rules.
3. Disinfection of water storage facilities shall be in strict accordance with current AWWA Standard C652-11 or most recent.
4. Dechlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.
5. Bolted tanks shall be designed, fabricated, erected and tested in strict accordance with current AWWA Standard D103. Welded tanks shall be designed, fabricated, erected and tested in strict accordance with current AWWA Standard D100. The roof of all metal tanks shall be designed and erected so that no water ponds at any point on the roof and, in addition, no area of the roof shall have a slope of less than 0.75 inch per foot. Concrete tank roofs shall be constructed in strict compliance with their respective AWWA Standard.
6. Roof vents shall be installed in strict accordance with current AWWA standards and shall be equipped with approved screens to prevent entry of animals, birds, insects and heavy air contaminants. Screens shall be fabricated of corrosion resistant material and shall be 16 mesh or finer. Screens shall be securely clamped in place with stainless or galvanized bands or wires and shall be designed to withstand winds of not less than tank design criteria (unless specified otherwise by the engineer).
7. All roof openings shall be designed in accordance with current AWWA standards. If an alternate 30 inch diameter access opening is not provided in a storage tank, the primary roof access opening shall not be less than 30 inches in diameter. Other roof openings required only for ventilating purposes during cleaning, repairing or painting operations shall be not less than 24 inches in diameter or as specified by the licensed professional engineer. An existing tank without a 30-inch in diameter access opening must be modified to meet this requirement when major repair or maintenance is performed on the tank. Each access opening shall have a raised curbing at least four inches in height with a lockable cover that overlaps the curbing at least two inches in a downward direction. Where necessary, a gasket shall be used to make a positive seal when the hatch is closed. All hatches shall remain locked except during inspections and maintenance.

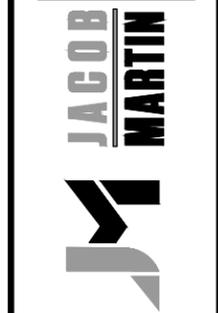
8. Overflows shall be designed in strict accordance with current AWWA standards and shall terminate with a gravity-hinged and weighted cover, an elastomeric duckbill valve, or other approved device to prevent the entrance of insects and other nuisances. The cover shall fit tightly with no gap over 1/16 inches. If the overflow terminates at any point other than the ground level, it shall be located near enough and at a position accessible from a ladder or the balcony for inspection purposes. The overflow(s) shall be sized to handle the maximum possible fill rate without exceeding the capacity of the overflow(s). The discharge opening of the overflow(s) shall be above the surface of the ground and shall not be subject to submergence.
9. All clearwells and water storage tanks shall have a liquid level indicator located at the tank site. The indicator can be a float with a moving target, an ultrasonic level indicator, or a pressure gauge calibrated in feet of water. If an elevated tank or standpipe has a float with moving target indicator, it must also have a pressure indicator located at ground level. Pressure gauges must not be less than three inches in diameter and calibrated at not more than two-foot intervals. Remote reading gauges at the owner's treatment plant or pumping station will not eliminate the requirement for a gauge at the tank site unless the tank is located at the plant or station.
10. Inlet and outlet connections shall be located so as to prevent short circuiting or stagnation of water. Clearwells used for disinfectant contact time shall be appropriately baffled.
11. Clearwells and potable water storage tanks shall be thoroughly tight against leakage, shall be located above the ground water table and shall have no walls in common with any other plant units containing water in the process of treatment. All associated appurtenances including valves, pipes and fittings shall be tight against leakage.
12. Each clearwell or potable water storage tank shall be provided with a means of removing accumulated silt and deposits at all low points in the bottom of the tank. Drains shall not be connected to any waste or sewage disposal system and shall be constructed so that they are not a potential agent in the contamination of the stored water.
13. All clear wells, ground storage tanks, standpipes, and elevated tanks shall be painted, disinfected, and maintained in strict accordance with current AWWA standards. However, no temporary coatings, wax grease coatings, or coating materials containing lead will be allowed. No other coatings will be allowed which are not approved for use (as a contact surface with potable water) by the United States Environmental Protection Agency (EPA), NSF International, or the United States Food and Drug Administration (FDA). All newly installed coatings must conform to ANSI/NSF International Standard 61 and must be certified by an organization accredited by ANSI.
14. No tanks or containers shall be used to store potable water that has previously been used for any non-potable purpose. Where a used tank is proposed for use, a letter from the previous owner or owners must be submitted to the Commission which states the use of the tank.

15. Access manways in the riser pipe, shell area, access tube, bowl area or any other location opening directly into the water compartment shall be located in strict accordance with current AWWA standards. These openings shall not be less than 24 inches in diameter. However, in the case of a riser pipe or access tube of 36 inches in diameter or smaller, the access manway may be 18 inches times 24 inches with the vertical dimension not less than 24 inches. The primary access manway in the lower ring or section of a ground storage tank shall be not less than 30 inches in diameter. Where necessary, for any access manway which allows direct access to the water compartment, a gasket shall be used to make a positive seal when the access manway is closed.
16. Service pump installation taking suction from storage tanks shall provide automatic low water level cutoff devices to prevent damage to the pumps. The service pump circuitry shall also resume pumping automatically once the minimum water level is reached in the tank.
17. Pursuant to 30 TAC §290.44(b)(1), the maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent.



