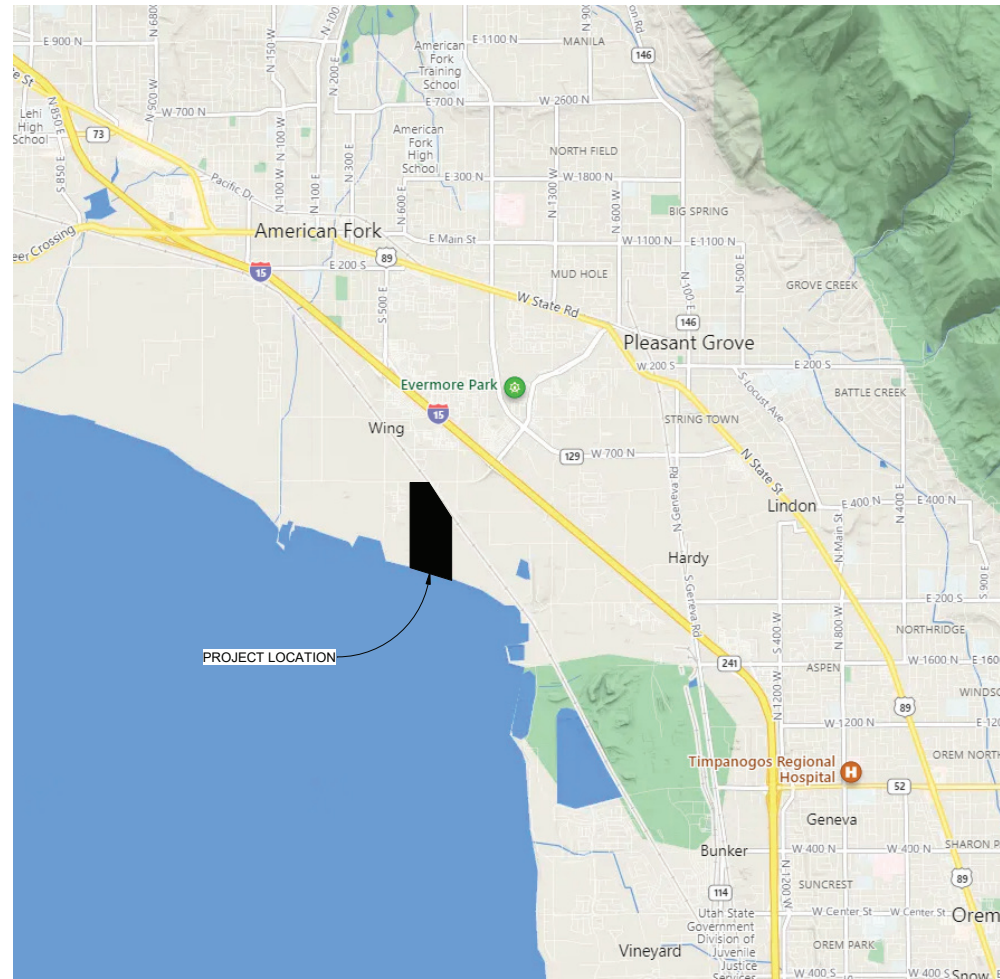
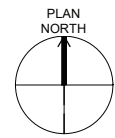


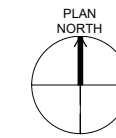


TIMPANOGOS SPECIAL SERVICE DISTRICT

TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT



VACINITY MAP



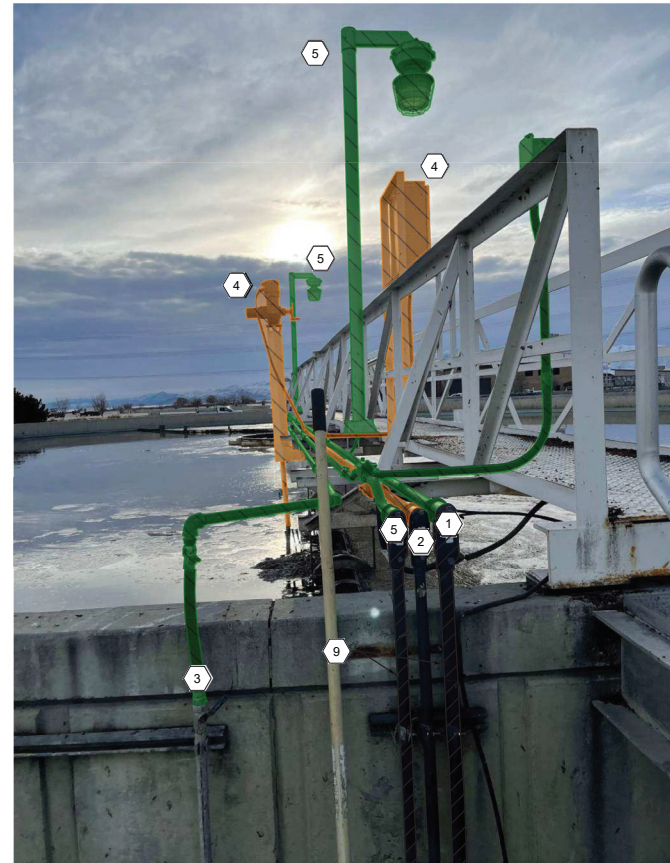
AERIAL MAP

JULY 2023
157492

BID SET



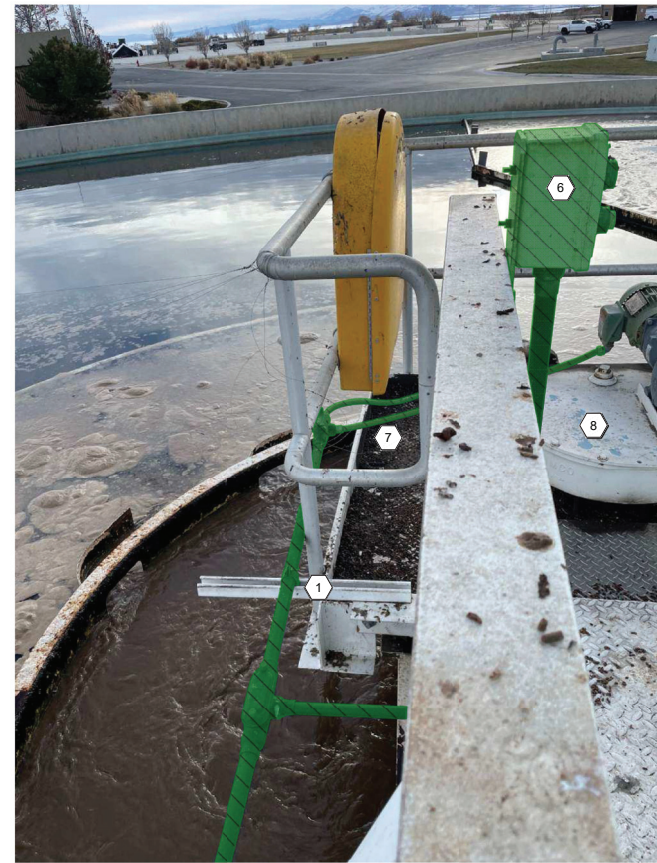
6975 UNION PARK CENTER, #490
MIDVALE, UTAH



EAST CLARIFIER E-3, VIEW SOUTHWEST



EAST CLARIFIER E-3, VIEW EAST



EAST CLARIFIER E-3, VIEW SOUTHWEST

GENERAL NOTES

- PHOTOS NOT TO SCALE. CONTRACTOR TO FIELD VERIFY REQUIRED MATERIALS, MATERIAL LENGTHS, DIMENSIONS, LOCATIONS, AND QUANTITIES.

KEY NOTES

- REMOVE EXISTING CLARIFIER DRIVE CONDUIT. ONCE WALKWAY REPLACEMENT IS COMPLETE, REINSTALL NEW CONDUIT AND CORRESPONDING CABLE. BID ALTERNATE: REINSTALL EXISTING CONDUIT AND WIRING WITH DRIVE REBUILD.
- REMOVE AND DISPOSE OF SCUM SKIMMER WIRING.
- REMOVE AND DISPOSE OF SKIMMER SPRAY PIPING FROM THIS LOCATION.
- REMOVE AND DISPOSE OF SKIMMER CONTROL PANELS, ACTUATORS, (CONDUIT FROM KEYNOTE 2 LOCATION) AND WIRING.
- REMOVE LIGHT POSTS, LUMINARIES, LUMINAIRE SWITCHES AND CORRESPONDING CABLE AND CONDUIT ONCE WALKWAY REPLACEMENT IS COMPLETE. REINSTALL LIGHT POSTS, LUMINARIES, LUMINAIRE SWITCHES AND CORRESPONDING CALBE AND CONDUIT. BID ALTERNATE: REMOVE AND REPLACE.
- BID ALTERNATE: REMOVE AND REPLACE CLARIFIER DRIVE CONTROLS ONCE WALKWAY REPLACEMENT IS COMPLETE.
- BID ALTERNATE: REMOVE DRIVE CONDUIT AND CORRESPONDING CABLE UNDER WALKWAY. ONCE WALKWAY REPLACEMENT IS COMPLETE WITH THE REBUILT DRIVES, REINSTALL EXISTING DRIVE CONDUIT AND CORRESPONDING CABLE UNDER WALKWAY.
- REMOVE, AND REPLACE CLARIFIER DRIVES, CORRESPONDING CONDUIT AND WIRING ONCE WALKWAY REPLACEMENT IS COMPLETE. CONTRACTOR TO COORDINATE WITH OWNER REGARDING SALVAGE OF EXISTING CLARIFIER DRIVES. BID ALTERNATE: REMOVE, REBUILD AND REINSTALL CLARIFIER DRIVES.
- DEMOLISH EXISTING CONDUIT FOR CLARIFIER E-3 REFEED. REPLACE WITH NEW CONDUIT. REPLACE PORTIONS OF THE SIDEWALK REMOVED FOR CONDUIT DEMOLITION AND REINSTALLATION.



