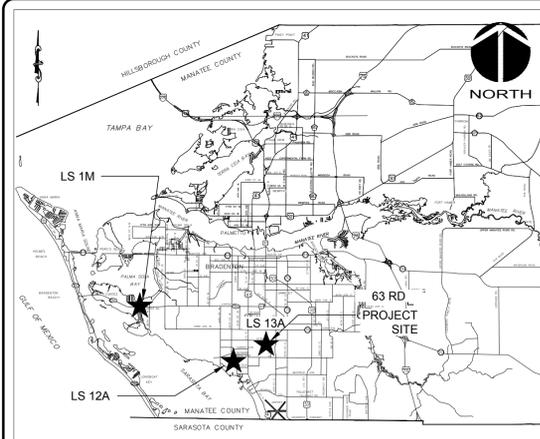


LIFT STATION 13A ELECTRICAL REHABILITATION MANATEE COUNTY

PROJ. NO. 01024-0182
DECEMBER 13, 2021
ISSUED FOR BID



VICINITY MAP

NOT TO SCALE

PROJECT NAME: LIFT STATION 13A ELECTRICAL REHABILITATION

OWNER/DEVELOPER:
112 63RD AVE W
BRADENTON, FLORIDA
34203
EMAIL



1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com

PROJECT INFORMATION



	<p>MITCHEL A. CHIAVAROLI, STATE OF FLORIDA, PROFESSIONAL ENGINEER, LICENSE NO. 56335</p> <p>THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY MITCHEL A. CHIAVAROLI THE DATE INDICATED HERE: DECEMBER 13, 2021</p> <p>PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.</p>		<p>WILLIAM F. BAND, STATE OF FLORIDA, PROFESSIONAL ENGINEER, LICENSE NO. 67838</p> <p>THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY WILLIAM F. BAND THE DATE INDICATED HERE: DECEMBER 13, 2021</p> <p>PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.</p>		<p>AUBREY A. HAUDRICOURT, STATE OF FLORIDA, PROFESSIONAL ENGINEER, LICENSE NO. 66861</p> <p>THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY AUBREY A. HAUDRICOURT THE DATE INDICATED HERE: DECEMBER 13, 2021</p> <p>PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.</p>																																																																	
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SITE MAP

SCALE: 1" = 200'

SHEET INDEX TABLE	
Sheet Number	Sheet Title
GENERAL	
G0.00	COVER SHEET
G0.01	GENERAL NOTES
G0.02	CIVIL-MECHANICAL-LEAD SHEET
CIVIL: CIVIL SITE	
C00.0	SITE PLAN
MECHANICAL	
M0.00	STOP PLATE AND GUIDE REPLACEMENT
M0.01	DUMP GATE VALVE
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I1.01	CONTROL PANEL

SHEET INDEX



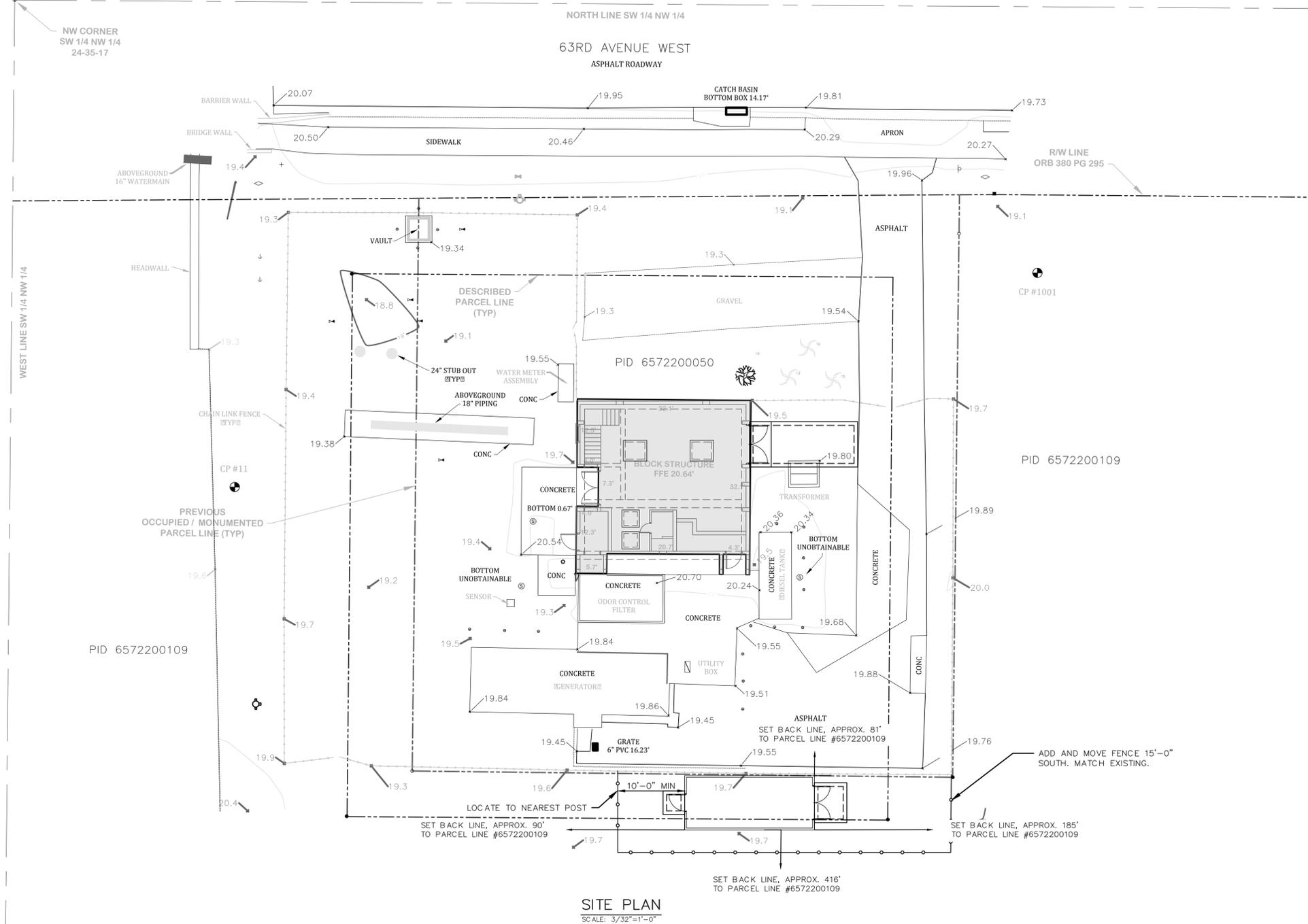
SUBMITTAL DATE: DECEMBER 13, 2021 PROJ. NO. 01024-0182 LIFT STATION 13A ELECTRICAL REHABILITATION



6 0 6 12
SCALE: 3/32" = 1'-0"

SITE CONTROL				
DESIGNATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP #11	1125555.95	473545.48	19.76'	IR (LB 7203)
CP #1001	1125595.39	473693.96	19.67'	IR (LB 7203)