Edward R. Wells
   
 License No. 68579
   
 Expires September 12, 2023

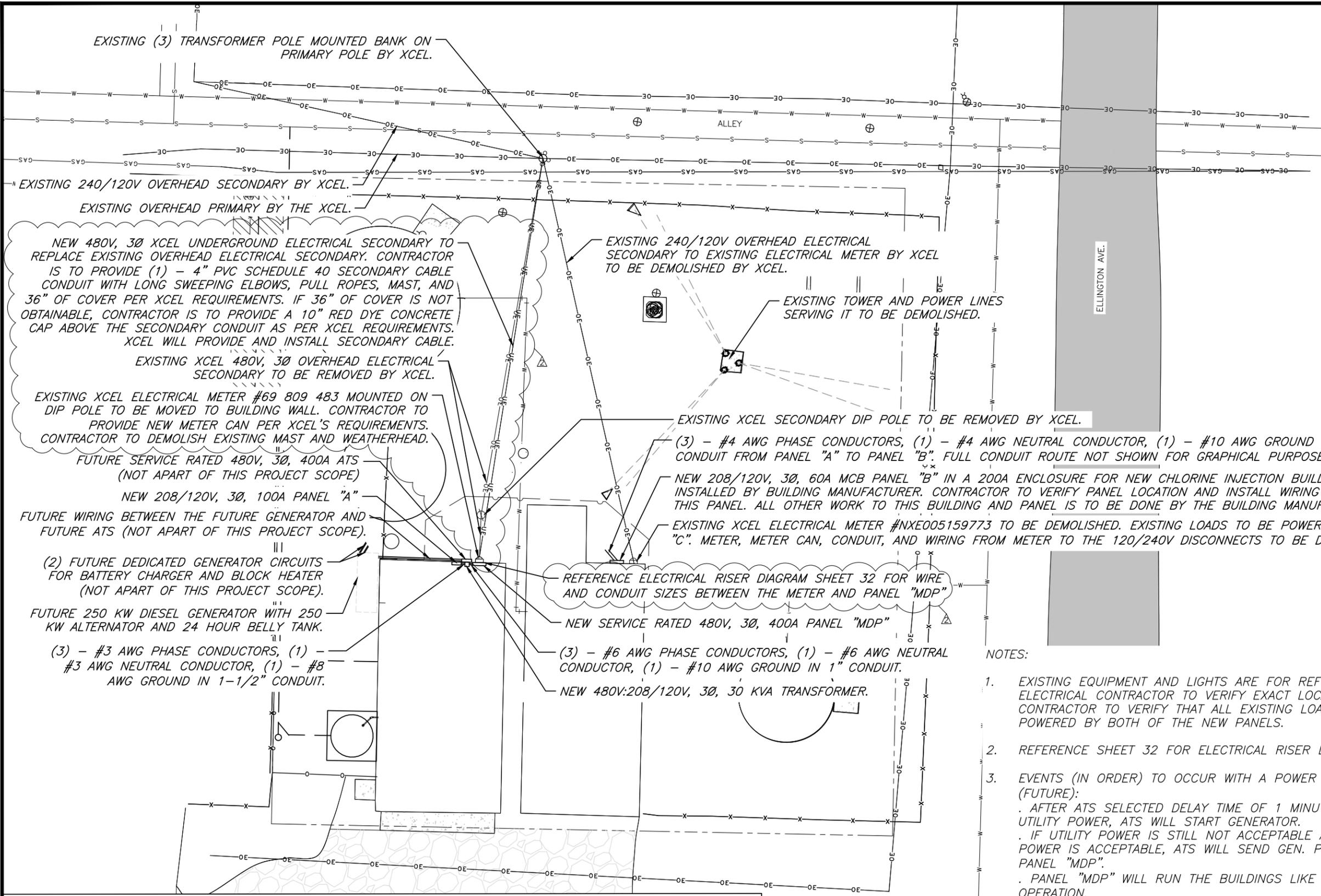
JACOB MARTIN
   
 ELECTRICAL ENGINEERS
   
 1008 SANTA FE DR. STE 204
   
 WEST WEAVER, TX 76786
   
 817-594-9880
   
 11590 C.C. TY 79414
   
 806-298-6375
   
 EIR# F-2428



CITY OF ROPESVILLE
   
 DWSRF WATER TREATMENT PLANT
   
 ELECTRICAL SITE PLAN

NO.	REVISION	DATE	SCALE	1"=40'	PROJECT #	19119	DESIGNED	ERW	CHECKED	ERW
		09/26/2023			ADDENDUM #2		DRAWN	CC		

SHEET E-1
   
 SEQ. 30 OF 33



NEW 480V, 3Ø XCEL UNDERGROUND ELECTRICAL SECONDARY TO REPLACE EXISTING OVERHEAD ELECTRICAL SECONDARY. CONTRACTOR IS TO PROVIDE (1) - 4" PVC SCHEDULE 40 SECONDARY CABLE CONDUIT WITH LONG SWEEPING ELBOWS, PULL ROPES, MAST, AND 36" OF COVER PER XCEL REQUIREMENTS. IF 36" OF COVER IS NOT OBTAINABLE, CONTRACTOR IS TO PROVIDE A 10" RED DYE CONCRETE CAP ABOVE THE SECONDARY CONDUIT AS PER XCEL REQUIREMENTS. XCEL WILL PROVIDE AND INSTALL SECONDARY CABLE.

EXISTING XCEL 480V, 3Ø OVERHEAD ELECTRICAL SECONDARY TO BE REMOVED BY XCEL.
   
 EXISTING XCEL ELECTRICAL METER #69 809 483 MOUNTED ON DIP POLE TO BE MOVED TO BUILDING WALL. CONTRACTOR TO PROVIDE NEW METER CAN PER XCEL'S REQUIREMENTS. CONTRACTOR TO DEMOLISH EXISTING MAST AND WEATHERHEAD.

FUTURE SERVICE RATED 480V, 3Ø, 400A ATS (NOT APART OF THIS PROJECT SCOPE)
   
 NEW 208/120V, 3Ø, 100A PANEL "A"
   
 FUTURE WIRING BETWEEN THE FUTURE GENERATOR AND FUTURE ATS (NOT APART OF THIS PROJECT SCOPE).

(2) FUTURE DEDICATED GENERATOR CIRCUITS FOR BATTERY CHARGER AND BLOCK HEATER (NOT APART OF THIS PROJECT SCOPE).

FUTURE 250 KW DIESEL GENERATOR WITH 250 KW ALTERNATOR AND 24 HOUR BELLY TANK.