Salt Lake City, UT

BID SET



TP-4 EAST
FACILITY UTILITIES
AND CLARIFIERS
REHABILITATION
PROJECT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: N.ANDERSON

DRAWN: B.NURSUWITO

CHECKED: M.PAGENDARM

CHECKED:

APPROVED: N.ANDERSON

FILENAME

ED-08-8002.DWG

CONSULTANT PROJECT NUMBER

157492

TSSD PROJECT NUMBER



157492

ELECTRICAL

EAST CLARIFIERS
E-3 ELECTRICAL
DEMOLITION
DETAILS

DRAWING NUMBER

ED-08-8002

-  ELECTRICAL ITEMS TO BE REMOVED, DISPOSED
-  ELECTRICAL ITEMS TO BE REMOVED AND REINSTALLED

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1	2	3	4	5	6																																	
<h3 style="text-align: center;">RACEWAYS</h3> <p>MANHOLE (MH), HANDHOLE (HH), PULLBOX (PB)</p> <p>JUNCTION BOX. OPTIONAL IDENTIFIER</p> <p>TERMINAL BOX. OPTIONAL IDENTIFIER</p> <p>HOME RUN EXPOSED - SEE PANELBOARD, SWITCHBOARD, OR MCC SCHEDULE FOR CIRCUIT INFORMATION</p> <p>EXAMPLE: HOME TO PANELBOARD PBD-1900, CIRCUITS 1, 3, AND 5</p> <p>HOME RUN CONCEALED - SEE PANELBOARD, SWITCHBOARD, OR MCC SCHEDULE FOR CIRCUIT INFORMATION.</p> <p>EXAMPLE: HOME TO PANELBOARD PBD-1900, CIRCUITS 1, 3, AND 5</p> <p>CABLE TRAY MODIFIERS: CTS - 24VDC OR LESS CTC - 120V CONTROL CONDUCTORS CTP - 600V POWER CONDUCTORS</p> <p>CABLE #4/0 AND LARGER SHALL NOT BE STACKED VERTICALLY</p> <p>WHEN TWO TRAY MODIFIERS IDENTIFY A SINGLE TRAY, THE CONTRACTOR MAY USE DIVIDER OR INSTALL SEPARATE TRAYS (CTC/CTS)</p> <p>CABLE TRAY WITH COVER MODIFIER, AS ABOVE</p> <p>RACEWAY IDENTIFIER</p> <p>RACEWAY EXPOSED MODIFIERS FOR RACEWAY TYPE: H - POWER (ABOVE 600V) P - POWER C - CONTROL S - SIGNAL D - DATA F - FIBER OPTIC PC - POWER AND CONTROL X - SPARE</p> <p>----- RACEWAY CONCEALED</p> <p>----- RACEWAY TURNED TOWARD THE VIEWER</p> <p>----- RACEWAY TURNED DOWN</p> <p>----- CONDUIT CAPPED</p> <p>DUCT BANK IDENTIFIER (OPTIONAL)</p> <p>DB --- DUCT BANK, DIRECT BURIED</p> <p>---CDB--- DUCT BANK, CONCRETE ENCASED</p> <p>---RC--- RC DUCTBANK, REINFORCED CONCRETE ENCASED</p> <p>---OH--- OVERHEAD POWER LINE</p>	<h3 style="text-align: center;">DISTRIBUTION EQUIPMENT</h3> <p>APPROXIMATE SHAPE AND SCALE REPRESENTED WHERE POSSIBLE. HOWEVER, EXACT SIZE AND NUMBER OF SECTIONS IS ESTIMATED</p> <p>FLOOR-STANDING DISTRIBUTION ASSEMBLY, SUCH AS A SWITCHBOARD, TRANSFORMER, OR MOTOR CONTROL CENTER</p> <p>EQUIPMENT DESIGNATION (REFER TO GENERAL SYMBOLS FOR SPECIFIC SYMBOL USE)</p> <p>WALL-MOUNTED DISTRIBUTION ASSEMBLY, SUCH AS PANELBOARD, MOTOR STARTER PANEL, OR TERMINAL CABINET</p> <p>EQUIPMENT DESIGNATION (REFER TO GENERAL SYMBOLS FOR SPECIFIC SYMBOL USE)</p> <h3 style="text-align: center;">LIGHTING</h3> <p>FIXTURE IDENTIFIER: XX = NUMBER OF FIXTURES (SHOWN ONLY WHEN REQUIRED FOR CLARITY) --- = FIXTURE TYPE. TYPE APPLIES TO ALL FIXTURES OF THE SAME SHAPE WITHIN A ROOM OR AREA.</p> <p>MOUNTING: L = POLE G = GROUND P = PENDANT R = RECESSED S = SURFACE W = WALL</p> <p>MOUNTING HEIGHT, FLOOR TO BOTTOM OF FIXTURE UON. AHAP= AS HIGH AS POSSIBLE. AD= ABOVE DOOR.</p> <p>NUMBER OF LAMPS/LAMP WATTAGE, OR TOTAL FIXTURE WATTAGE</p> <p>CONTROL: PHOTOCCELL, SWITCH, CONTACTOR</p> <p>LIGHTING FIXTURE SHAPES AND SCALE ARE REPRESENTED WHERE POSSIBLE. THE EXAMPLES SHOWN BELOW ARE TYPICAL APPLICATIONS</p> <p>RECESSED LIGHTING FIXTURE</p> <p>SUSPENDED PENDANT MOUNTED FIXTURE</p> <p>SURFACE MOUNTED FIXTURE</p> <p>LIGHTING FIXTURES IDENTIFIED WITH AN 'NS' SHALL FROM NON-SWITCHED POWER SOURCE. APPLIES TO ANY FIXTURE TYPE</p> <p>LIGHTING FIXTURE WITH EMERGENCY FUNCTION (BATTERY OR CENTRAL INVERTER)</p> <p>LIGHT FIXTURE</p> <p>LIGHT FIXTURE PENDANT MOUNT</p> <p>LIGHT FIXTURE PENDANT MOUNT WITH EMERGENCY FUNCTION</p> <p>LIGHT FIXTURE RECESSED CAN TYPE</p> <p>LIGHT FIXTURE RECESSED CAN TYPE WITH EMERGENCY FUNCTION</p> <p>WALL MOUNTED FIXTURE</p> <p>DIRECTIONAL LIGHT</p> <p>POLE MOUNTED AREA LIGHT</p> <p>EMERGENCY LIGHTING UNIT SELF CONTAINED</p>	<h3 style="text-align: center;">LIGHTING CONTINUED</h3> <h4 style="text-align: center;">EXIT LIGHTS:</h4> <p>SURFACE ON CEILING</p> <p>WALL MOUNTED</p> <p>WITH DIRECTIONAL ARROWS</p> <p>3a CIRCUIT IDENTIFIER: WHEN SHOWN ADJACENT TO FIXTURE IDENTIFIES CIRCUIT NUMBER AND SWITCH. EXAMPLE: CIRCUIT 3, CONTROLLED BY SWITCH a</p> <p>PC PHOTO CELL</p> <p>OS OCCUPANCY SENSOR</p> <h4 style="text-align: center;">WIRING DEVICES</h4> <h4 style="text-align: center;">SWITCHES:</h4> <p>UNLESS OTHERWISE NOTED, ALL SWITCHES ARE WALL MOUNTED</p> <p>TOGGLE SWITCH, SINGLE POLE</p> <p>GANGED SWITCHES IN COMMON BOX WITH COMMON WALL PLATE</p> <p>SUPERScript INDICATES CIRCUIT CONTROLLED: a, b, c, ETC. MAY BE COMBINED WITH CIRCUIT NUMBER. EXAMPLE: 1a, 4b, ETC</p> <p>SUBSCRIPT MODIFIER INDICATES: 2 = DOUBLE POLE 3 = THREE WAY 4 = FOUR WAY K = KEY OPERATED MC = MOMENTARY CONTACT, THREE POSITION MS = MANUAL (MOTOR) STARTER OR SWITCH WITH OVERLOADS R = RHEOSTAT (DIMMER, SPEED CONTROL) O = OCCUPANCY SWITCH</p> <p>DIMMER</p> <h4 style="text-align: center;">RECEPTACLES:</h4> <p>DUPLEX RECEPTACLE</p> <p>RECEPTACLE MODIFIERS: WP = WEATHER PROOF GFI = GROUND FAULT CIRCUIT INTERRUPTER</p> <p>HAZARDOUS AREA; EXPLOSION PROOF</p> <p>EXPLOSION PROOF, CLASS 1, DEAD FRONT, 45° ANGLE, TWO GANG</p> <p>RECESSED FLOOR RECEPTACLE - ANY RECEPTACLE INSIDE A SQUARE</p> <p>SURFACE FLOOR RECEPTACLE - ANY RECEPTACLE INSIDE A TRIANGLE</p> <p>GANGED RECEPTACLES--IN COMMON BOX, WITH COMMON WALL PLATE</p> <p>RECEPTACLE, CLOCK HANGER</p> <p>RECEPTACLE, DUPLEX ON EMERGENCY</p> <p>480V RECEPTACLE</p>	<h3 style="text-align: center;">GROUNDING</h3> <p>GROUND ROD</p> <p>GROUND ROD WITH GROUND WELL</p> <p>GROUND CONNECTION, SEE SPECIFICATION 26 05 06.</p> <p>--- G --- GROUNDING CONDUCTOR</p> <p>GROUND CONNECTION</p> <p>GROUND CONNECTION TO STRUCTURAL REINFORCEMENT</p> <p>LIGHTNING ROD/AIR TERMINAL</p> <h3 style="text-align: center;">MOTORS AND EQUIPMENT</h3> <p>MOTOR STARTER, INDIVIDUAL. NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY</p> <p>COMBINATION MOTOR STARTER. NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY</p> <p>DISCONNECT SWITCH, NON-FUSED EXAMPLE: 60 AMP</p> <p>DISCONNECT SWITCH, FUSED EXAMPLE: 100 AMP, 2P, 80 AMP FUSES</p> <p>MOTOR</p> <p>SOLENOID VALVE</p> <p>HEATER</p> <p>THERMOSTAT</p> <p>WATER HEATER</p> <p>FIELD INSTRUMENT</p> <p>LOCAL CONTROL STATION</p> <p>EQUIPMENT DESIGNATION (REFER TO GENERAL SYMBOLS FOR SPECIFIC SYMBOL USE)</p> <p>CONTROL PANEL, VFD, RVSS, APPROXIMATE SHAPE AND SCALE.</p> <h3 style="text-align: center;">AREA CLASSIFICATION</h3> <p>C1-D1 HAZARDOUS AREA CLASSIFICATION</p> <p>C1-D2 HAZARDOUS AREA CLASSIFICATION</p>	<h3 style="text-align: center;">GENERAL NOTES:</h3> <ol style="list-style-type: none"> SYMBOLS AND ABBREVIATION DRAWINGS ARE GENERAL IN NATURE. SOME SYMBOLS SHOWN HEREON MAY NOT BE USED ON THE CONTRACT DRAWINGS. SYMBOLS ARE ARRANGED ON SPECIFIC DRAWINGS AND IN CATEGORIES FOR CONVENIENCE ONLY; SYMBOLS MAY BE USED ON ANY OF THE CONTRACT DRAWINGS. IDENTIFICATIONS (ID), SIZES, RATINGS, LOCATIONS AND SIMILAR INFORMATION SHOWN ASSOCIATED WITH SYMBOLS ARE OPTIONAL; EXAMPLES OF SUCH INFORMATION ARE SHOWN WITH SOME SYMBOLS FOR CLARITY. <h3 style="text-align: center;">TELEPHONE & COMMUNICATION SYSTEMS</h3> <p>UNLESS OTHERWISE NOTED, TELEPHONE OUTLETS SHALL BE MOUNTED AT SAME HEIGHT AS THE RECEPTACLES.</p> <p>EXTERNAL LINE OR PLANT PHONE SYSTEM OUTLET OPTIONAL MODIFIERS: A = ATTENDANT'S CONSOLE F = FUTURE INSTRUMENT J = JACK, PLUG-IN TYPE W = WALL INSTRUMENT</p> <p>BELL</p> <p>OUTLET, DATA COMMUNICATION SECURITY CAMERA</p> <p>SPEAKER</p> <p>AUDIBLE HORN</p> <p>STROBE LIGHT (BLUE SHOWN)</p> <p>ELECTRONIC CARD SWIPE</p> <p>SMOKE DETECTOR</p> <p>RATE-OF-RISE DETECTOR</p> <h3 style="text-align: center;">CIRCUIT IDENTIFICATION</h3> <p>NOTE: MODIFIERS FOR CABLE TYPE INCLUDE: H - POWER (ABOVE 600V) P - POWER C - CONTROL S - SIGNAL D - DATA F - FIBER OPTIC PC - POWER AND CONTROL X - SPARE</p> <p>SUFFIX: A - LETTER TO CREATE UNIQUE ID</p> <p>EXAMPLE 1: P101-1: 3 #2/0, #6G, 2°C FOR CIRCUIT P101: THREE NO. 2/0 CONDUCTORS, ONE NO. 6 AWG GROUND WIRE IN A 2" CONDUIT</p> <p>EXAMPLE 2: SES-2: 2[3 #1/0, #6G, 1 1/2" C] FOR SES-2: TWO PARALLEL RUNS OF THREE NO. 1/0 CONDUCTORS, ONE NO. 6 AWG GROUND IN 1 1/2" CONDUIT</p> <p>EXAMPLE 3: C111: 2-1 PR #16S, 1°C FOR CONTROL CIRCUIT: TWO SIGNAL CABLES OF #16 AWG TWISTED SHIELDED PAIR IN 1" C.</p> <p>EXAMPLE 4: VND, 1°C VENDOR CABLE, 1" C (CONDUIT BY CONTRACTOR) TYP</p>	<p>Salt Lake City, UT</p> <p>BID SET</p> <h3 style="text-align: center;">TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT</h3> <h4 style="text-align: center;">REVISIONS</h4> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> <p style="text-align: center;">DESIGNED: N.ANDERSON DRAWN: B.NURSUWITO CHECKED: M.PAGENDARM CHECKED: APPROVED: N.ANDERSON</p> <p style="text-align: center;">FILENAME E-08-0001.DWG CONSULTANT PROJECT NUMBER 157492 TSSD PROJECT NUMBER 157492</p> <p style="text-align: center;">ELECTRICAL</p> <h2 style="text-align: center;">ELECTRICAL LEGEND AND SYMBOLS 1</h2> <p style="text-align: center;">DRAWING NUMBER E-08-0001</p>	REV	DATE	DESCRIPTION																														
REV	DATE	DESCRIPTION																																				