LEGEND	
PID	PARCEL IDENTIFICATION
CP	CONTROL POINT
R/W	RIGHT OF WAY
ND	NAIL W/ DISC
IR	IRON ROD
ORB	OFFICIAL RECORDS BOOK PAGE
PG	PAGE
FFE	FINISHED FLOOR ELEVATION
	TREE
	PALM
	CONTROL POINT
	UTILITY POLE
	GUY WIRE
	SEWER VALVE
	WATER VALVE
	SANITARY MANHOLE
	LIGHT POLE
	BOLLARD
	UTILITY BOX
	FIBER OPTIC WITNESS
	ANTENNA
	FIRE HYDRANT
	GRATE INLET



SITE PLAN
SCALE: 3/32"=1'-0"

- GENERAL NOTES
1. THE FOLLOWING MANATEE COUNTY VERTICAL CONTROL MONUMENT WAS RECOVERED AND UTILIZED FOR THE ELEVATIONS INDICATED HEREON:
"BREVARD" NAVD 1988 ELEVATION 20.00'
 2. THIS SURVEY IS REFERENCED TO A GRID PROJECTION OF THE FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE NAD 1983/2011 ADJUSTMENT).
 3. THIS IS NOT A BOUNDARY SURVEY. PARCEL AND R/W LINES INDICATED HEREON ARE APPROXIMATE.
 4. THIS SURVEY IS SUBJECT TO PERTINENT EASEMENTS, RIGHTS-OF-WAY AND RESTRICTIONS OF RECORD, IF ANY.
 5. THIS SURVEY DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF THE PARTY OR PARTIES CERTIFIED TO BELOW FOR THE EXPRESS PURPOSE STATED HEREON AND/OR CONTAINED IN THE CONTRACT BETWEEN HYATT SURVEY SERVICES, INC. AND THE CLIENT FOR THIS PROJECT. COPYING, DISTRIBUTING AND/OR USING THIS DRAWING, IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN ORIGINALLY INTENDED WITHOUT WRITTEN CONSENT FROM HYATT SURVEY SERVICES, INC. IS STRICTLY PROHIBITED AND RENDERS THE SURVEYOR'S CERTIFICATION, SIGNATURE AND SEAL NULL AND VOID. ANY QUESTIONS CONCERNING THE CONTENT OR PURPOSE OF THIS DRAWING SHOULD BE DIRECTED TO HYATT SURVEY SERVICES, INC.

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021

SEAL

AUBREY A. HAUDRICOURT, P.E.
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LIFT STATION 13A ELECTRICAL REHABILITATION

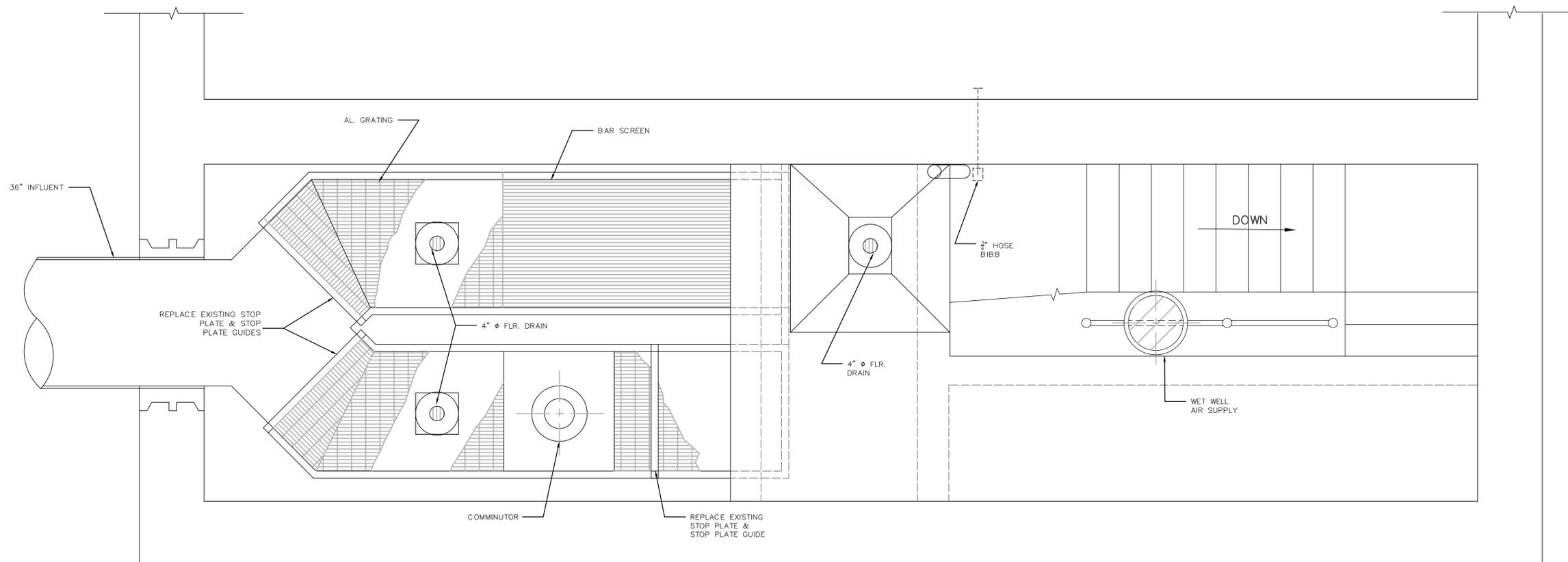
CIVIL SITE
SITE PLAN

PROJ. START DATE: 2020 JUN	SCALE	C00.0
MCE PROJ. # 01024-0182	HORIZONTAL: 1"=10'-0"	
DRAWN JG	VERTICAL: TBD	0
DESIGNED AAH		REVISION
CHECKED MAC		
PROJ. MGR. AAH		

STATUS: **ISSUED FOR BID**



1 0 1 2
SCALE: 3/4" = 1'-0"



WET WELL PLAN – INTERMEDIATE LEVEL

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

SEAL

MITCHEL A. CHIAVAROLI, P.E.
No. 56335

MCKIM & CREED

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Clearwater, Florida 33756
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**LIFT STATION 13A ELECTRICAL
REHABILITATION**