(3) - #3 AWG PHASE CONDUCTORS, (1) - #3 AWG NEUTRAL CONDUCTOR, (1) - #8 AWG GROUND IN 1-1/2" CONDUIT.

EXISTING 240/120V OVERHEAD ELECTRICAL SECONDARY TO EXISTING ELECTRICAL METER BY XCEL TO BE DEMOLISHED BY XCEL.

EXISTING TOWER AND POWER LINES SERVING IT TO BE DEMOLISHED.

EXISTING XCEL SECONDARY DIP POLE TO BE REMOVED BY XCEL.

(3) - #4 AWG PHASE CONDUCTORS, (1) - #4 AWG NEUTRAL CONDUCTOR, (1) - #10 AWG GROUND IN 1-1/4" CONDUIT FROM PANEL "A" TO PANEL "B". FULL CONDUIT ROUTE NOT SHOWN FOR GRAPHICAL PURPOSES.

NEW 208/120V, 3Ø, 60A MCB PANEL "B" IN A 200A ENCLOSURE FOR NEW CHLORINE INJECTION BUILDING PROVIDED AND INSTALLED BY BUILDING MANUFACTURER. CONTRACTOR TO VERIFY PANEL LOCATION AND INSTALL WIRING AND CONDUIT TO THIS PANEL. ALL OTHER WORK TO THIS BUILDING AND PANEL IS TO BE DONE BY THE BUILDING MANUFACTURER.

EXISTING XCEL ELECTRICAL METER #NXE005159773 TO BE DEMOLISHED. EXISTING LOADS TO BE POWERED BY NEW PANEL "C". METER, METER CAN, CONDUIT, AND WIRING FROM METER TO THE 120/240V DISCONNECTS TO BE DEMOLISHED.

REFERENCE ELECTRICAL RISER DIAGRAM SHEET 32 FOR WIRE AND CONDUIT SIZES BETWEEN THE METER AND PANEL "MDP"

NEW SERVICE RATED 480V, 3Ø, 400A PANEL "MDP"

(3) - #6 AWG PHASE CONDUCTORS, (1) - #6 AWG NEUTRAL CONDUCTOR, (1) - #10 AWG GROUND IN 1" CONDUIT.

NEW 480V:208/120V, 3Ø, 30 KVA TRANSFORMER.

- NOTES:
- EXISTING EQUIPMENT AND LIGHTS ARE FOR REFERENCE ONLY. ELECTRICAL CONTRACTOR TO VERIFY EXACT LOCATION. CONTRACTOR TO VERIFY THAT ALL EXISTING LOADS ARE POWERED BY BOTH OF THE NEW PANELS.
  - REFERENCE SHEET 32 FOR ELECTRICAL RISER DIAGRAM.
  - EVENTS (IN ORDER) TO OCCUR WITH A POWER OUTAGE (FUTURE):
    - AFTER ATS SELECTED DELAY TIME OF 1 MINUTE OF NO UTILITY POWER, ATS WILL START GENERATOR.
    - IF UTILITY POWER IS STILL NOT ACCEPTABLE AND GEN. POWER IS ACCEPTABLE, ATS WILL SEND GEN. POWER TO PANEL "MDP".
    - PANEL "MDP" WILL RUN THE BUILDINGS LIKE NORMAL OPERATION.
  - ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND COORDINATING INSTALLATIONS AND REQUIRED INSPECTIONS WITH XCEL AND ANY ELECTRICAL COSTS BY THE UTILITY. XCEL CONTACT PERSON IS NOSA OSAGHAE, OFFICE PHONE #: (806)-796-3212 AND EMAIL: NOSAMUDIANA.A.OSAGHAE@XCELENERGY.COM.
  - DIESEL GENERATOR, ATS, GENERATOR PAD, AND RELATED CONDUIT AND WIRING ARE FUTURE AND NOT APART OF THIS PROJECT SCOPE.

LIGHTING FIXTURE SCHEDULE

FIXTURE MARK	MANUFACTURER & CATALOG NUMBER	TYPE	LAMPS BULBS	VOLTAGE	SUPPORT	NOTES
A	COOPER MODEL #: 8TSNLED-LD5-835L-LN-UNV-L840-CD1-U	1'X8'	LED	UNV	CEILING MOUNT (MOUNT ON BEAMS)	FIXTURE "A" IS THE ONLY NEW FIXTURE. TYPE "B", "C", "D" ARE EXISTING FIXTURES.
B	EXISTING	BULB	-	120V	CEILING MOUNT	
C	EXISTING	1'X4'	-	120V	CEILING MOUNT	
D	EXISTING	EXTERIOR WALL PACK	-	120V	WALL MOUNT	

X:\C\ropesville\19119 - TW0B DWSRF Water Treatment Plant\Drafting\_Plans\E-Electrical\E-1 ELECTRICAL SITE PLAN.dwg

LEGEND

- (A) 1X8 LIGHT FIXTURE
  - (B) CEILING MOUNTED BULB LIGHT FIXTURE
  - (C) 1X4 LIGHT FIXTURE
  - (D) EXTERIOR WALL PACK LIGHT FIXTURE
  - \$ LIGHT SWITCH
  - Q DUPLEX OUTLET
  - ⊕ QUAD OUTLET
  - PANEL — BREAKER #
  - C-5,7 HOMERUN
- NOTE: X DENOTES FIXTURES SCHEDULE DESIGNATION

GENERAL ELECTRICAL NOTES:

1. NFPA 70 - NATIONAL ELECTRIC CODE: MOST RECENT EDITION ADOPTED BY AUTHORITY HAVING JURISDICTION, INCLUDING ALL APPLICABLE AMENDMENTS AND SUPPLEMENTS.
2. ALL CIRCUITS SHALL BE A MINIMUM SIZE OF 12 GAUGE AND A MINIMUM 3/4" CONDUIT.
3. ALL CIRCUITS SHALL CONTAIN A GROUND WIRE.
4. EACH CIRCUIT SHALL CONTAIN ITS OWN NEUTRAL WIRE. NO NEUTRAL SHARING SHALL BE ALLOWED.
5. ALL CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE SHOWN ON PLAN. USE THHW, THW, THWN, OR XHHW.
6. ALL NEW INTERIOR CIRCUITS SHALL BE RAN IN IMT CONDUIT EXPOSED. HOLD CIRCUITS TIGHT TO CEILINGS AND WALLS. DO NOT SUPPORT OFF PIPING OR DUCTWORK. CONDUIT SHALL BE RAN PARALLEL TO BUILDING ELEMENTS AND SHALL BE WELL SUPPORTED.
7. CLEAR, READABLE PANEL DIRECTORIES ARE REQUIRED FOR ALL NEW PANELS & EXISTING PANELS THAT ARE MODIFIED UNDER THIS PROJECT.
8. LABEL ALL NEW PANELS, TRANSFORMERS, & DISCONNECT SWITCHES WITH ENGRAVED PLASTIC SIGNS, RED BACKGROUND WITH WHITE LETTERS. USE MINIMUM SIZE OF 4"x2". SCREW OR RIVET TO PANEL. SIGN NEEDS TO GIVE PANEL NAME, AMPERAGE, VOLTAGE, & PHASE.
9. COORDINATE THE LOCATIONS OF ALL ELECTRICAL EQUIPMENT, DEVICES, FIXED EQUIPMENT, ETC. WITH OWNER PRIOR TO ROUGH-IN-WORK. DO NOT SCALE ELECTRICAL DRAWINGS.
10. ELECTRICAL DESIGN PROVIDES A NUMBER OF BRANCH CIRCUITS, PHASES, AMPACITY AND OVERCURRENT PROTECTION CONFORMING TO MANUFACTURE'S SPECIFICATIONS AVAILABLE AT TIME OF DESIGN. IF REQUIREMENTS OF EQUIPMENT ACTUALLY PROVIDED UNDER CONTRACT FOR CONSTRUCTION ARE DIFFERENT, CONTRACTOR SHALL MAKE ALL CHANGES REQUIRED WITHOUT INCREASE IN THE CONTRACT AMOUNT. SUCH CHANGES MAY INCLUDE, BUT ARE NOT LIMITED TO: SIZE OF WIRES, SIZE OF CONDUIT, NUMBER, TYPE AND SIZE OF CIRCUIT BREAKERS, FUSE PROTECTION AND ADDITIONAL DISCONNECT SWITCHES.
11. JUNCTION/PULL BOXES LOCATED AT CEILING SHALL BE INSTALLED FACING DOWN AND SHALL BE ACCESSIBLE AFTER INSTALLATION. COORDINATE WITH OTHER TRADES AND STRUCTURE.
12. EXISTING UTILITIES, ELECTRICAL EQUIPMENT AND UNDERGROUND OR CONCEALED ITEMS ARE SHOWN FOR REFERENCE ONLY. ADDITIONAL ITEMS NOT SHOWN MAY BE PRESENT AND LOCATIONS MAY DIFFER FROM THAT SHOWN. CONTRACTOR SHALL PERFORM WORK AS TO AVOID DAMAGE TO EXISTING ITEMS. SHALL NOTIFY OWNER AND ENGINEER AT ONCE OF ALL DAMAGE AND SHALL REPAIR DAMAGE TO ORIGINAL CONDITION TO THE SATISFACTION OF OWNER AND ENGINEER AT NO CHANGE IN CONTRACT AMOUNT.
13. ELECTRICAL CONTRACTOR SHALL VERIFY EQUIPMENT AND CONDUCTOR SIZE PRIOR TO ORDERING AND INSTALLATION OF ANY EQUIPMENT OR CONDUCTORS. REPORT ALL DISCREPANCIES TO THE ENGINEER.
14. CONTRACTOR SHALL PROVIDE SUITABLE MATERIALS AND CONSTRUCTION METHODS TO PREVENT DAMAGE TO CONDUIT SWEEPS RESULTING FROM INSTALLATION OF LARGE CONDUCTORS.
15. PROVIDE GRAY SWITCHES AND OUTLETS WITH STAINLESS STEEL COVERS IN METAL ELECTRICAL BOXES.
16. ALL OUTLETS TO BE RATED AT A MINIMUM OF 20 AMPS
17. THE CONTRACTOR WILL LABEL THE SERVICE DISCONNECT WITH FOLLOWING " THE MAXIMUM AVAILABLE FAULT CURRENT IS \_\_\_\_\_ AMPS. CALCULATED \_\_\_\_\_ 2023" NOTE: CALCULATED # AND DATE TO BE SUPPLIED BY JACOB MARTIN. THE LABEL MUST BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED AS STATED IN THE NEC PARAGRAPH 110.24
18. CONTRACTOR WILL REMOVE ALL CABLE SPLICERS AND TWIST ON WIRE CONNECTORS. THEY ARE TO BE REPLACED WITH CIRCUIT CABLES CONNECTED TO BREAKERS OR FUSES FOR OVERCURRENT PROTECTION AS REQUIRED BY THE NEC.