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CONTROL DIAGRAM SYMBOLS		ONE LINE DIAGRAM SYMBOLS	
GENERAL	INPUT SWITCHES	MISCELLANEOUS	ONE LINE DIAGRAM SYMBOLS
<p>GENERAL</p> <ul style="list-style-type: none"> CONDUCTORS CONNECTED CONDUCTORS NOT CONNECTED TERMINAL POINT FOR EXTERNAL CONNECTIONS EXISTING EQUIPMENT (SCREENED) 	<p>INPUT SWITCHES</p> <p>NORMALLY OPEN</p> <p>NORMALLY CLOSED</p> <p>INITIATING VARIABLE</p> <p>SS SPEED</p> <p>TS TEMPERATURE</p> <p>WS FORCE OR TORQUE</p> <p>ZS POSITION (LIMIT)</p> <p>FS FLOW</p> <p>LS LEVEL</p> <p>PS PRESSURE</p>	<p>MISCELLANEOUS</p> <p>FUSE WITH SIZE AND OPTIONAL IDENTIFICATION</p> <p>FUSE WITH BLOWN FUSE INDICATOR</p> <p>CONTROL TRANSFORMER PRIMARY AND SECONDARY SIZE AS SHOWN OR AS SPECIFIED</p> <p>CURRENT TRANSFORMER PRIMARY/SECONDARY TURNS RATIO SHOWN (OPTIONAL)</p> <p>FUSE: 5A CLASS 'F' SHOWN</p> <p>RESISTOR</p> <p>RECTIFIER</p> <p>SURGE OR ARC SUPPRESSION</p> <p>CAPACITOR</p> <p>CONNECTOR</p> <p>INCOMING LINE POWER SUPPLY</p> <p>DRAWOUT MECHANISM</p> <p>SOLENOID VALVE: DEVICE ID 'CV-1000' SHOWN</p> <p>BUS DUCT</p> <p>GROUND CONNECTION</p> <p>POTENTIOMETER</p> <p>METER W/ ALPHA IDENTIFIER: A = AMMETER H = ELAPSED TIME V = VOLTMETER</p> <p>BATTERY</p> <p>SHIELDED CABLE</p> <p>LOCATED IN FIELD</p> <p>AC TERMINAL BLOCK</p> <p>DC TERMINAL BLOCK</p> <p>PLC I/O POINTS DI = DIGITAL INPUT DO = DIGITAL OUTPUT AI = ANALOG INPUT AO = ANALOG OUTPUT</p>	<p>ONE LINE DIAGRAM SYMBOLS</p> <p>POWER CIRCUIT BREAKER (AIR, OIL, OR GAS) FRAME AND TRIP SETTING AND OPTIONAL I.D. SHOWN</p> <p>CIRCUIT BREAKER W/ ADJUSTABLE ELECTRONIC TRIP OVER BREAKER FRAME SIZE. SOLID STATE TRIP FEATURES SHOWN: L = LONG DELAY S = SHORT DELAY I = INSTANTANEOUS G = GROUND FAULT</p> <p>CIRCUIT BREAKER (DIFFERING ORIENTATION) MCP = MOTOR CIRCUIT PROTECTOR 3P = 3 POLE THERMAL MAGNETIC TRIP</p> <p>FUSED SWITCH: FUSE RATING AND POLES SHOWN MODIFIERS: CLF = CURRENT LIMITING FUSE DE = DUAL ELEMENT F = CLASS 'F' E = E RATED</p> <p>DISCONNECT OR ISOLATING SWITCH 200 AMP SHOWN</p> <p>POWER TRANSFER SWITCH: DESIGNATION, AMP RATING, AND CONFIGURATION SHOWN ATS = AUTOMATIC TRANSFER SWITCH MTS = MANUAL TRANSFER SWITCH SUSE = SUITABLE FOR USE AS SERVICE ENTRANCE</p> <p>AIR BREAK CONTACTOR, FVNR UON. NEMA SIZE 1 INDICATED FVR = FULL VOLTAGE, REVERSING STARTER 2S2W = TWO SPEED, TWO WINDING STARTER</p> <p>METERING (ANSI / IEEE FUNCTIONS SPECIFIED) POWER MONITOR (PM) POWER QUALITY MONITOR (HARMONIC ANALYSIS) (PQM) MOTOR MONITOR AND PROTECTION RELAY (MPR) FEEDER PROTECTION RELAY (FPR)</p> <p>PACKAGED EQUIPMENT OR NON-MOTOR LOAD. KVA, KW, AMPS, AS NOTED.</p> <p>VARIABLE FREQUENCY DRIVE (VFD) NORMAL DUTY UON HP IS INDICATED IF DIFFERENT THAN DRIVEN LOAD HP ##AMPS = RATED CONTINUOUS AMPS</p> <p>REDUCED VOLTAGE SOLID STATE STARTER</p> <p>SURGE PROTECTION DEVICE</p> <p>ANSI C37.2 DEVICE & QUANTITIES SHOWN</p>
<p>INDICATING LIGHTS</p> <p>DIRECT CONNECTION</p> <p>PUSH TO TEST. TEST VOLTAGE TERMINAL SHOWN</p> <p>LENS COLOR: (L = LENS COLOR) A = AMBER B = BLUE G = GREEN R = RED W = WHITE</p>	<p>TIMING RELAYS</p> <p>OPERATING COIL</p> <p>FUNCTION: ON OR OFF DELAY RANGE: SEC / MIN SET: SEC / MIN</p> <p>NORMALLY OPEN</p> <p>NORMALLY CLOSED</p> <p>TR3 DELAY ON COIL ENERGIZATION (ON DELAY)</p> <p>TR3 DELAY ON COIL DE-ENERGIZATION (ON DELAY)</p> <p>LINE = ID OF LINE OR RUNG NUMBER (LINE OR RUNG NUMBER 50 SHOWN)</p>	<p>FUSE 30 30A</p> <p>FUSE 30 30A</p> <p>480 VAC 250VA</p> <p>250/5 3</p> <p>FUSE 30 5A</p> <p>250 OHM RES</p> <p>RECTIFIER</p> <p>SURGE OR ARC SUPPRESSION</p> <p>CAPACITOR 55 KVAR</p> <p>CONNECTOR</p> <p>INCOMING LINE POWER SUPPLY</p> <p>DRAWOUT MECHANISM</p> <p>SOLENOID VALVE: DEVICE ID 'CV-1000' SHOWN</p> <p>BUS DUCT</p> <p>GROUND CONNECTION</p> <p>POTENTIOMETER</p> <p>METER W/ ALPHA IDENTIFIER: A = AMMETER H = ELAPSED TIME V = VOLTMETER</p> <p>BATTERY</p> <p>SHIELDED CABLE</p> <p>LOCATED IN FIELD</p> <p>AC TERMINAL BLOCK</p> <p>DC TERMINAL BLOCK</p> <p>PLC I/O POINTS DI = DIGITAL INPUT DO = DIGITAL OUTPUT AI = ANALOG INPUT AO = ANALOG OUTPUT</p>	<p>600kW 480V 60 Hz 3P, 4W</p> <p>GENERATOR WITH WINDING CONFIGURATION VOLTAGE, POWER, FREQUENCY SHOWN. POWER FACTOR OPTIONAL</p> <p>MOTOR, HORSE POWER SHOWN</p> <p>55 KVAR</p> <p>POWER FACTOR CORRECTIONS CAPACITOR KVAR RATING SHOWN</p> <p>POTHEAD</p> <p>STRESS CONE</p> <p>PORTABLE CABLE</p> <p>CABLE BUS</p> <p>BUS CONDUCTOR</p> <p>CABLE CONDUCTOR</p> <p>SURGE ARRESTOR</p> <p>LIGHTNING ARRESTOR</p> <p>TEST DEVICE</p> <p>480 VAC 30KVA 5% Z 208/120V</p> <p>POWER TRANSFORMER, VOLTAGES, SIZE, AND IMPEDANCE SHOWN</p> <p>1.5 KVA 480 VAC 2.5% Z 480 VAC</p> <p>ISOLATION TRANSFORMER, VOLTAGES, SIZE, AND IMPEDANCE SHOWN</p> <p>POTENTIAL TRANSFORMER, PT QUANTITY SHOWN (3) AND VOLTAGES SHOWN</p> <p>250/5 3</p> <p>CURRENT TRANSFORMER, CT QUANTITY AND 250:5 TURNS RATIO SHOWN</p> <p>WINDING CONFIGURATIONS:</p> <p>DELTA</p> <p>WYE (GROUNDED)</p> <p>KIRK KEY INTERLOCK</p> <p>50 AMP / 30 SEC</p> <p>NEUTRAL GROUNDING RESISTOR. AMPS/TIME RATING SHOWN</p>
<p>PUSHBUTTONS</p> <p>HS-XXXX PUSHBUTTON, MOMENTARY CONTACT, NORMALLY OPEN</p> <p>HS-XXXX PUSHBUTTON, MOMENTARY CONTACT, NORMALLY CLOSED</p> <p>HS-XXXX PUSHBUTTON WITH MUSHROOM HEAD, EMERGENCY STOP</p>			
<p>SELECTOR SWITCHES</p> <p>HS-XXXXX 2 POSITION MAINTAINED CONTACT X = CONTACTS CLOSED O = CONTACTS OPEN</p> <p>HS-XXXXX 2 POSITION SPRING RETURNED TO RIGHT O = CONTACTS OPENED X = CONTACTS CLOSED</p> <p>HS-XXXXX 3 POSITION MAINTAINED CONTACT X = CONTACTS CLOSED O = CONTACTS OPENED</p>			
<p>CONTROL RELAYS</p> <p>OPERATION COIL: CR = CONTROL RELAY</p> <p>MECHANICALLY LATCHED RELAY WITH UNLATCHED COIL</p> <p>OUTPUT CONTACTS. LINE NUMBER OF RELAY COIL SHOWN (OPTIONAL)</p> <p>OPERATING COIL FUNCTIONS: L = LATCH U = UNLATCH TR = TIMER RELAY LR = LATCH RELAY</p> <p>OVERLOAD RELAY</p>	<p>OPERATING COIL: ID</p> <p>MAIN CONTACTS: MAIN CONTACTS AIR BREAK, NEMA SIZE OPTIONAL MODIFIERS: FVR = FULL VOLTAGE REVERSING RVS = REDUCED VOLTAGE STARTER RVSS = REDUCED VOLTAGE SOLID STATE STARTER RVAT = REDUCED VOLTAGE AUTOTRANSFORMER STARTER 2S2W = TWO SPEED, TWO WINDING STARTER</p> <p>VACUUM CONTACTOR, NEMA SIZE OPTIONAL</p>		