MECHANICAL

STOP PLATE AND GUIDE REPLACEMENT

PROJ. START DATE: 2020 JUN
MCE PROJ. # 01024-0182
DRAWN CW
DESIGNED DC
CHECKED MAC
PROJ. MGR. AAH

SCALE
HORIZONTAL: 3/4"=1'-0"
VERTICAL: N/A

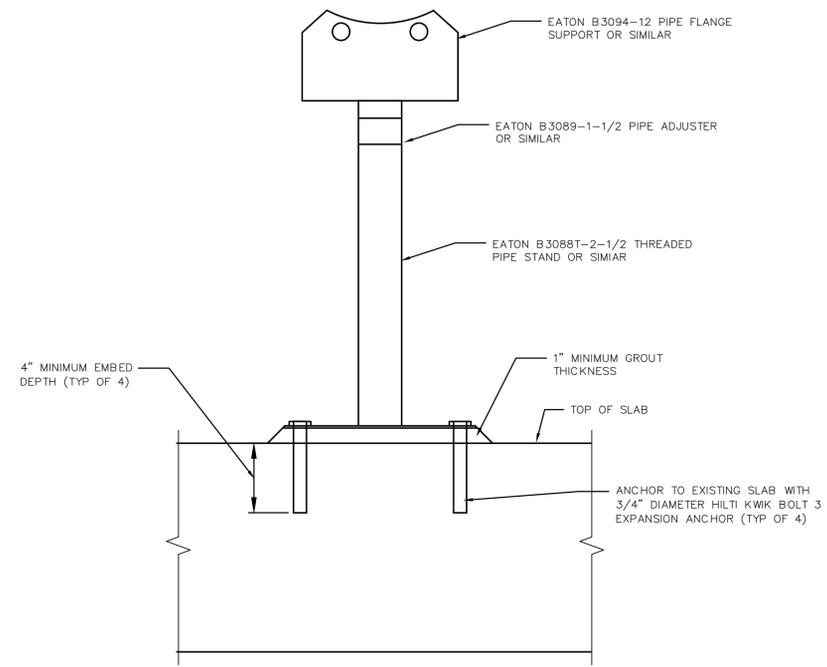
M0.00
DRAWING NUMBER
0
REVISION

STATUS: **ISSUED FOR BID**

NOTES:

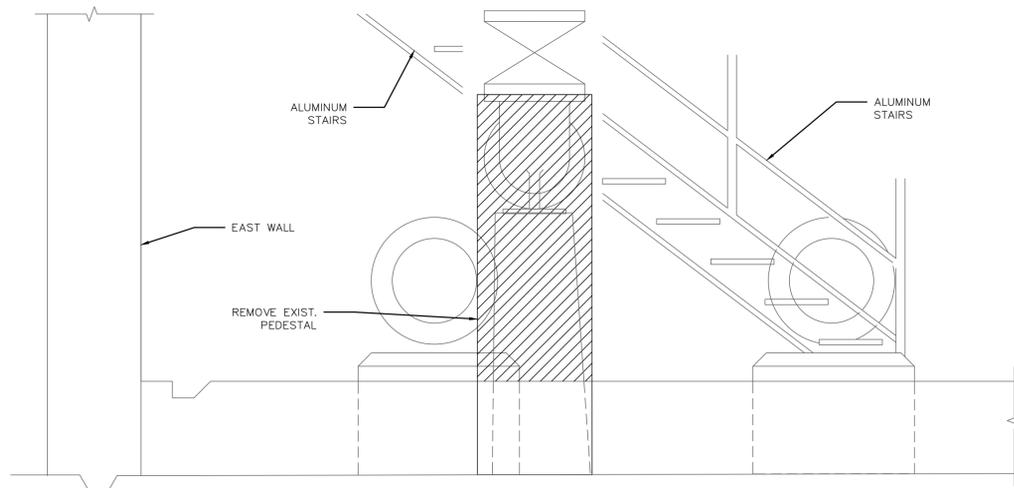
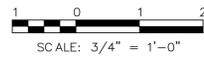
1. CONTRACTOR SHALL FIELD VERIFY AND NOTIFY OWNER OF ANY DIFFERENCES THAT MAY IMPACT THE WORK TO BE PERFORMED.
2. CONTRACTOR SHALL REMOVE ANY EXPOSED ANCHOR BOLTS.
3. CONTRACTOR SHALL APPLY PATCHWORK TO CONCRETE AND TOUCH-UP PAINT WHERE REQUIRED.

 EQUIPMENT TO BE DEMOLISHED

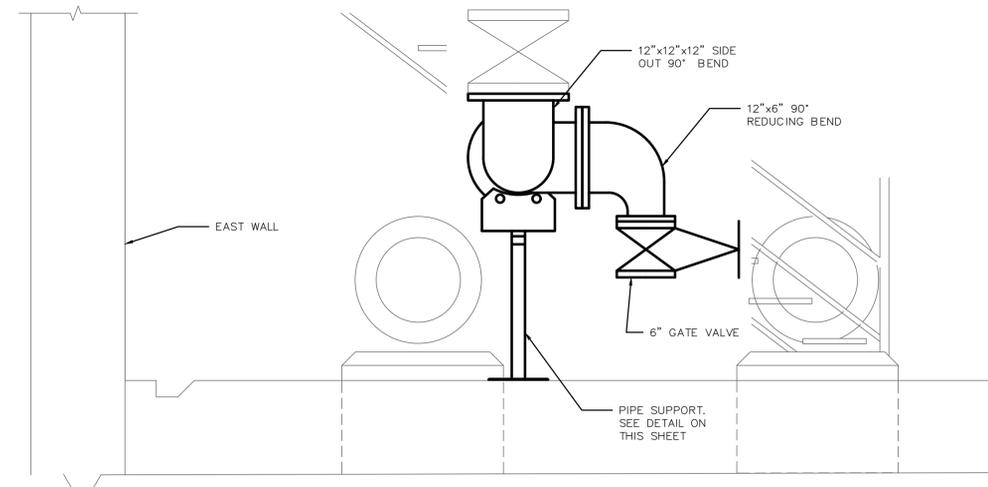


PIPE SUPPORT DETAIL

SCALE: NTS



DRYWELL SECTION (EXISTING)



DRYWELL SECTION (PROPOSED)

NOTE: ALL PIPE SUPPORT, CONNECTING AND ANCHORING MATERIALS SHALL BE GALVANIZED.