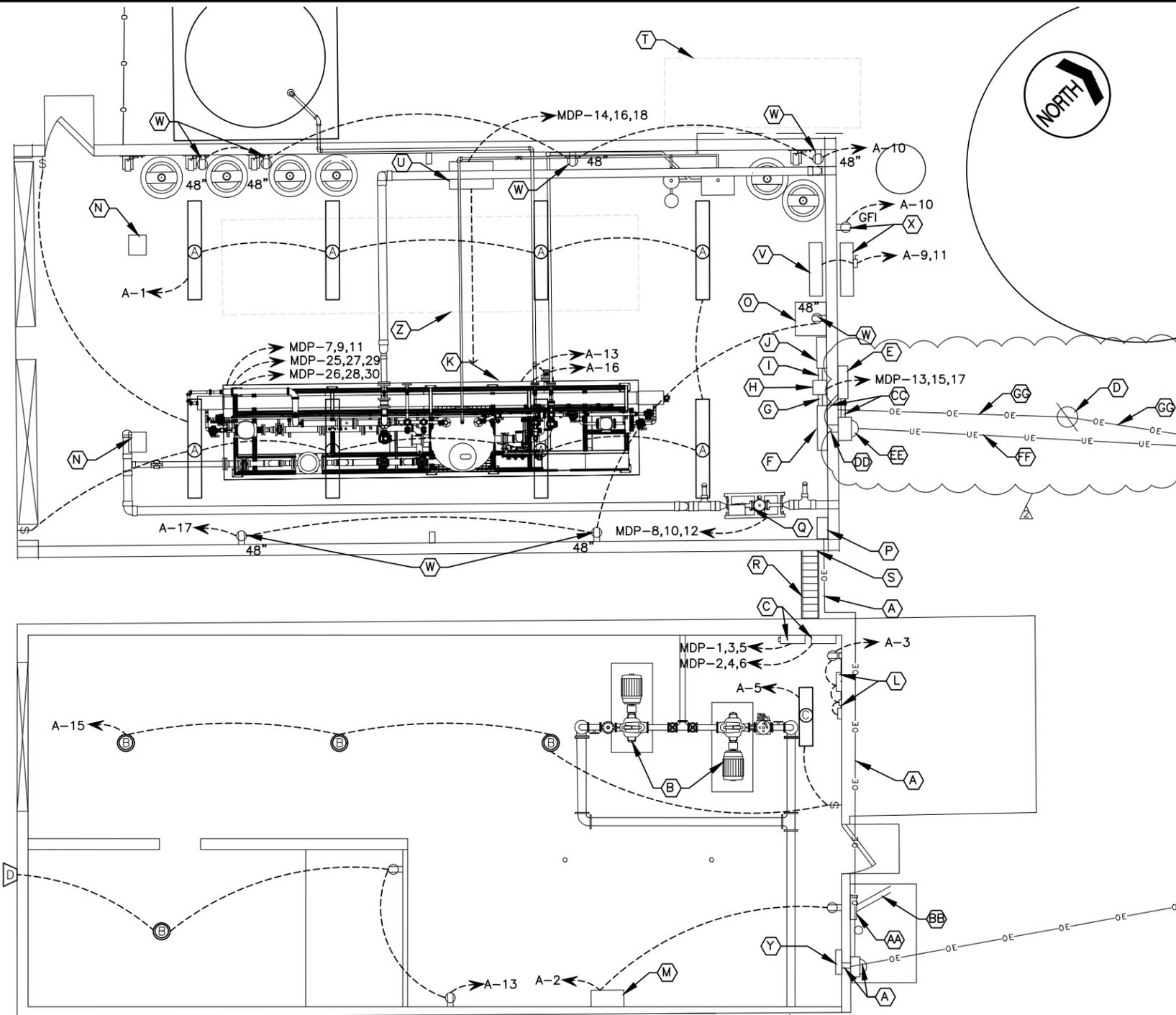
PLAN NOTES

- (A) EXISTING XCEL ELECTRICAL METER #NXE005159773, METER, METER CAN, CONDUIT, AND WIRING TO BE DEMOLISHED BY THE CONTRACTOR.
- (B) EXISTING 40 HP PUMPS TO REMAIN.
- (C) EXISTING PUMP PANELS TO REMAIN.
- (D) EXISTING XCEL SECONDARY DIP POLE TO BE DEMOLISHED
- (E) FUTURE SERVICE RATED 480V, 3Ø, 400A ATS (NOT APART OF THIS PROJECT SCOPE).
- (F) NEW SERVICE RATED 480V, 3Ø, 400A PANEL "MDP".  
(3) - #6 AWG PHASE CONDUCTORS, (1) - #6 AWG NEUTRAL CONDUCTOR, (1) - #10 AWG GROUND IN 1" CONDUIT.
- (H) NEW 480:208/120V, 3Ø, 30 KVA STEP DOWN TRANSFORMER.  
(3) - #3 AWG PHASE CONDUCTORS, (1) - #3 AWG NEUTRAL CONDUCTOR, (1) - #8 AWG GROUND IN 1-1/2" CONDUIT.
- (J) NEW 208/120V, 3Ø, 100A PANEL "A"

- (K) NEW RO SKID BY OTHERS. CONTRACTOR TO VERIFY CIRCUIT LOCATION AND WIRING METHOD.
- (L) EXISTING CONTROL PANELS TO REMAIN.
- (M) EXISTING 1200W WALL HEATER.
- (N) EXISTING 1/2 HP GARAGE DOOR OPENERS TO BE DEMOLISHED.
- (O) EXISTING 2000W WALL MOUNTED HEATER AND GAS PIPING TO BE DEMOLISHED.
- (P) EXISTING DISCONNECT AND LOAD CENTER TO BE DEMOLISHED.
- (Q) NEW 480V, 3Ø, 10 HP FEED PUMP.  
6' LONG X 24" WIDE CABLE TRAY BETWEEN BUILDING WITH SEALING BOOT ON CABLE ENTRANCE HOLES THAT IS VARMINT PROOF AND WEATHER RESISTANT. SEALING BOOT TO BE REMOVABLE AND RESEALABLE PER MANUFACTURER'S INSTRUCTIONS REQUIRED FOR THIS PROCESS. CABLE TRAY TO PENETRATE BOTH WALLS. CONTRACTOR TO VERIFY CABLE TRAY SIZE TO ACCOMMODATE ALL CONDUIT NEEDED. CABLE TRAY TO BE INSTALLED ACCORDING TO 2017 NEC ARTICLE 392.
- (R) EXISTING LOAD CENTER AND ATTACHED CONVENIENCE RECEPTACLE TO BE DEMOLISHED. CONTRACTOR TO VERIFY THAT LOADS ARE MOVED TO PANEL "A".
- (Z) FUTURE RO SKID LOCATION.