Salt Lake City, UT

BID SET



TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT

REVISIONS

REV	DATE	DESCRIPTION

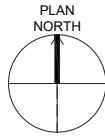
LINE IS 2 INCHES AT FULL SIZE

DESIGNED: N.ANDERSON
DRAWN: B.NURSUWITO
CHECKED: M.PAGENDARM
CHECKED:
APPROVED: N.ANDERSON
FILENAME: E-08-0002.DWG
CONSULTANT PROJECT NUMBER: 157492
TSSD PROJECT NUMBER: 157492

ELECTRICAL

ELECTRICAL LEGEND AND SYMBOLS 2

DRAWING NUMBER
E-08-0002



SITE PLAN
SCALE: NTS

GENERAL NOTES

1. PLAN NOT TO SCALE. CONTRACTOR TO FIELD VERIFY REQUIRED MATERIALS, MATERIAL LENGTHS, DIMENSIONS, LOCATIONS, AND QUANTITIES.



Salt Lake City, UT

BID SET



TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: N.ANDERSON
DRAWN: B.NURSUWITO
CHECKED: M.PAGENDARM
CHECKED:

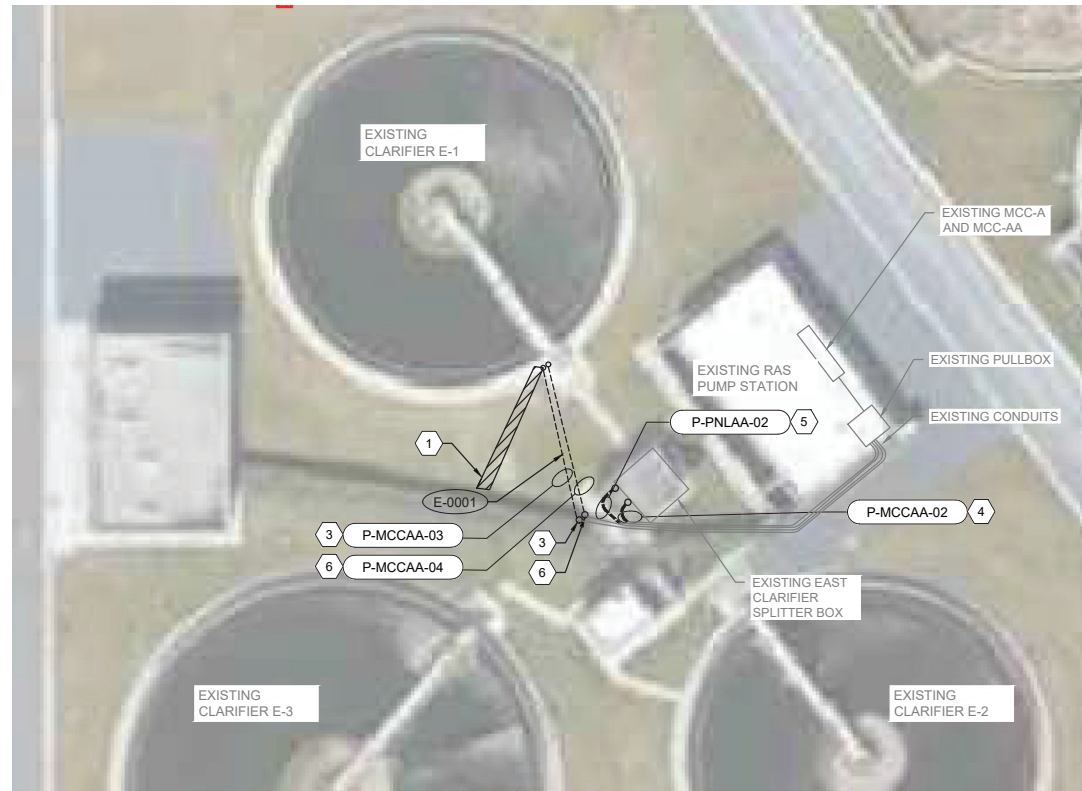
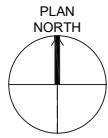
APPROVED: N.ANDERSON
FILENAME: E-08-1001.DWG
CONSULTANT PROJECT NUMBER: 157492
TSSD PROJECT NUMBER: 157492

ELECTRICAL

ELECTRICAL SITE PLAN

DRAWING NUMBER
E-08-1001

Path: C:\BCP\W02345536 FILENAME: E-08-1001.DWG PLOT DATE: 5/30/2023 4:30 PM CAD USER: NATE ANDERSON



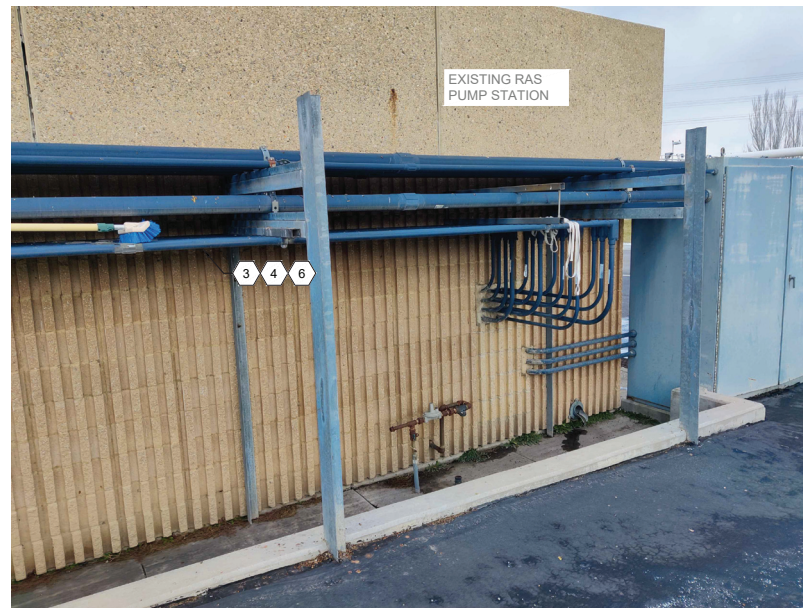
CLARIFIER E-1 REFEED PLAN
SCALE: NTS



CLARIFIER E-1 VIEW NORTH CONDUITS
SCALE: NTS



CLARIFIER E-1 CONDUIT RUNS
SCALE: NTS



CONDUIT PENETRATIONS
SCALE: NTS



EXISTING MCC-AA
SCALE: NTS

GENERAL NOTES

1. PLAN AND PHOTOS NOT TO SCALE. CONTRACTOR TO FIELD VERIFY REQUIRED MATERIALS, MATERIAL LENGTHS, DIMENSIONS, LOCATIONS, AND QUANTITIES.

KEY NOTES

1. DEMOLISH EXISTING CONDUIT AND CABLE FOR CLARIFIER E-1 DRIVE AND LIGHTING. DEMOLISH EXISTING UNDERGROUND CONDUITS. REPAIR PORTIONS OF SIDEWALK AND TURF REMOVED FOR CONDUIT DEMOLITION TO MATCH EXISTING. SEE SHEET ED-08-8001 FOR ADDITIONAL EAST CLARIFIER E-1 DEMOLITION SCOPE.
2. DEMOLISH EXISTING CONDUIT. REPLACE WITH NEW CONDUIT.
3. PULL NEW 480V CABLE FROM EXISTING MCC-AA TO CLARIFIER E-1 NEW DRIVE. UTILIZE NEW CONDUIT AND EXISTING OVERHEAD CONDUIT BANK AS NEEDED.
4. PROVIDE NEW CONDUIT FROM EXISTING OVERHEAD CONDUIT BANK TO DISCONNECT SWITCH FOR SPLITTER BOX SOUTHWEST LIFT GATE ACTUATOR. PULL NEW CABLE FROM MCC-AA SPARE BUCKET THROUGH EXISTING PULLBOX, THEN THROUGH EXISTING OVERHEAD CONDUITS, THEN THROUGH THIS NEW CONDUIT PER KEYNOTE #1 ON SHEET E-08-7001.
5. PROVIDE NEW CONDUIT FROM EXISTING OVERHEAD CONDUIT BANK TO THE SPLITTER BOX LIGHT SWITCH. PULL NEW CABLE FROM MCC-AA PANEL AA CIRCUIT #24, THEN THROUGH EXISTING OVERHEAD CONDUITS, THEN THROUGH THIS NEW CONDUIT PER KEYNOTE #2 ON SHEET E-08-7001.
6. PULL NEW LUMINAIRE POWER CABLE FROM EXISTING MCC-AA PANEL AA TO CLARIFIER E-1 LUMINAIRES. UTILIZE NEW CONDUIT AND EXISTING OVERHEAD CONDUIT BANK AS NEEDED.
7. DEMOLISH EXISTING CONDUITS FOR CLARIFIER E-1 AND CLARIFIER E-3 WEST OF THIS POINT.