REV. NO.	DESCRIPTION	DATE
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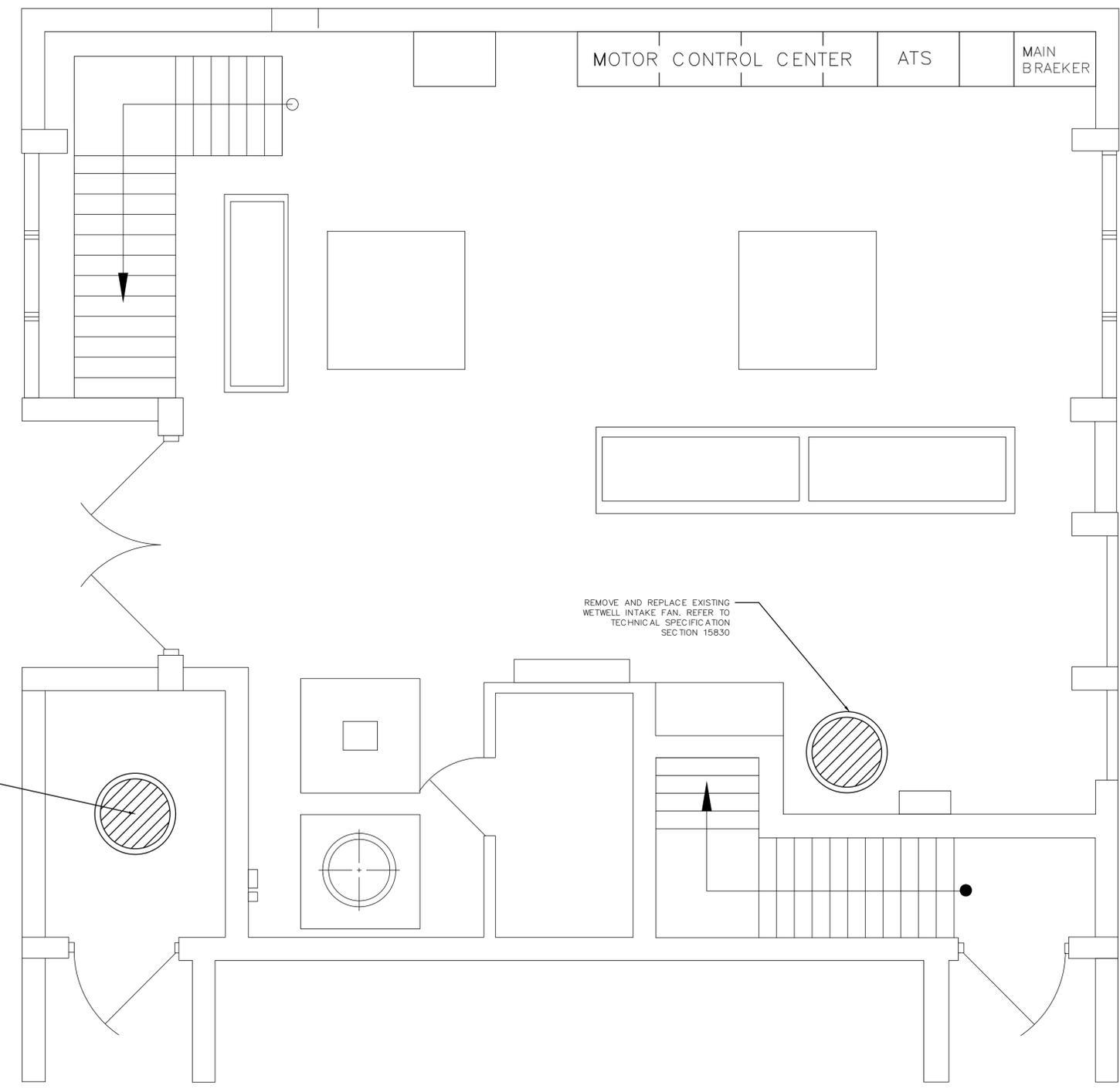
MECHANICAL

DUMP GATE VALVE

PROJ. START DATE: 2020 JUN	SCALE	M0.01 DRAWING NUMBER
MCE PROJ. # 01024-0182	HORIZONTAL: AS SHOWN	
DRAWN: CW	VERTICAL: N/A	
DESIGNED: DC	REVISION: 0	
CHECKED: MAC		
PROJ. MGR. AAH		
STATUS: ISSUED FOR BID		



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



PARTIAL FLOOR PLAN

NOTE:
CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE ROOFING SYSTEM
RESULTING FROM REMOVING AND REPLACING THE INTAKE AND EXHAUST FANS.

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

SEAL

MITCHEL A. CHIAVAROLI, P.E.
No. 56335



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Manatee
County
FLORIDA

**LIFT STATION 13A ELECTRICAL
REHABILITATION**

MECHANICAL
**WETWELL INTAKE AND EXHAUST FAN
REPLACEMENT**

PROJ. START DATE: 2020. JUN	SCALE
MCE PROJ. # 01024-0182	HORIZONTAL: 1/2"=1'-0"
DRAWN: DP	VERTICAL: N/A
DESIGNED: DC	
CHECKED: MAC	
PROJ. MGR. AAH	

M0.02

DRAWING NUMBER

0

REVISION

ISSUED FOR BID

1 ABBREVIATIONS	
NOTE: ALL ABBREVIATIONS MAY NOT BE UTILIZED FOR THIS PROJECT	
A, AMP	AMPERE
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AIT	ANALYTICAL INDICATION TRANSMITTER
AL	ALUMINUM
ARMS	ARC-FLASH REDUCTION SYSTEM
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
AGD	ARC QUENCHING DEVICE
BKR	BREAKER
BLDG	BUILDING
BV	BUTTERFLY VALVE
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
CBV	CABLE BY VENDOR, INSTALLED BY CONTRACTOR
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CL2	CHLORINE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY, CORROSION RESISTANT
CS	CONTROL STATION
CT	CURRENT TRANSFORMER
CTRL	CONTROL
CU	COPPER
CV	CONTROL VALVE
DB	DECIBEL
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DET	DUAL ELEMENT TIME DELAY
DISC	DISCONNECT
DN	DOWN
DPDT	DOUBLE POLE DOUBLE THROW
DS	DISCONNECT SWITCH
DWG	DRAWING
EC	EMPTY CONDUIT
EF	EXHAUST FAN
EHH	ELECTRICAL HANDHOLE
EL, ELEV	ELEVATION
ELTU	ELECTRONIC TRIP UNIT
EMER	EMERGENCY
EMH	ELECTRICAL MANHOLE
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EPRF	EXPLOSION PROOF
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXIST	EXISTING
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLOUR	FLUORESCENT
FMC	FLEXIBLE METALLIC CONDUIT
FS	FLOW SWITCH
FT	FEET OR FOOT
FUT	FUTURE
FVNR	FULL VOLTAGE NON-REVERSING STARTER
FWE	FURNISHED WITH EQUIPMENT
G, GND	GROUND
GALV	GALVANIZED
GEC	GROUNDING ELECTRODE CONDUCTOR
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HDG	HOT DIPPED GALVANIZED
HH	HANDHOLE
HOA	HAND-OFF-AUTO
HP	HORSE POWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
HZ	HERTZ
ID	INTERIOR DIAMETER
IMC	INTERMEDIATE METALLIC CONDUIT (GALVANIZED)
IMT	INTERMEDIATE METALLIC
IN, "	INCHES
ITB	INSTRUMENT TERMINAL BOX
JB	JUNCTION BOX
K	THOUSAND
KA	KILOVOLT AMPERE
KIAC	THOUSAND AMPERES INTERRUPTING CURRENT
KCMIL	THOUSAND CIRCULAR MILLS
KVA	THOUSAND VOLT AMPERES
KW	KILOWATTS
KWH	KILOWATT-HOURS
LA	LIGHTNING ARRESTOR
LCP	LOCAL CONTROL PANEL
LED	LIGHT-EMITTING DIODE
LFCM	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT
LT	LEVEL INDICATION TRANSMITTER
LP	LIGHTING PANEL, LIGHT POLE
LS	LEVEL SWITCH
LTG	LIGHTING
LV	LOW VOLTAGE
M	MOTOR
MA	MILLIAMPERE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MSB	MAIN SWITCHBOARD
MTD	MOUNTED/MOUNTING
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
NA	NON-AUTOMATIC
N/A	NOT APPLICABLE
NC	NORMALLY CLOSE
NEC	NATIONAL ELECTRIC CODE
N, NEU	NEUTRAL
NO	NORMALLY OPEN
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OFCL	OWNER FURNISHED, CONTRACTOR INSTALLED
OL	OVERLOAD RELAY
P	POLE
PA	PUBLIC ADDRESS
PB	PUSH BUTTON
P/B	PULL BOX
PCP	PUMP CONTROL PANEL
PF	POWER FACTOR
PFC	POWER FACTOR CORRECTION CAPACITORS
PFD	PULL FUSE DISCONNECT
PH	PHASE
PIT	PRESSURE INDICATION TRANSMITTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PP	POWER PANEL, POWER POLE
PR	PAIR
PRI	PRIMARY
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PTZ	PAN-TILT-ZOOM
PVC	POLYVINYL CHLORIDE
REC	RECEPTACLE
REQ'D	REQUIRED
RGS	RIGID GALVANIZED STEEL
RMC	RIGIDREMOTE TELEMETRY UNIT
R/S	RUN/STOP HAND SWITCH
RVSS	REDUCED VOLTAGE SOFT STARTER
SCCR	SHORT CIRCUIT CURRENT RATING
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SEC	SECONDARY
SP	SPARE
SPEC	SPECIFICATION
SPD	SURGE PROTECTION DEVICE
SS	SELECTOR SWITCH
SST	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCH GEAR
TEL	TELEPHONE
TEMP	TEMPERATURE
TEW	THERMOCOUPLE EXTENSION WIRE
TMTU	THERMAL-MAGNETIC TRIP UNIT
TS	TEMPERATURE SWITCH
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VAC	VOLTS ALTERNATING CURRENT
VFD	VARIABLE FREQUENCY DRIVE
WH	WATT-HOUR
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