- (S) EXISTING WALL PENETRATION TO EXISTING DISCONNECT TO BE RE-USED FOR CABLE TRAY. CABLE TRAY TO BE INSTALLED AT THE HEIGHT OF THE EXISTING PENETRATION.
- (T) FUTURE 250 KW DIESEL GENERATOR. REFERENCE ELECTRICAL SITE PLAN (SHEET E-1) FOR MORE DETAILS.
- (U) NEW 480V, 3Ø, 5 HP AIR COMPRESSOR FOR VALVE ACTUATORS.
- (V) NEW INDOOR UNIT FOR THE MINISPLIT. BASIS OF DESIGN IS THE LG LSN240HEV2 UNIT. CONTRACTOR TO VERIFY LOCATION OF THE INDOOR UNIT.
- (W) NEW RECEPTACLES MOUNTED AT 48" A.F.F. ALL EXISTING RECEPTACLES IN THE WTP BUILDING (METAL BUILDING) TO BE REMOVED.
- (X) NEW OUTDOOR UNIT FOR THE MINISPLIT. BASIS OF DESIGN IS THE LG LSU240HEV2 UNIT. CONTRACTOR TO PROVIDE WITH 208V, 1Ø, 20A DISCONNECT AND GFI CONVENIENCE RECEPTACLE. CONTRACTOR TO VERIFY EXTERIOR LOCATION OF THE UNIT.
- (Y) EXISTING LOAD CENTER AND ATTACHED CONVENIENCE RECEPTACLE TO BE DEMOLISHED. CONTRACTOR TO VERIFY THAT LOADS ARE MOVED TO PANEL "A".
- (Z) FUTURE RO SKID LOCATION.

- (AA) NEW 208/120V, 3Ø, 60A MCB PANEL "B" IN A 200A ENCLOSURE FOR THE NEW CHLORINE INJECTION BUILDING PROVIDED AND INSTALLED BY THE BUILDING MANUFACTURER. CONTRACTOR TO VERIFY PANEL LOCATION AND INSTALL WIRING AND CONDUIT TO THIS PANEL. ALL OTHER WORK TO THIS BUILDING AND PANEL IS TO BE DONE BY THE BUILDING MANUFACTURER.
- (BB) (3) - #4 AWG PHASE CONDUCTORS, (1) - #4 AWG NEUTRAL CONDUCTOR, (1) - #10 AWG GROUND IN 1-1/4" CONDUIT FROM PANEL "A" TO PANEL "B". FULL CONDUIT ROUTE NOT SHOWN FOR GRAPHICAL PURPOSES.
- (CC) FUTURE WIRING AND CONDUIT FOR FUTURE ATS (NOT APART OF THIS PROJECT SCOPE).
- (DD) 2 SETS PARALLEL: (3) - 3/0 PHASE CONDUCTORS, (1) - 3/0 NEUTRAL CONDUCTOR IN 2" CONDUIT FROM METER TO PANEL "MDP".
- (EE) EXISTING XCEL ELECTRICAL METER #69 809 483 CURRENTLY MOUNTED ON SECONDARY DIP POLE TO BE MOVED TO BUILDING WALL. CONTRACTOR TO PROVIDE NEW METER CAN PER XCEL'S REQUIREMENTS. EXISTING MAST AND WEATHERHEAD TO BE DEMOLISHED BY THE CONTRACTOR.
- (FF) NEW XCEL 480V, 3Ø UNDERGROUND ELECTRICAL SECONDARY. REFERENCE ELECTRICAL SITE PLAN SHEET 30 FOR FULL CONDUIT ROUTE AND MORE DETAILS.
- (GG) EXISTING XCEL OVERHEAD ELECTRICAL SECONDARY TO BE REMOVED BY XCEL.



PUMP STATION ELECTRICAL PLAN

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



4456 CURRY LANE  
ARLINGTON, TX 76010  
255-698-1070  
1508 SANTA FE DR, STE 204  
WEAVERFORD, TX 76086  
817-594-9880  
68579  
4456 CURRY LANE, STE 104  
LUBBOCK, TX 79414  
806-998-6375  
FIRM # F-24108

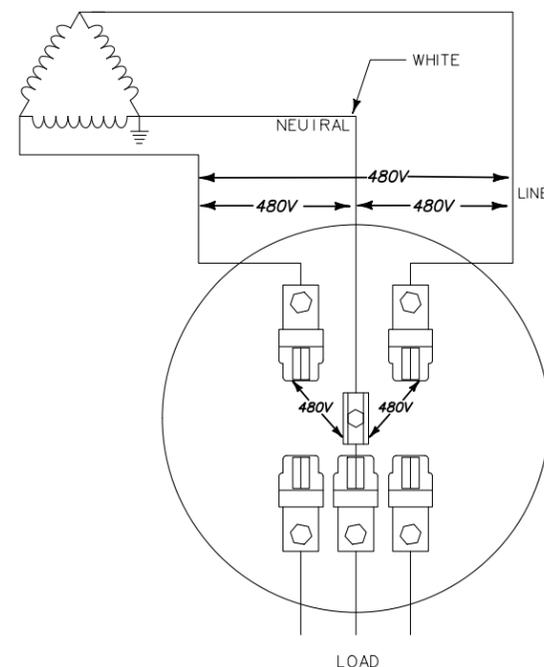


CITY OF ROPESVILLE  
DWSRF WATER TREATMENT PLANT  
ELECTRICAL FLOOR PLAN

NO.	REVISION	DATE	SCALE	1/8"=1'
1		09/26/2023		
	ADDENDUM #2			
	DESIGNED	ERW		
	DRAWN	CC		
	CHECKED	ERW		
PROJECT #		19119		
SHEET		E-2		
SEQ.		31 OF 33		