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TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT

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DESIGNED: N.ANDERSON
 DRAWN: B.NURSUWITO
 CHECKED: M.PAGENDARM
 CHECKED:
 APPROVED: N.ANDERSON
 FILENAME: E-08-1002.DWG
 CONSULTANT PROJECT NUMBER: 157492
 TSSD PROJECT NUMBER: 157492

ELECTRICAL

CLARIFIER 1 POWER PLAN

DRAWING NUMBER
E-08-1002

1

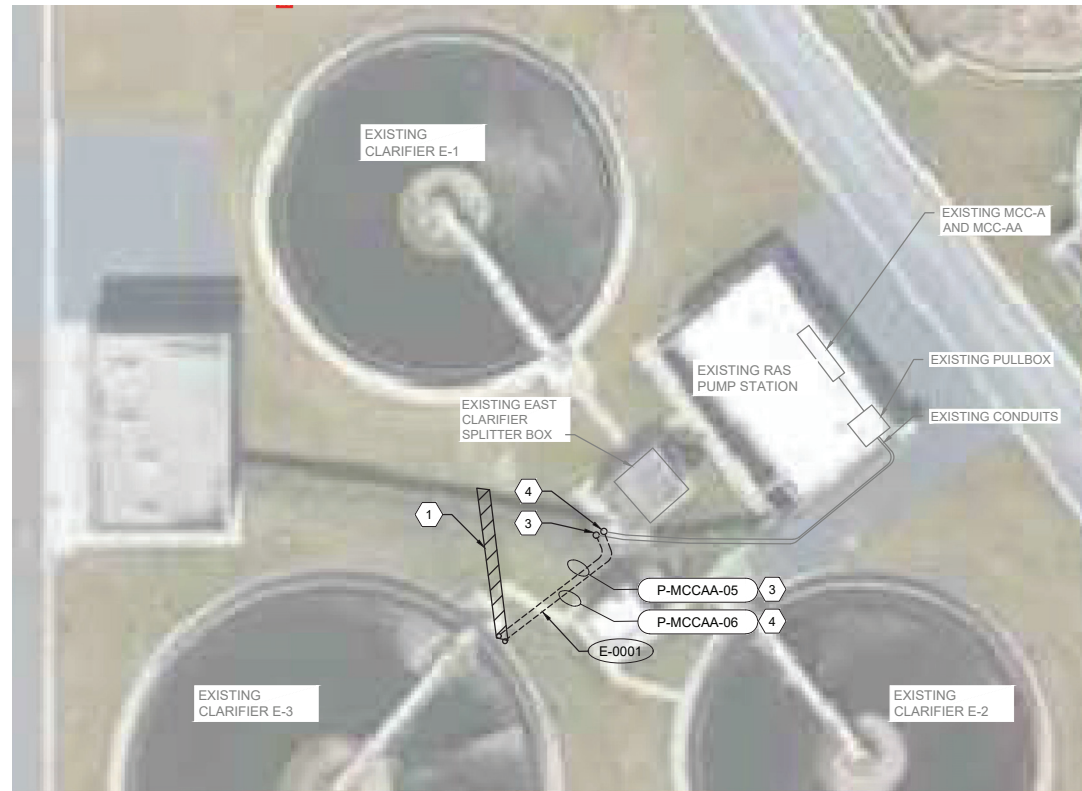
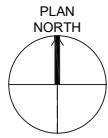
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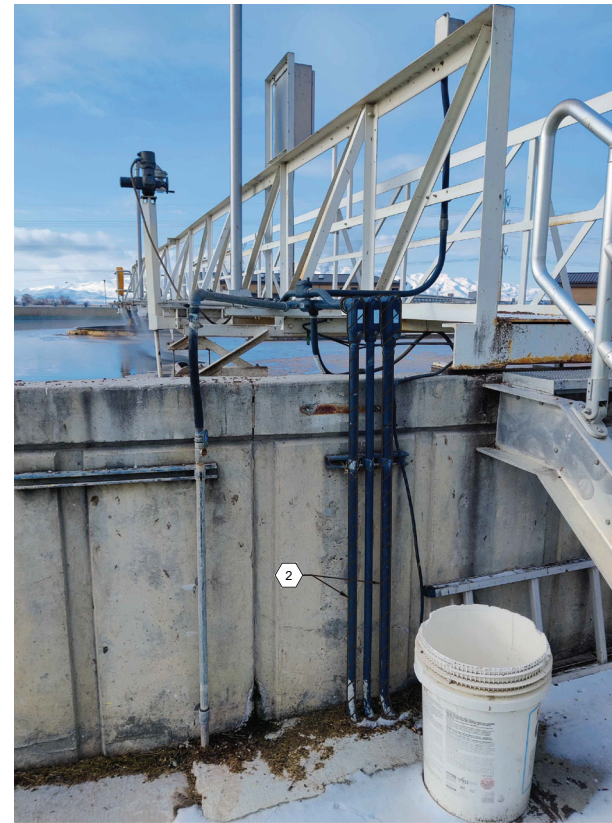
4

5

6



CLARIFIER E-3 REFEED PLAN
SCALE: NTS



CLARIFIER E-3 VIEW SOUTHWEST CONDUITS
SCALE: NTS

GENERAL NOTES

1. PLAN AND PHOTOS NOT TO SCALE. CONTRACTOR TO FIELD VERIFY REQUIRED MATERIALS, MATERIAL LENGTHS, DIMENSIONS, LOCATIONS, AND QUANTITIES.

KEY NOTES

1. DEMOLISH EXISTING CONDUIT AND CABLE FOR CLARIFIER E-3 DRIVE AND LIGHTING. DEMOLISH EXISTING UNDERGROUND CONDUITS. REPAIR PORTIONS OF SIDEWALK AND TURF REMOVED FOR CONDUIT DEMOLITION TO MATCH EXISTING. SEE SHEET ED-08-8002 FOR ADDITIONAL EAST CLARIFIER E-3 DEMOLITION SCOPE.
2. DEMOLISH EXISTING CONDUIT. REPLACE WITH NEW CONDUIT.
3. PULL NEW 480V CABLE FROM EXISTING MCC-AA TO CLARIFIER E-3 NEW DRIVE. UTILIZE NEW CONDUIT AND EXISTING OVERHEAD CONDUIT BANK AS NEEDED.
4. PULL NEW LUMINAIRE POWER CABLE FROM EXISTING MCC-AA PANEL AA TO CLARIFIER E-3 LUMINAIRES. USE NEW CONDUIT AND EXISTING OVERHEAD CONDUIT BANK AS NEEDED.
5. DEMOLISH EXISTING CONDUITS FOR CLARIFIER E-1 AND CLARIFIER E-3 WEST OF THIS POINT.



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TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT

REVISIONS

REV	DATE	DESCRIPTION

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DESIGNED: N.ANDERSON

DRAWN: B.NURSUWITO

CHECKED: M.PAGENDARM

CHECKED:

APPROVED: N.ANDERSON

FILENAME

E-08-1003.DWG

CONSULTANT PROJECT NUMBER

157492

TSSD PROJECT NUMBER

157492

ELECTRICAL

CLARIFIER 3 POWER PLAN

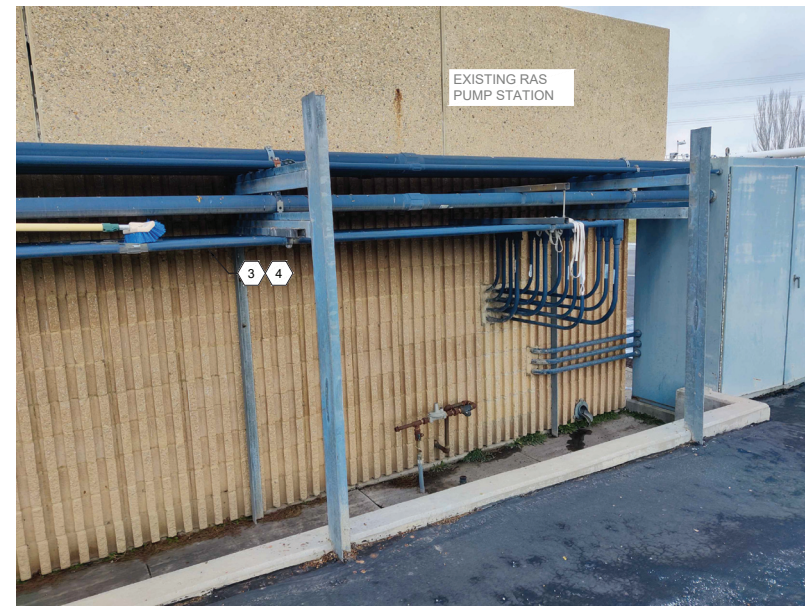
DRAWING NUMBER

E-08-1003

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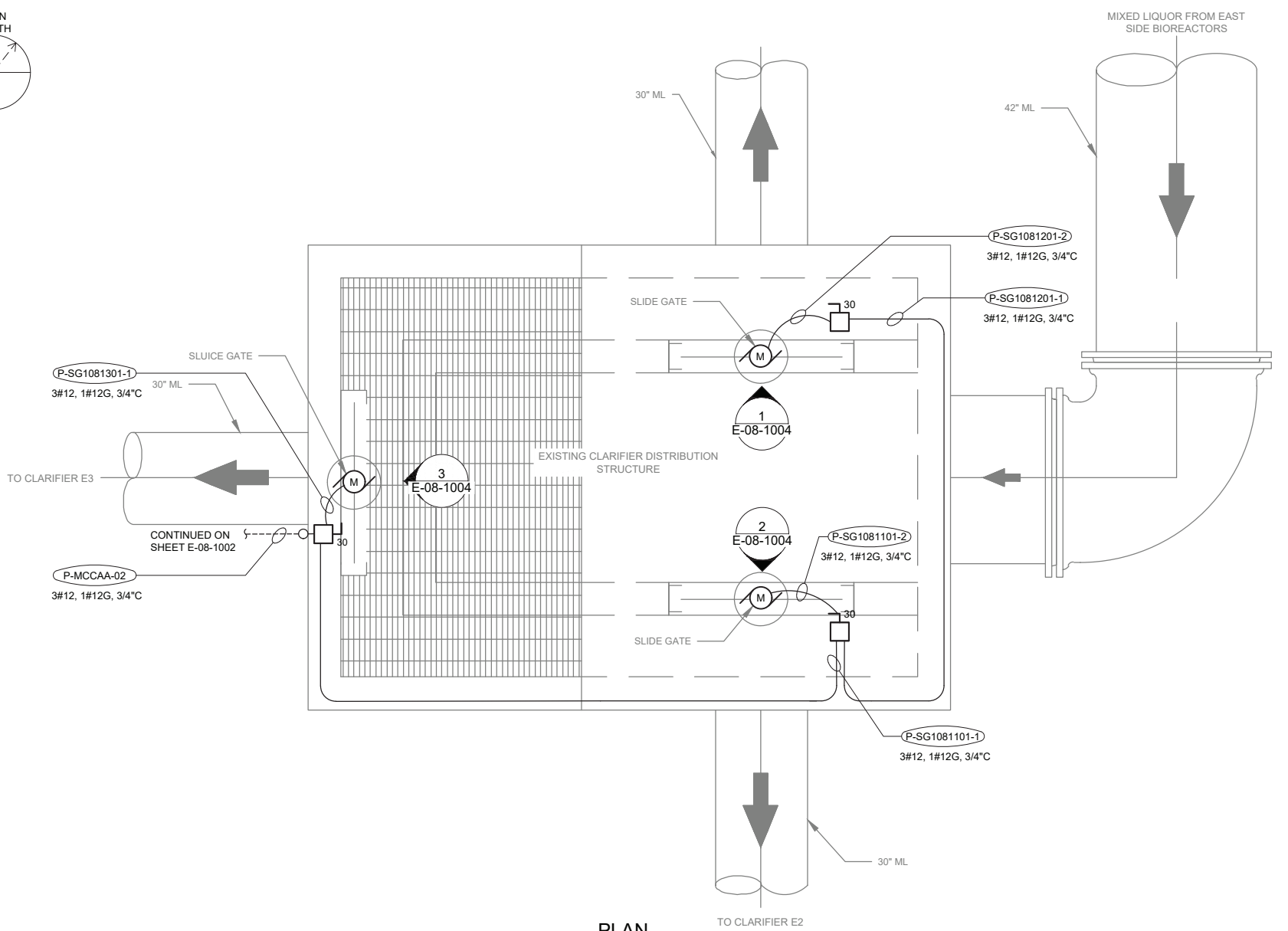
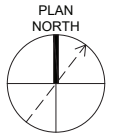
CLARIFIER E-3 CONDUIT RUNS
SCALE: NTS



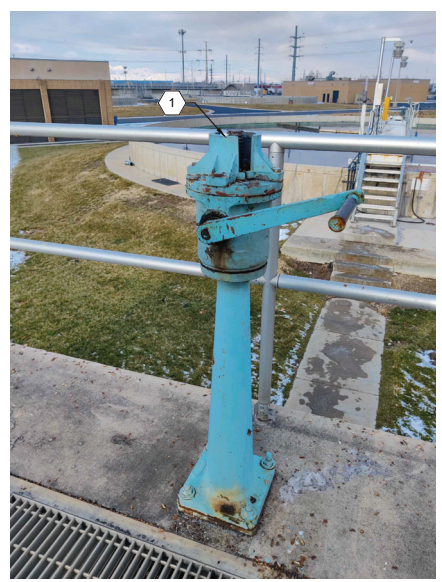
CONDUIT PENETRATIONS
SCALE: NTS



EXISTING MCC-AA
SCALE: NTS



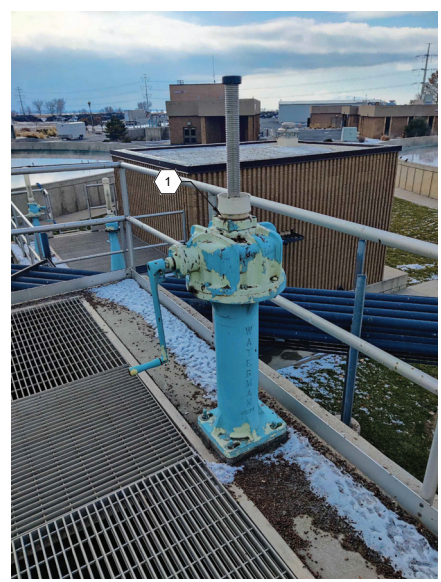
PLAN
SCALE: NTS



1 SPLITTER BOX NW LIFT GATE
E-08-1004 SCALE: NTS



2 SPLITTER BOX SE LIFT GATE
E-08-1004 SCALE: NTS



3 SPLITTER BOX SW LIFT GATE
E-08-1004 SCALE: NTS

GENERAL NOTES

1. PLAN AND PHOTOS NOT TO SCALE. CONTRACTOR TO FIELD VERIFY REQUIRED MATERIALS, MATERIAL LENGTHS, DIMENSIONS, LOCATIONS, AND QUANTITIES.

KEY NOTES

1. PROVIDE ONE ROTORK IQ3 SIZE 19 ACTUATOR FOR EACH SLIDE GATE. DESIGN, SUBMIT, FURNISH, AND INSTALL ALL HARDWARE REQUIRED TO CONNECT THE NEW MOTORIZED ROTORK ACTUATOR TO THE NEW GATE PEDESTALS SUCH THAT THE MOTORIZED ACTUATOR CAN MOVE THE GATE THROUGH ITS COMPLETE RANGE OF MOTION. COORDINATE DIRECTLY WITH THE NEW GATE PEDESTAL SUPPLIER TO OBTAIN ANY REQUIRED INFORMATION.



Salt Lake City, UT

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TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

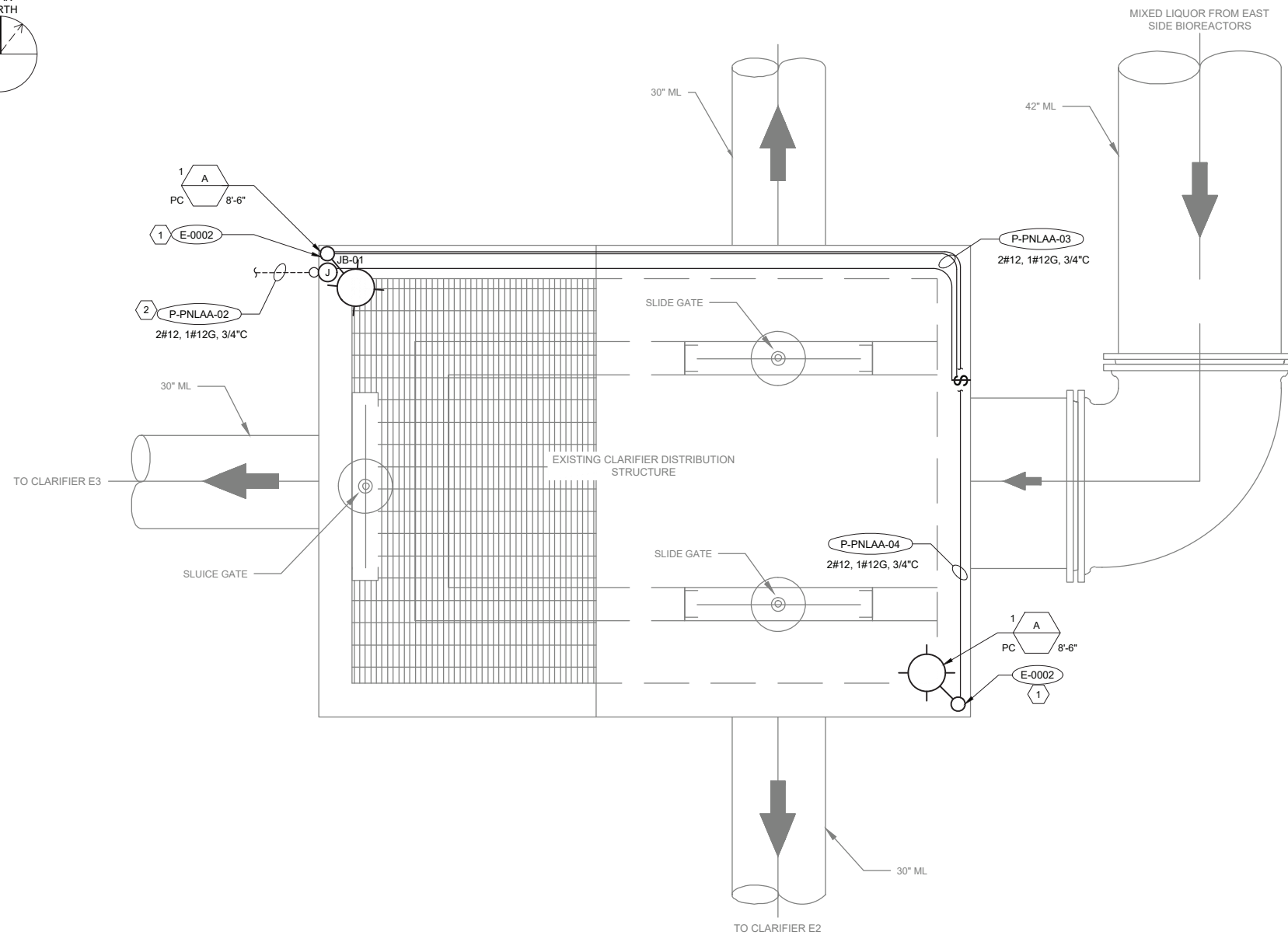
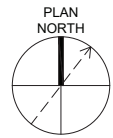
DESIGNED: N.ANDERSON
 DRAWN: B.NURSUWITO
 CHECKED: M.PAGENDARM
 CHECKED:
 APPROVED: N.ANDERSON
 FILENAME: E-08-1004.DWG
 CONSULTANT PROJECT NUMBER: 157492
 TSSD PROJECT NUMBER: 157492

ELECTRICAL

SPLITTER BOX POWER PLAN

DRAWING NUMBER
E-08-1004

Path: C:\BCP\W\2345536 FILENAME: E-08-1004.DWG PLOT DATE: 5/30/2023 4:32 PM CAD USER: NATE ANDERSON



PLAN
SCALE: NTS

GENERAL NOTES

1. PLAN NOT TO SCALE. CONTRACTOR TO FIELD VERIFY REQUIRED MATERIALS, MATERIAL LENGTHS, DIMENSIONS, LOCATIONS, AND QUANTITIES.