2 FIRE ALARM SYSTEM	
110	AUDIO/VISUAL ALARM INDICATOR (HORN/STROBE) NUMBER INDICATES STROBE CANDELLA RATING WHEN OTHER THAN 15
	HORN
	MANUAL PULL STATION
	FIRE ALARM CONTROL PANEL
	BELL
	FIRE ALARM ANNUNCIATOR STATION
	FLOW SWITCH
	VALVE TAMPER SWITCH
	END OF LINE RESISTOR
	FLAME DETECTOR
	SMOKE DETECTOR, MULTISENSOR
	SMOKE DETECTOR IONIZATION
	SMOKE DETECTOR PHOTOELECTRIC
	DUCT MOUNTED SMOKE DETECTOR
	THERMAL DETECTOR (FIXED AND RATE OF RISE) H-HIGH TEMPERATURE
	SIGNAL INPUT MODULE
	SIGNAL MODULE

4 GENERAL ELECTRICAL NOTES	
1. CONTRACTOR RESPONSIBILITIES:	
1.1.	THE CONTRACTOR SHALL READ AND UNDERSTAND THE ENTIRE SET OF CONSTRUCTION DOCUMENTS. THIS INCLUDES BUT IS NOT LIMITED TO THE PLANS AND SPECIFICATIONS FOR ALL DISCIPLINES. THIS WILL ENSURE THAT HE UNDERSTANDS THE FULL SCOPE OF WORK AND IS ABLE TO CONVEY THE REQUIRED MATERIALS AND METHODS OF INSTALLATION TO THE HIS ESTIMATORS, SUPPLIERS AND INSTALLERS.
1.2.	THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS.
1.3.	PROVIDE MEANS TO FURNISH AND INSTALL.
1.4.	THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. DO NOT SCALE FROM THESE DRAWINGS.
1.5.	WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF THE WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ANY ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN CONSENT FROM THE ENGINEER AND OWNER.
1.6.	MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE U.O.N.
1.7.	REFERENCE ALL SPECIFICATIONS, DRAWINGS AND CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS AND CONTRACT RESPONSIBILITIES PRIOR TO COMMENCING WORK.
1.8.	THE GENERAL NOTES STATED ON THIS DRAWING ARE APPLICABLE TO ALL DRAWINGS AND SCOPE OF WORK UNDER THIS CONTRACT UNLESS NOTED OTHERWISE.
1.9.	ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT NFPA, NEC, NESC AND LOCAL CODES INCLUDING OWNERS STANDARDS AND REQUIREMENTS.
1.10.	CONTRACTOR SHALL COORDINATE WITH THE LOCAL ELECTRICAL UTILITY TO ESTABLISH NEW ELECTRICAL SERVICE(S) AND FINAL CONNECTIONS TO PROVIDE UTILITY POWER AS REQUIRED TO INCLUDE ESTABLISHING TEMPORARY UTILITY ACCOUNT TO PROVIDE ELECTRICAL POWER FOR START-UP AND COMMISSIONING.
1.11.	THE ELECTRICAL INSTALLATION SHALL EXCEED THE REQUIREMENTS OF ALL APPLICABLE NECA/NEIS STANDARDS.
1.12.	CONTRACTOR SHALL PLAN AND COORDINATE ELECTRICAL CONSTRUCTION WITH ALL CRAFT/TRADE TO ACHIEVE AN EFFICIENT AND EFFECTIVE ELECTRICAL INSTALLATION.
1.13.	THE SCHEDULING AND DURATION OF ANY PROCESS OR FACILITY SHUTDOWN TO REMOVE AND/OR INSTALL EQUIPMENT SHALL BE COORDINATED IN ADVANCE WITH FACILITY MANAGEMENT, ENGINEER, OWNER OR OWNER REPRESENTATIVE.
2. ELECTRICAL EQUIPMENT:	
2.1.	600V RATED ELECTRICAL EQUIPMENT SHALL HAVE AN AMPERE INTERRUPTING CAPACITY (AIC) RATINGS AS SHOWN ON THE CONTRACT DRAWINGS.
2.2.	EQUIPMENT SHALL BE ARRANGED AND INSTALLED TO COMPLY WITH ALL CODE-REQUIRED, MANUFACTURER-RECOMMENDED AND HEAT-DISSIPATION CLEARANCES.
2.3.	EQUIPMENT INSTALLATIONS AND PLACEMENTS SHALL COMPLY WITH NEC ARTICLE 110 FOR ALL CLEARANCE REQUIREMENTS.
2.4.	EQUIPMENT SHALL FIT INTO THOSE SPACES AS SHOWN ON THE CONTRACT DRAWINGS. CONTRACTOR IS RESPONSIBLE TO PROVIDE EQUIPMENT WHICH MEETS THE SPACE REQUIREMENTS.
2.5.	CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS REQUIRED FOR MAKING FINAL CONNECTIONS FOR ALL EQUIPMENT INSTALLED AND/OR MODIFIED UNDER CONTRACT.
3. POWER AND CONTROL SYSTEM RACEWAYS:	
3.1.	EXPOSED CONDUIT SHALL BE RIGID ALUMINUM CONDUIT (RAC), GRS, IMC AND EMT ARE NOT ACCEPTABLE.
3.2.	CONCEALED CONDUIT EMBEDDED IN CONCRETE SHALL BE SCH-40 PVC
3.4.	DIRECT-BURIED CONDUIT SHALL BE DIRECT-BURIED SCH-80 PVC
3.5.	TRANSITIONS THROUGH FINISHED GRADE AND/OR CONCRETE SHALL BE PVC-COATED RAC CONDUIT.
3.6.	DRAWINGS DEPICT MAJOR DUCTBANK, CABLE-TRAY, BUS-DUCT, WIRE-WAY, TRENCH/FLOOR DUCTS, RACEWAY, CONDUIT, ETC., TO INCLUDE CABLE, CONDUCTOR AND WIRING IN SCHEMATIC AND/OR DIAGRAMMATIC FORMATS. THE CONTRACTOR SHALL REFERENCE ALL EQUIPMENT SPECIFICATIONS AND MANUFACTURER INSTRUCTIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS.