BRANCH CIRCUIT AND SERVICE CONDUCTOR SIZING SCHEDULE					
BRANCH CIRCUIT/ FEEDER IDENTIFICATION	OVERCURRENT DEVICE	PHASE AND NEUTRAL CONDUCTOR S (AWG/Kcmil)	EQUIPMENT GROUNDING CONDUCTOR(S) (AWG/Kcmil)	GROUNDING ELECTRODE CONDUCTOR (AWG/Kcmil)	CONDUIT
F20	20	12	12	---	1/2"
F25	25	10	10	---	1/2"
F30	30	10	10	---	1/2"
F35	35	8	10	---	1"
F40	40	8	10	---	1"
F45	45	8	10	---	1"
F50	50	8	10	8	1"
F60	60	6	10	8	1"
F70	70	4	8	8	1-1/4"
F80	80	4	8	8	1-1/4"
F90	90	2	8	8	1-1/4"
F100	100	2	8	8	1-1/2"
F125	125	1/0	6	6	2"
F150	150	1/0	6	6	2"
F175	175	2/0	6	4	2"
F200	200	3/0	6	4	2"
F225	225	4/0	4	2	2-1/2"
F250	250	250 kcmil	4	2	2-1/2"
F300	300	350 kcmil	4	2	3"
F350	350	500 kcmil	2	1/0	4"
F400	400	(2) 3/0	(2) 2	1/0	(2) 2"
F450	450	(2) 4/0	(2) 2	1/0	(2) 2-1/2"
F500	500	(2) 250 kcmil	(2) 2	1/0	(2) 2-1/2"
F600	600	(2) 350 kcmil	(2) 1/0	2/0	(2) 3"
F700	700	(2) 500 kcmil	(2) 1/0	2/0	(2) 4"
F800	800	(3) 300 kcmil	(3) 1/0	2/0	(3) 3"
F1000	1000	(3) 400 kcmil	(3) 2/0	3/0	(3) 3"
F1200	1200	(4) 350 kcmil	(4) 3/0	3/0	(4) 3"
F1600	1600	(5) 400 kcmil	(5) 4/0	3/0	(5) 3"
F2000	2000	(6) 400 kcmil	(6) 250 kcmil	3/0	(6) 3"
F2500	2500	(7) 500 kcmil	(7) 350 kcmil	3/0	(7) 4"
F3000	3000	(8) 500 kcmil	(8) 400 kcmil	3/0	(8) 4"
F4000	4000	(11) 500 kcmil	(11) 500 kcmil	3/0	(11) 4"

- NOTES:
- WHERE BRANCH CIRCUIT OR FEEDER IS NOT DESIGNATED ON THE DRAWINGS, BRANCH CIRCUIT OR FEEDER SHALL BE SIZED TO MATCH THE OVERCURRENT DEVICE LISTED ABOVE.
  - GROUNDING ELECTRODE CONDUCTORS FOR SEPARATELY DERIVED SYSTEMS SHALL BE SELECTED BASED ON THE SECONDARY FEEDER OVERCURRENT DEVICE RATING



3 WIRE 480 VOLT THREE PHASE SELF CONTAINED CENTER PHASE DISCONNECT  
EXISTING XCEL ELECTRICAL SERVICE

NOTE:  
CONTRACTOR TO VERIFY VOLTAGES

REBAR SIZE	CABLE SIZE	MOLD PART NO.
3	2/0 AWG	RRC-512C
4	2/0 AWG	RRC-522C
5	2/0 AWG	RRC-532C
6	2/0 AWG	RRH-542C
7	2/0 AWG	RRH-552C
8	2/0 AWG	RRH-562C
9	2/0 AWG	RRH-572C
10	2/0 AWG	RRH-582C
11	2/0 AWG	RRH-592C
14	2/0 AWG	RRH-602C
18	2/0 AWG	RRH-612C

ITEM	QUANTITY	MATERIAL DESCRIPTION
1	AS REQ'D	WIRE, 2/0 BARE STRANDED, COPPER, RATED FOR DIRECT BURIAL
2	AS REQ'D	CABLE TO CABLE GROUND, CADWELD #TC-2025
3	AS REQ'D	CABLE TO REBAR, SEE REBAR GROUNDING DETAIL FOR PART # THIS SHEET
4	AS REQ'D	GROUNDING CONNECTOR, CADWELD CTC-182G
5	AS REQ'D	GROUND ROD, COPPER, 3/4" X 10'-0" LONG
6	AS REQ'D	GROUND ENHANCEMENT MATERIAL