KEY NOTES

1. PROVIDE NEW, STANCHION MOUNTED LUMINAIRES MANUFACTURED BY EATON CROUSE-HINDS, PART NUMBER "VMVL-3-N-P-R3-UNV1" OR EQUAL.
2. PULL NEW CABLE FROM EXISTING 120/240V PANEL AA CIRCUIT #24 TO LIGHT SWITCH. PANEL AA IS INSIDE THE EXISTING RAS BUILDING MCC-AA



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**TP-4 EAST
FACILITY UTILITIES
AND CLARIFIERS
REHABILITATION
PROJECT**

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: N.ANDERSON

DRAWN: B.NURSUWITO

CHECKED: M.PAGENDARM

CHECKED:

APPROVED: N.ANDERSON

FILENAME

E-08-2001.DWG

CONSULTANT PROJECT NUMBER

157492

TSSD PROJECT NUMBER

157492

ELECTRICAL

**SPLITTER BOX
LIGHTING PLAN**

DRAWING NUMBER

E-08-2001

GENERAL NOTES

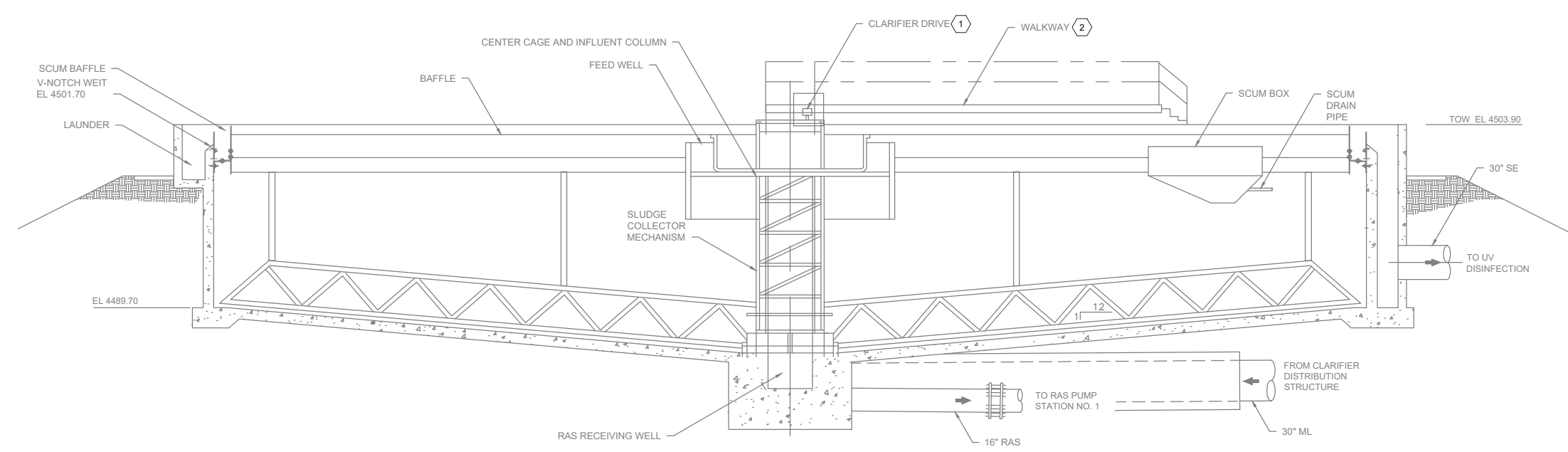
- SECTION NOT TO SCALE. CONTRACTOR TO FIELD VERIFY REQUIRED MATERIALS, MATERIAL LENGTHS, DIMENSIONS, LOCATIONS, AND QUANTITIES.

KEY NOTES

- CLARIFIER DRIVES TO BE REPLACED. BID ALTERNATIVE: REMOVE, REBUILD, AND REINSTALL EXISTING CLARIFIER DRIVES.
- EXISTING LIGHTING TO BE REINSTALLED. BID ALTERNATIVE: FURNISH AND INSTALL NEW WALKWAY LUMINAIRES, EATON CROUSE-HINDS PART NUMBER "VMVL-3-N-P-R3-UNV1" OR EQUAL.



Salt Lake City, UT



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TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT

REVISIONS

REV	DATE	DESCRIPTION

DESIGNED: N.ANDERSON
 DRAWN: B.NURSUWITO
 CHECKED: M.PAGENDARM
 APPROVED: N.ANDERSON

FILENAME: E-08-3001.DWG
 CONSULTANT PROJECT NUMBER: 157492
 TSSD PROJECT NUMBER: 157492

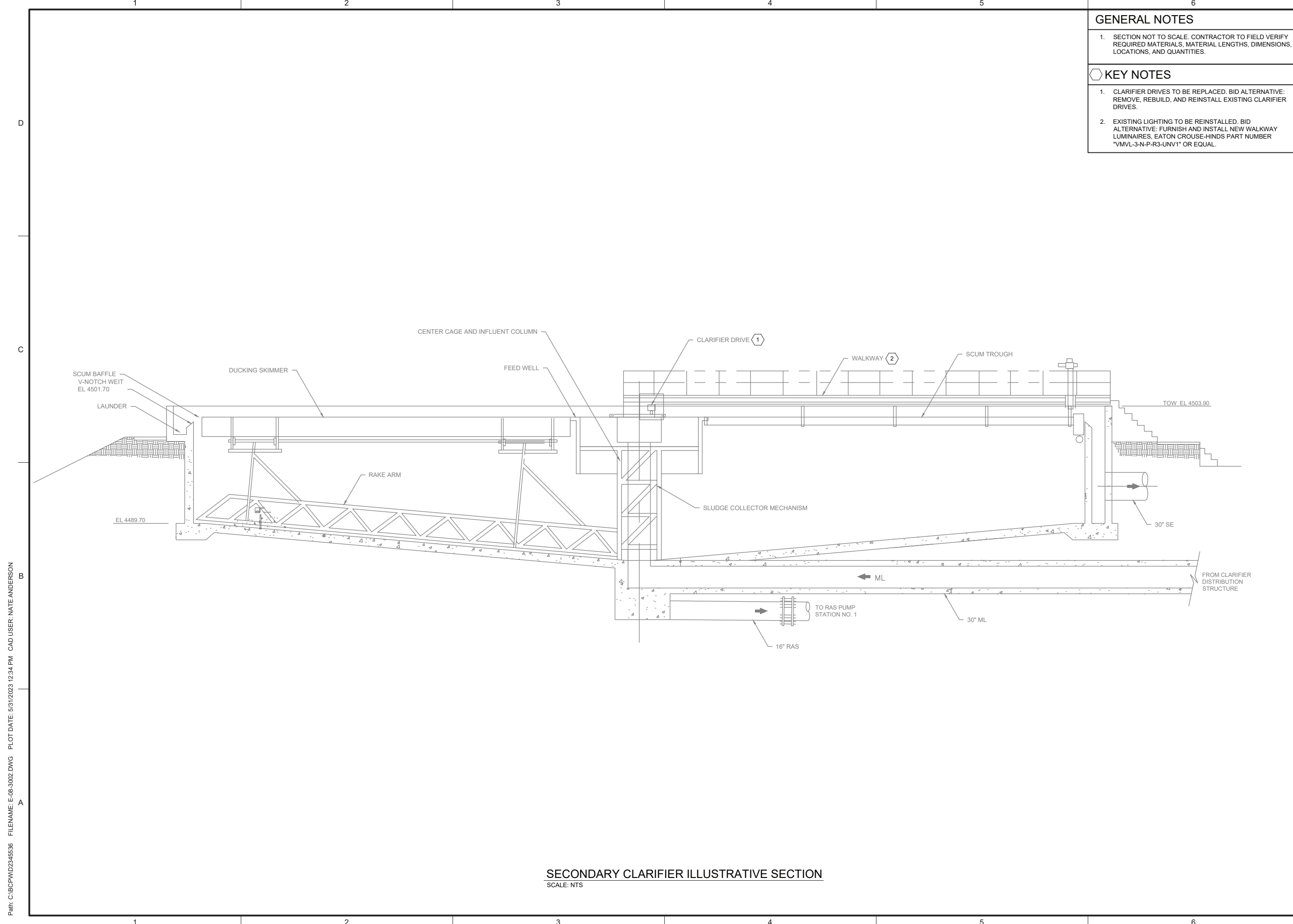
ELECTRICAL

EAST CLARIFIERS E-1, E-2 ELECTRICAL SECTION

DRAWING NUMBER
E-08-3001

SECONDARY CLARIFIER ILLUSTRATIVE SECTION
 SCALE: NTS

Path: C:\BCP\DWG\2023\12\23\PM CAD USER: NATE ANDERSON PLOT DATE: 5/31/2023 12:32 PM FILENAME: E-08-3001.DWG



GENERAL NOTES

- SECTION NOT TO SCALE. CONTRACTOR TO FIELD VERIFY REQUIRED MATERIALS, MATERIAL LENGTHS, DIMENSIONS, LOCATIONS, AND QUANTITIES.

KEY NOTES

- CLARIFIER DRIVES TO BE REPLACED. BID ALTERNATIVE: REMOVE, REBUILD, AND REINSTALL EXISTING CLARIFIER DRIVES.
- EXISTING LIGHTING TO BE REINSTALLED. BID ALTERNATIVE: FURNISH AND INSTALL NEW WALKWAY LUMINAIRES, EATON CROUSE-HINDS PART NUMBER "VMVL-3-N-P-R3-UNV1" OR EQUAL.



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TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: N.ANDERSON
 DRAWN: B.NURSUWITO
 CHECKED: M.PAGENDARM
 CHECKED:
 APPROVED: N.ANDERSON

FILENAME: E-08-3002.DWG
 CONSULTANT PROJECT NUMBER: 157492
 TSSD PROJECT NUMBER: 157492

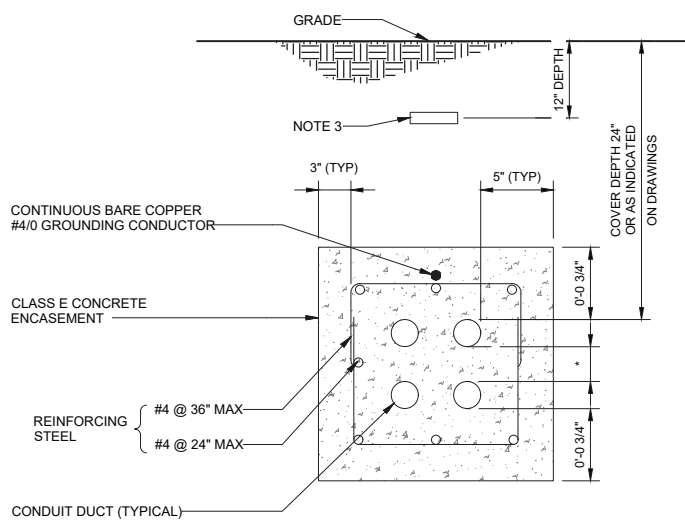
ELECTRICAL

EAST CLARIFIERS E-3 ELECTRICAL SECTION

DRAWING NUMBER
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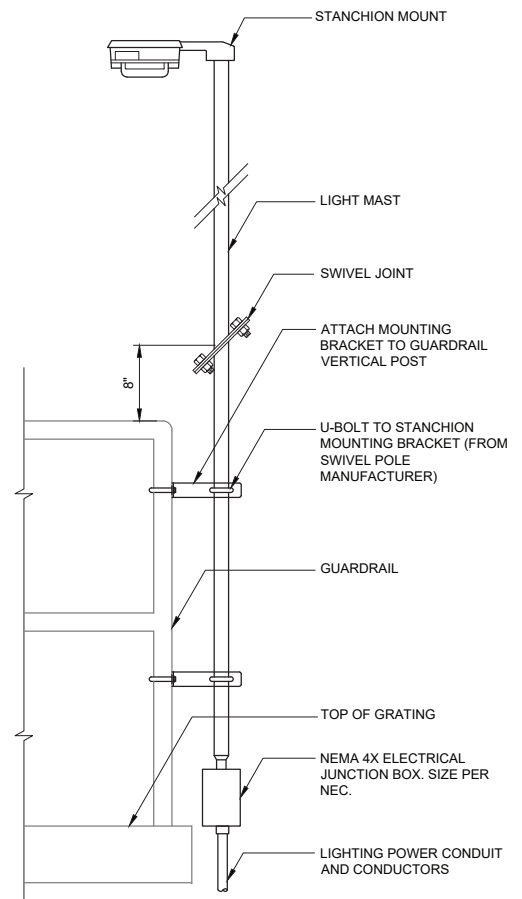
SECONDARY CLARIFIER ILLUSTRATIVE SECTION
 SCALE: NTS