3.7.	RACEWAY INSTALLATION AND/OR ARRANGEMENT LAYOUTS ARE NOT TYPICALLY SHOWN ON THE DRAWINGS. CONTRACTOR SHALL DEVELOP LOGICAL GROUPINGS, ROUTING AND MARSHALLING OF DUCTBANK, CABLE-TRAY, BUS-DUCT, WIRE-WAY, TRENCH/FLOOR DUCT, RACEWAY, CONDUIT, ETC., THESE SHALL NOT BE ROUTED THROUGH OR INTERFERE WITH ANY STRUCTURAL ELEMENTS. CONTRACTOR SHALL SUBMIT THESE RACEWAY INSTALLATION AND/OR ARRANGEMENT LAYOUTS PER THE SPECIFICATIONS FOR ENGINEER REVIEW PRIOR TO INSTALLATION.
3.8.	RACEWAY ROUTINGS SHALL BE ORGANIZED AND GROUPED IN A PRACTICAL MANNER TO MINIMIZE CROSS-OVERS AND SADDLES. RACEWAY INSTALLATIONS SHALL BE ARRANGED TO ENTER EQUIPMENT FOR DIRECT CONDUCTOR TERMINATIONS.
3.9.	RACEWAYS SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED OR SHOWN. THESE SHALL RUN PARALLEL TO LANDSCAPE AND STRUCTURAL FEATURES WHILE THE BENDS AND TURNS SHALL BE MADE BY MEANS OF LARGE RADIUS FITTINGS.
3.10.	PROVIDE FLEXIBLE RACEWAY CONNECTIONS TO ALL EQUIPMENT SUBJECT TO MOVEMENT AND/OR VIBRATION. CONTRACTOR SHALL MAKE RACEWAY CONNECTIONS COMPLETE AND IN ACCORDANCE WITH THE SPECIFICATIONS.
3.11.	CONTRACTOR SHALL PROVIDE ALL REQUIRED PULL BOXES, TERMINAL BOXES AND JUNCTION BOXES FOR INSTALLATION FOR THE WIRING SYSTEMS IN ACCORDANCE WITH THE SPECIFICATIONS THOUGH ALL BOXES MAY NOT BE INDICATED ON THE DRAWINGS.
3.12.	SPARE CONDUITS SHALL BE CAPPED OR PLUGGED WITH A PVC FITTING AND INCLUDE 200# TEST POLYPROPYLENE PULL STRING.
4. CABLES/CONDUCTORS/WIRES:	
4.1.	GENERAL
4.1.1.	QUANTITY AND SIZING OF CONDUCTORS, CABLING, WIRING AND RESPECTIVE RACEWAYS DEPICTED ON THE DRAWINGS ARE BASED UPON SELECTED STANDARD ELECTRICAL COMPONENTS OR EQUIPMENT WITH DIRECT ROUTED CONNECTIONS. CONTRACTOR MAY SUBMIT FOR REVIEW BY ENGINEER AND PRIOR TO INSTALLATION, LOGICAL CONDUCTOR AND RACEWAY GROUPINGS IN COMPLIANCE WITH APPLICABLE CODES, STANDARDS AND SPECIFICATIONS WITHOUT ADDITIONAL COST TO OWNER.
4.1.2.	CONTRACTOR SHALL PROVIDE A CIRCUIT IDENTIFICATION LABEL AT EACH END OF EACH POWER, BRANCH, CONTROL AND INSTRUMENTATION CIRCUIT CABLE ASSEMBLY, CONDUCTOR OR WIRE.
4.2.	POWER/FEEDER
4.2.1.	CONTRACTOR SHALL NOT EXCEED CABLE MANUFACTURER SPECIFICATIONS FOR SIDE-WALL AND TENSION LIMITS WHEN DRAWING POWER CABLES INTO RACEWAYS.
4.2.2.	CONTRACTOR SHALL DRAW POWER CABLES AND CONDUCTORS WITHIN RACEWAYS UTILIZING POLYMER LUBRICANT J OR APPROVED EQUAL.
4.2.3.	NO SPLICES TO POWER CONDUCTORS AND/OR CABLING SHALL BE MADE WITHOUT ENGINEER APPROVAL. NO JUNCTIONS SHALL BE MADE BELOW GRADE WITHOUT APPROVAL OF ENGINEER.
4.3.	POWER/BRANCH
4.3.1.	RACEWAY AND WIRING FOR LIGHTING, RECEPTACLES AND BRANCH CIRCUITS ARE NOT TYPICALLY SHOWN ON THE CONTRACT DRAWINGS BUT SHALL BE PROVIDED AS REQUIRED UNDER THIS CONTRACT
5. HARDWARE AND SUPPORTS:	
5.1.	ALL FASTENERS AND HARDWARE SHALL BE STAINLESS-STEEL 316L.
5.2.	STRUT-CHANNEL SHALL NOT BE BENT, DRILLED, CUT OR OTHERWISE MODIFIED TO PRODUCE FITTINGS, BRACES OR BRACKETS FOR CONDUIT AND EQUIPMENT SUPPORTS.
5.3.	MANUFACTURED STRUT-CHANNEL BRACES, BRACKETS, FITTINGS OR POST BASES SHALL BE PROVIDED AND INSTALLED WITH ASSOCIATED HARDWARE AND FASTENERS FOR CONDUIT AND EQUIPMENT SUPPORTS.
5.4.	CONTRACTOR SHALL PROVIDE ALL SUPPORTS AND FASTENING HARDWARE FOR SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, CONTROL PANELS, ETC., AS REQUIRED IN THE SPECIFICATIONS.
5.5.	CONTRACTOR SHALL PROVIDE AND INSTALL CONCRETE EMBEDDED LEVELING CHANNEL SUPPORTS FOR FLOOR MOUNTED EQUIPMENT SPANNING DISTANCES 48" AND GREATER IN LENGTH OR 36" AND GREATER IN DEPTH.
5.6.	STRUCTURAL MEMBERS SHALL NOT BE DRILLED, CUT, WELDED TO, OR OTHERWISE MODIFIED WITHOUT PRIOR APPROVAL OF THE ENGINEER OF RECORD.
6. RECEPTACLES/SWITCHES:	
6.1.	GENERAL
6.2.0.2.	INDOORS OR NON PROCESS AREAS SHALL BE INSTALLED CONCEALED AND FLUSH WITH STAINLESS-STEEL DEVICE COVER PLATES.
6.2.0.3.	OUTDOORS OR IN PROCESS AREAS SHALL BE INSTALLED WITHIN WEATHER-PROOF, CORROSION RESISTANT DEVICE BOXES WITH METALLIC IN-USE AND/OR WATER-TIGHT DEVICE COVER PLATES.
6.3.	RECEPTACLES/GROUND FAULT CURRENT INTERRUPTING (GFCI)
6.3.1.	SHALL BE INDIVIDUAL GFCI RECEPTACLE DEVICES RATED FOR 20A/120V WITH LED POWER INDICATOR.
6.3.2.	GFCI RECEPTACLE DEVICES SHALL NOT SHARE NEUTRAL CONDUCTORS ON THREE-PHASE SYSTEMS

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LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL

SYMBOLS, ABBREVIATIONS AND NOTES

PROJ. START DATE: 2020 JUN	SCALE:	E0.00 DRAWING NUMBER
MCE PROJ. # 01024-0182	HORIZONTAL: N/A	
DRAWN JG	VERTICAL: TBD	
DESIGNED SS	REVISION: 0	
CHECKED MAC	STATUS:	
PROJ. MGR. AAH	ISSUED FOR BID	

1 POWER SYMBOLS

1200 MEDIUM VOLTAGE DRAWOUT POWER CIRCUIT BREAKER NUMBER INDICATES CURRENT RATING

DISCONNECT SWITCH WITH FUSING WHERE NOTED

100 (FRAME SIZE) 30 (TRIP SIZE) 3 POLE THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKER

100 2P 30 2 POLE THERMAL-MAGNETIC CIRCUIT BREAKER

800 (FRAME SIZE) 800 (SENSOR RATING) DRAWOUT POWER CIRCUIT BREAKER WITH RMS TYPE SOLID STATE TRIP PROGRAMMER E.O. DENOTES ELECTRICALLY OPERATED (600P) DENOTES PLUG RATING WHEN LESS THAN SENSOR RATING IS REQUIRED

800 600 (400P) FIXED MOUNTED POWER OR MOLDED CASE CIRCUIT BREAKER WITH RMS TYPE SOLID STATE TRIP PROGRAMMER.

7A MCP AC COMBINATION FULL VOLTAGE NON-REVERSING STARTER (CONTINUOUS AMP RATING) (MOTOR CIRCUIT PROTECTOR) MAGNETIC BREAKER

MAGNETIC MOTOR STARTER

OVERLOAD RELAY

7A MCP AC COMBINATION FULL VOLTAGE NON-REVERSING TWO SPEED TWO WINDING STARTER

7A MCP AC COMBINATION FULL VOLTAGE REVERSING STARTER

AC COMBINATION FULL VOLTAGE NON-REVERSING STARTER REDUCED VOLTAGE NON-REVERSING STARTER

1S 2S R AUTO-TRANSFORMER TYPE STARTER

RVSS-B ELECTRONIC REDUCED VOLTAGE SOLID STATE STARTER -RVSS -B DENOTES WITH FULL SPEED BYPASS

600/5 3 CURRENT TRANSFORMER, RATIO AND QUANTITY DENOTED

POTENTIAL TRANSFORMER

TRANSFORMER- SIZE AS NOTED ON THE DRAWINGS

SHIELDED ISOLATION TRANSFORMER

DELTA/WYE TRANSFORMER CONNECTION W/GROUND

LA LIGHTNING ARRESTOR

CL FUSE- VOLTAGE AS REQUIRED AND SIZE NOTED ON THE DRAWINGS. CL DENOTES CURRENT LIMITING TYPE. NUMBER INDICATES QUANTITY WHEN LESS THAN 3.

PFD PFD DENOTES PULL FUSE DISCONNECT TYPE

M M D MICROPROCESSOR BASED METERING DEVICE

A AS AMMETER - AMMETER SWITCH

V VS VOLTMETER - VOLTMETER SWITCH

VFD-B VARIABLE FREQUENCY DRIVE - VFD -B WHEN INDICATED DENOTES WITH STARTING AND FULL SPEED BYPASS

SHUNT TRIP

OVERLOAD DEVICE

OVER-TEMPERATURE DEVICE

PUSH-BUTTON STATION

PUSH-BUTTON STATION WITH LOCK-OUT FEATURE

SELECTOR SWITCH

INDICATING LIGHT

CONTROL STATION

LOCAL-OFF-REMOTE SELECTOR SWITCH CONTROL STATION

CONTROL STATION FURNISHED BY EQUIPMENT VENDOR

ATS-BI SSC AUTOMATIC TRANSFER SWITCH -ATS, WITH SOLID STATE CONTROLS AND ACCESSORIES. -BI WHEN INDICATED DENOTES WITH BYPASS-ISOLATION SWITCH

F 60/40 DISCONNECT SWITCH - 480V 3POLE UNFUSED OR FUSED F DENOTES FUSING, ONLY WHERE INDICATED FIRST NUMBER DENOTES SWITCH AMP RATING SECOND NUMBER DENOTES FUSE SIZE WHEN PROVIDED.

J OR J JUNCTION BOX; SIZE AS REQUIRED BY N.E.C.

T OR T TERMINAL BOX; SIZE AS REQUIRED BY N.E.C. AND TO ACCOMMODATE ALL TERMINATIONS ON TERMINAL BLOCKS. TERMINATIONS TO INCLUDE SPARE WIRING.

PB OR PB PULL BOX; SIZE AS REQUIRED BY N.E.C.

K1 LOCK FOR RESPECTIVE KEY INTERLOCK WITH KEY CAPTIVE IN LOCK

L1 LOCK FOR RESPECTIVE KEY INTERLOCK

MOTOR STARTER/CONTROLLER (NON-COMBINATION - COMBINATION - MANUAL) RV DENOTES REDUCED VOLTAGE

LOCAL CONTROL PANEL WITH CONTROLLERS FURNISHED BY EQUIPMENT VENDOR.

M 5 ELECTRIC MOTOR (NUMBER INDICATES HORSEPOWER).

5 ELECTRIC NON-MOTOR LOAD (NUMBER INDICATES KVA).

30 POWER RECPT. WITH DISCONNECT-600V, 3 PHASE, 4 WIRE NUMBER DENOTES AMPERE RATING

30 POWER RECPT. 600V, 3 PHASE, 4 WIRE

S S S POWER ON-OFF SNAP SWITCH, 1PH, 120V AC, 20A S2-DENOTES, 2 POLE, 240 VOLTS, 20A

20A TWO OR THREE POLE MANUAL STARTER,

MS MOTORIZED VALVE WITH CONTROLLER BY VENDOR

MV MOTORIZED VALVE

SV OR SV SOLENOID VALVE

SPD SURGE SUPPRESSION DEVICE

ANSI DEVICE DESIGNATIONS

27 - UNDER VOLTAGE RELAY

32 - DIRECTIONAL POWER RELAY

40 - FIELD(OR)UNDER EXCITATION)RELAY

45 - REV. PHASE OR PHASE-BAL. CURRENT RELAY

50 - INSTANTANEOUS OVERCURRENT

50G- GROUND INSTANTANEOUS OVERCURRENT

51 - AC INVERSE TIME OVERCURRENT RELAY

51G- GROUND AC INVERSE TIME OVERCURRENT RELAY

59 - OVERVOLTAGE RELAY

81 - FREQUENCY RELAY

86 - LOCKOUT RELAY

87 - DIFFERENTIAL PROTECTIVE RELAY

27

ZI ZONE INTERLOCK

ZI METER FUNCTIONS

LP-3 CONDUIT HOMERUN TO EQUIPMENT SHOWN. LINE TYPE DESIGNATES CONCEALED, EXPOSED, ETC. NUMBERS/TEXT DESIGNATE HOMERUN EQUIPMENT (I.E. PANEL BOARD CIRCUIT NUMBER).

GENERAL CONDUIT RUN CONCEALED IN FURRED WALLS AND CEILINGS, EXPOSED ELSEWHERE UNLESS OTHERWISE NOTED OR SPECIFIED.