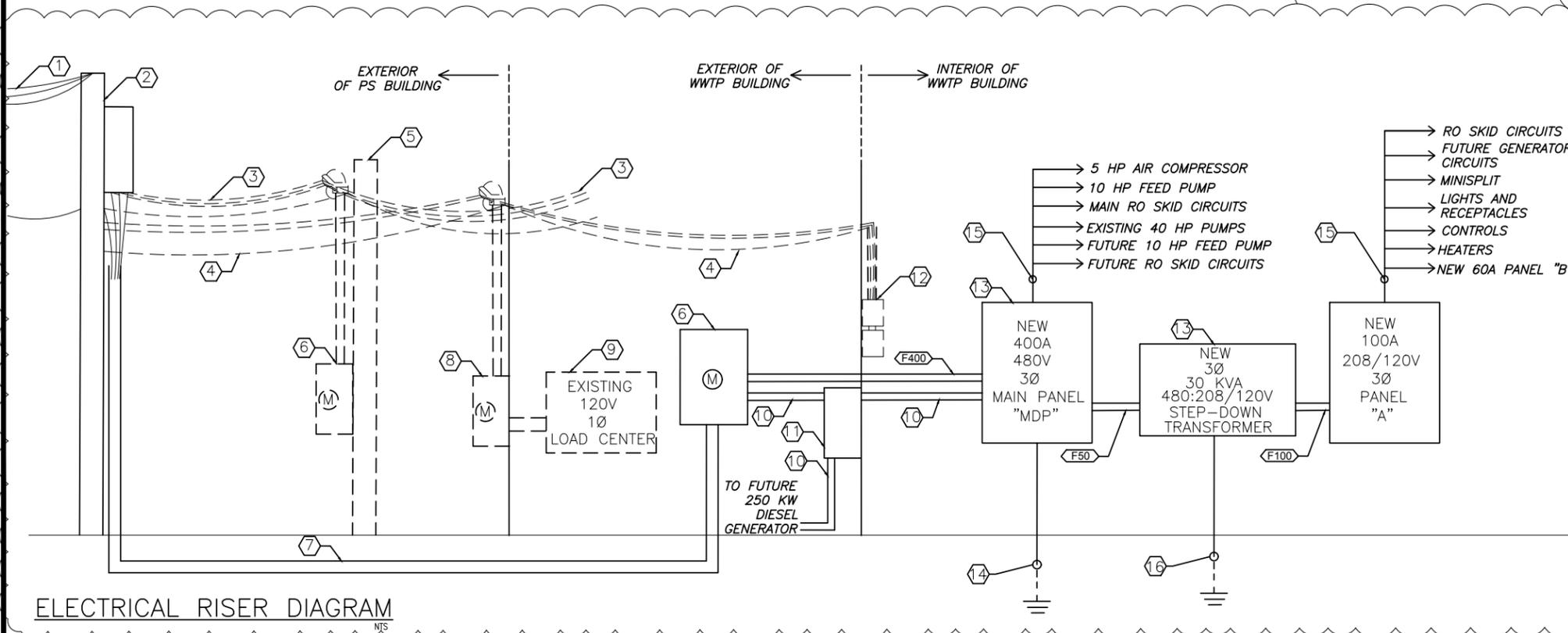
GROUND LOOP DETAIL

TYPICAL 4 PLACES

TYPICAL 2 PLACES BUILDING, STRUCTURAL STEEL, VESSEL OR TANK

6'-0" PIG TAIL LOCATION

LEGEND	
●	GROUND CONNECTION
---	4/0 MCM BARE COPPER GROUNDING CONDUCTOR
---	2/0 MCM BARE COPPER GROUNDING CONDUCTOR
-X-	#2 THIN GREEN COVERED CABLE



ELECTRICAL RISER DIAGRAM

ELECTRICAL NOTES BY REFERENCE (#)

- EXISTING XCEL OVERHEAD 480V, 3Ø ELECTRICAL PRIMARY TO REMAIN.
- EXISTING XCEL PRIMARY POLE WITH (3) TRANSFORMER BANK FOR 480V, 3Ø SERVICE AND NETWORK SYSTEM FOR 240/120V, 1Ø SERVICE.
- EXISTING XCEL OVERHEAD 480V, 3Ø ELECTRICAL SECONDARY TO BE REMOVED BY XCEL.
- EXISTING 240/120V, 1Ø ELECTRICAL SERVICE TO BE DEMOLISHED BY XCEL.
- EXISTING XCEL SECONDARY DIP POLE TO BE REMOVED BY XCEL.
- EXISTING XCEL ELECTRICAL METER #69 809 483 CURRENTLY MOUNTED ON SECONDARY DIP POLE TO BE MOVED TO BUILDING WALL. CONTRACTOR TO PROVIDE NEW METER CAN PER XCEL'S REQUIREMENTS. EXISTING MAST AND WEATHERHEAD TO BE DEMOLISHED BY THE CONTRACTOR.
- NEW 480V, 3Ø XCEL UNDERGROUND ELECTRICAL SECONDARY TO REPLACE EXISTING OVERHEAD ELECTRICAL SECONDARY. CONTRACTOR IS TO PROVIDE (1) - 4" PVC SCHEDULE 40 SECONDARY CABLE CONDUIT WITH LONG SWEEPING ELBOWS, PULL ROPES, MAST, AND 36" OF COVER PER XCEL REQUIREMENTS. IF 36" OF COVER IS NOT OBTAINABLE, CONTRACTOR IS TO PROVIDE A 10" RED DYE CONCRETE CAP ABOVE THE SECONDARY CONDUIT AS PER XCEL REQUIREMENTS. XCEL WILL PROVIDE AND INSTALL SECONDARY CABLE.
- EXISTING 240/120V, 1Ø METER #NXE005159773, METER CAN, CONDUIT, AND WIRING TO EXISTING PANELS TO BE DEMOLISHED BY THE CONTRACTOR.
- EXISTING DISCONNECT AND LOAD CENTER SERVED BY 240/120V, 1Ø SERVICE TO BE DEMOLISHED BY CONTRACTOR.
- FUTURE GENERATOR AND ATS CONDUIT AND WIRING (NOT APART OF THIS PROJECT SCOPE).
- FUTURE SERVICE RATED 480V, 3Ø, 400A ATS.
- EXISTING LOAD CENTER, WIRING, AND CONDUIT TO BE DEMOLISHED.
- BOND NEUTRAL TO GROUND IN THESE PANELS.
- (1) - 1/0 GROUND IN 1/2" PVC CONDUIT. CADWELD TO 3/8" x 10'-0" COPPER CLAD STEEL GROUND ROD.
- REFERENCE CIRCUIT SIZE SCHEDULE FOR WIRE SIZES.
- (1) - #8 AWG GROUND IN 1/2" PVC CONDUIT. CADWELD TO 3/8" x 10'-0" COPPER CLAD STEEL GROUND ROD.

X:\CL\Beneville\19119 - TWDB DWSRF Water Treatment Plant\Drafting\Plans\Electrical\E-3 RISER DIAGRAM & NOTES.dwg



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CITY OF ROPESVILLE  
DWSRF WATER TREATMENT PLANT

ELECTRICAL RISER DIAGRAM AND DETAILS

NO.	REVISION	DATE	SCALE	NTS	PROJECT #	DESIGNED	ERW	DRAWN	CC	CHECKED	ERW
1		09/26/2023			19119						

DATE: 09/26/2023  
PROJECT # 19119  
DESIGNED: ERW  
DRAWN: CC  
CHECKED: ERW

NO. REVISION: ADDENDUM #2  
DATE: 09/26/2023  
SCALE: AS SHOWN  
SHEET: E-3  
SEQ.: 32 OF 33