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- NOTES:
- REFER TO SPECIFICATION DIVISION 26 FOR DUCTBANK CONSTRUCTION REQUIREMENTS.
 - NUMBER AND SIZE OF ELECTRICAL DUCTS AS INDICATED ON DRAWINGS OR SCHEDULES.
 - OSHA APPROVED 6" WIDE RED WARNING TAPE (IDEAL DU-601 OR EQUAL).
 - DIMENSIONS ARE MINIMUM AND TYPICAL FOR OUTSIDE SURFACES.
 - BOND GROUNDING CONDUCTOR TO ALL GROUNDING ELECTRODES ALONG ITS PATH INCLUDING BUILDING GROUNDING ELECTRODE AT EACH END OF THE DUCTBANK.
 - SADDLE-TYPE CONDUIT SPACERS REQUIRED EVERY 8" (CARLON SNAP-LOC, SNAP-N-STAC, OR EQUAL).
 - * PROVIDE 2" SEPARATION FOR CONDUITS LESS THAN 4".
 - * PROVIDE 3" SEPARATION FOR CONDUITS 4" AND LARGER.

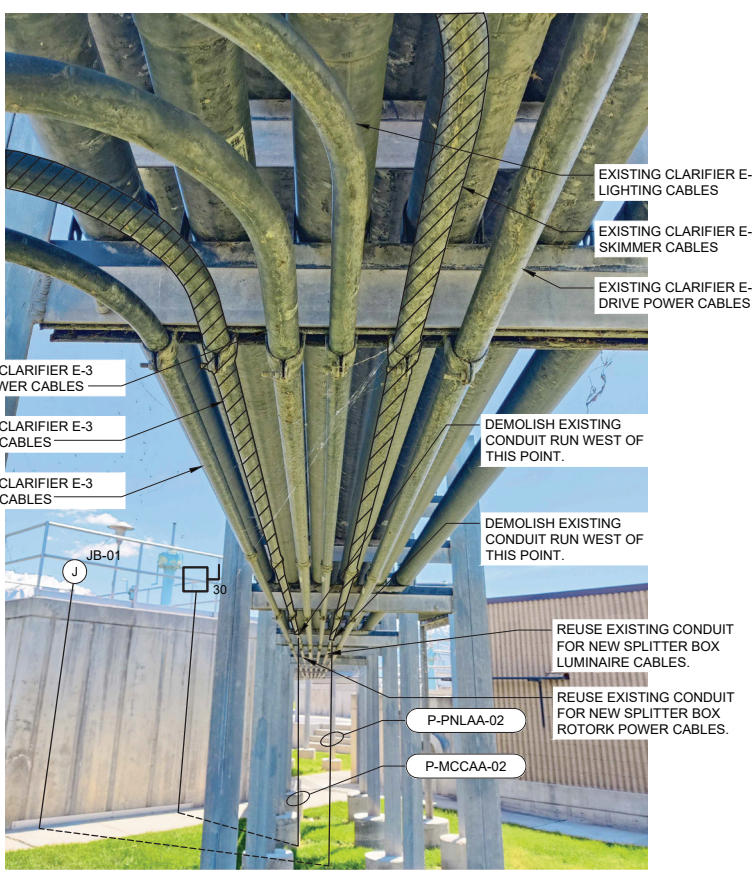
E-0001 UG DUCTBANK REINFORCED SMALL DUCTBANK
SCALE: NTS



E-0002 STANCHION MOUNTING DETAIL
SCALE: NTS



E-0003 SKIMMER CABLE DEMOLITION DETAIL
SCALE: NTS



E-0004 SPLITTER BOX NEW CONDUIT DETAIL
SCALE: NTS



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TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT

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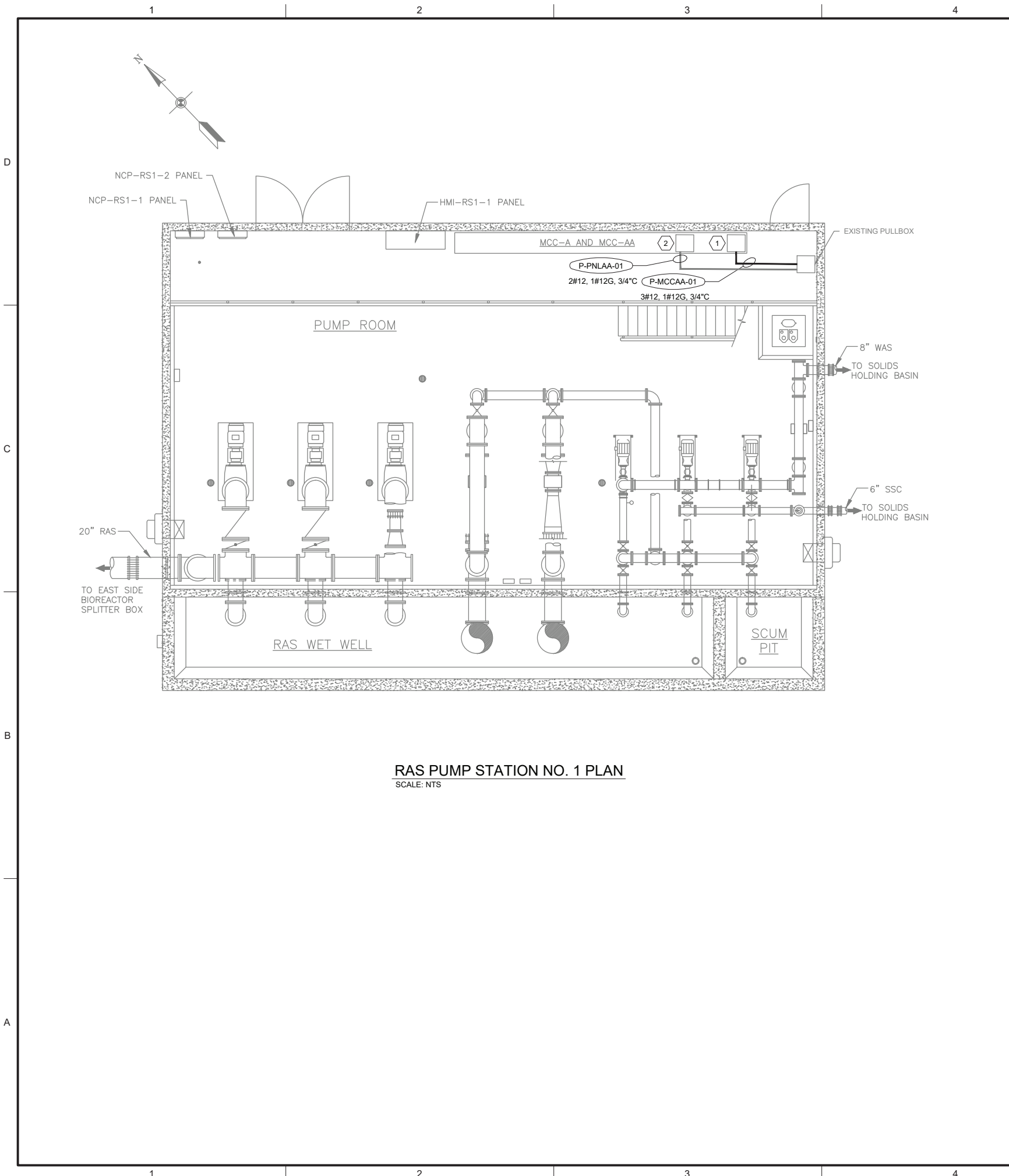
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 CONSULTANT PROJECT NUMBER: 157492
 TSSD PROJECT NUMBER: 157492

ELECTRICAL DETAILS

DRAWING NUMBER
E-08-5001

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Path: C:\BCP\M02345536 FILENAME: E-08-7001.DWG PLOT DATE: 5/30/2023 4:37 PM CAD USER: NATE ANDERSON



RAS PUMP STATION NO. 1 PLAN
SCALE: NTS

GENERAL NOTES

- 1. PLAN AND PHOTO NOT TO SCALE. CONTRACTOR TO FIELD VERIFY REQUIRED MATERIALS, MATERIAL LENGTHS, DIMENSIONS, LOCATIONS, AND QUANTITIES.

KEY NOTES

- 1. CONFIRM EXISTING 3 POLE 15-AMP CIRCUIT BREAKER IS INSIDE MCC BUCKET. PROVIDE NEW CABLES FROM EXISTING SPARE MCC BUCKET TO EAST CLARIFIER SPLITTER BOX SOUTHEAST LIFT GATE ACTUATOR. ROUTE NEW CONDUIT FROM MCC-AA TO EXISTING PULLBOX.
- 2. PROVIDE NEW CABLES FROM EXISTING PANEL AA CIRCUIT #24 TO EAST CLARIFIER SPLITTER BOX LIGHT SWITCH. USE EXISTING CONDUIT FROM MCC-AA TO EXISTING PULLBOX.



EXISTING MCC-AA SPARE
SCALE: NTS



EXISTING MCC-AA PANEL AA
SCALE: NTS



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TP-4 EAST FACILITY UTILITIES AND CLARIFIERS REHABILITATION PROJECT

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 CHECKED:
 APPROVED: N.ANDERSON
 FILENAME: E-08-7001.DWG
 CONSULTANT PROJECT NUMBER: 157492
 TSSD PROJECT NUMBER: 157492

ELECTRICAL

PANEL SCHEDULES

DRAWING NUMBER
E-08-7001