CONCEALED CONDUIT IN FLOOR SLAB, UNDERGROUND, ETC.

EXISTING CABLE OR CONDUIT

CONDUIT TURNED DOWN

CONDUIT TURNED UP

E SITE ELECTRICAL

E EXISTING SITE ELECTRICAL

T SITE TELEPHONE

T EXISTING SITE TELEPHONE

OHE OVERHEAD ELECTRICAL UTILITY

OHT OVERHEAD TELEPHONE UTILITY

UGE UNDERGROUND ELECTRICAL UTILITY

UGT UNDERGROUND TELEPHONE UTILITY

G SITE GROUND

G EXISTING SITE GROUND

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Manatee County
FLORIDA

LIFT STATION 13A ELECTRICAL REHABILITATION

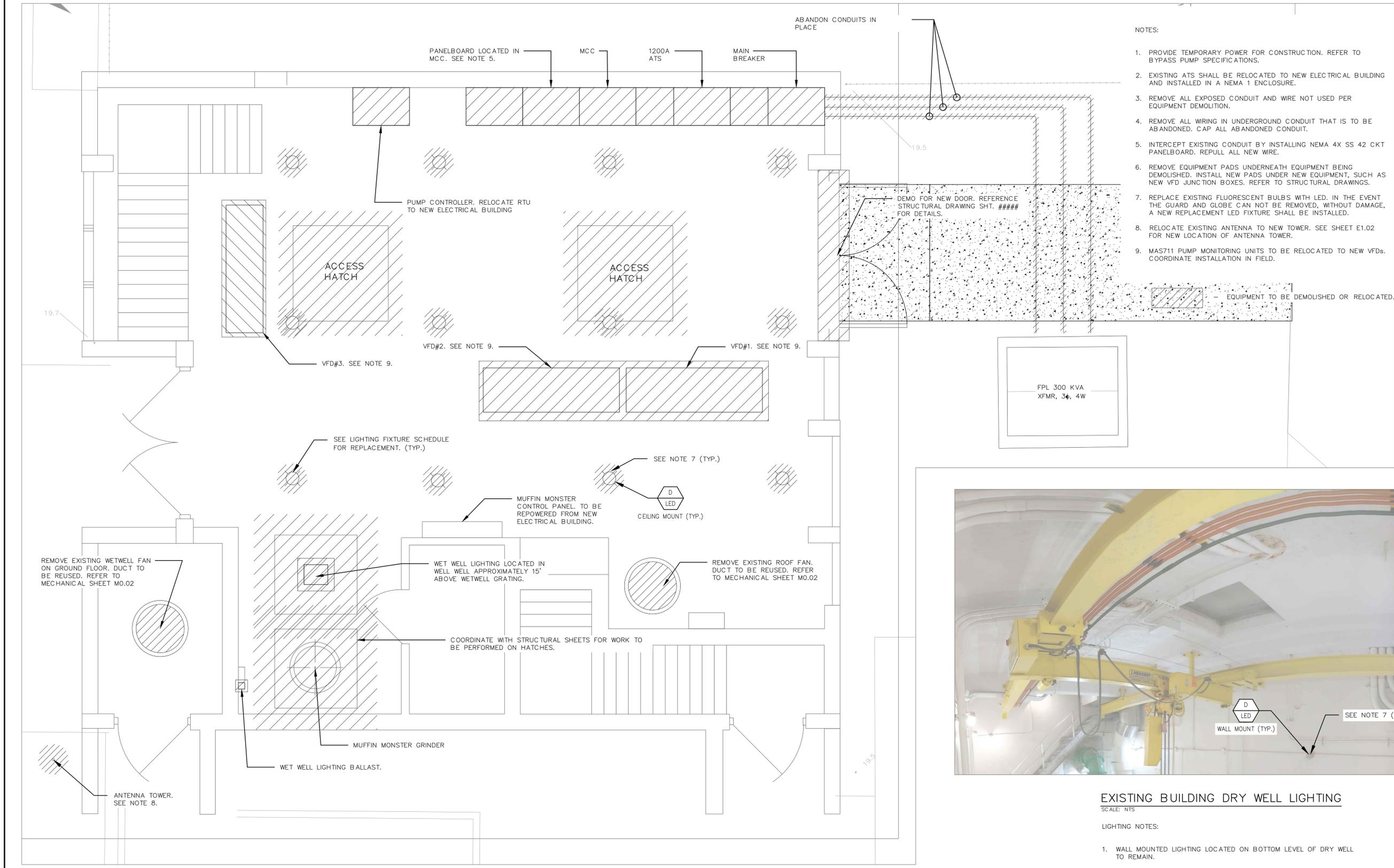
ELECTRICAL SYMBOLS

PROJ. START DATE: 2020 JUN
MCE PROJ. # 01024-0182
DRAWN: JG
DESIGNED: SS
CHECKED: MAC
PROJ. MGR: AAH

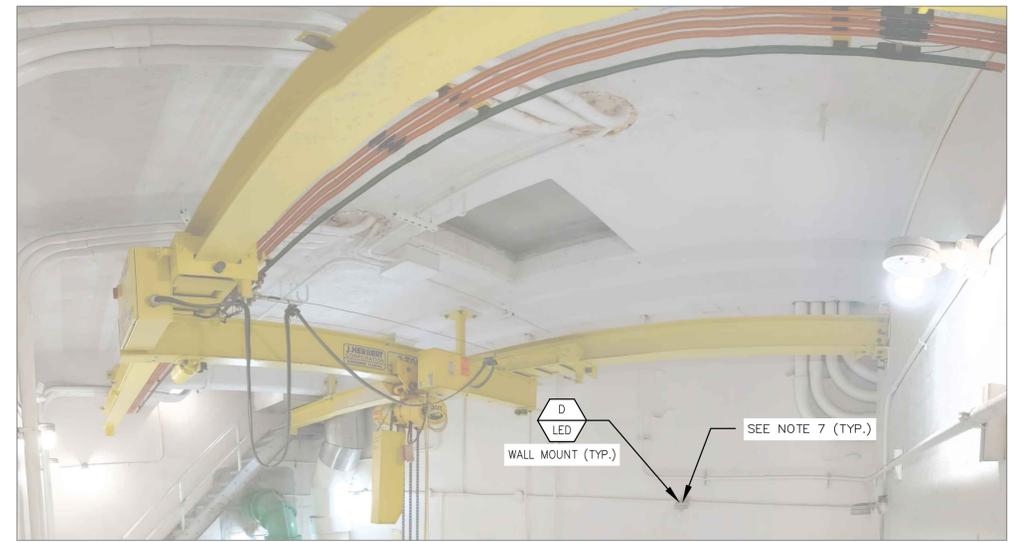
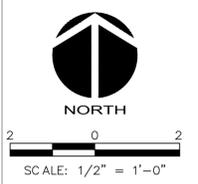
SCALE: N/A
HORIZONTAL: TBD
VERTICAL: TBD

E0.02
DRAWING NUMBER
0
REVISION

STATUS: ISSUED FOR BID



- NOTES:
1. PROVIDE TEMPORARY POWER FOR CONSTRUCTION. REFER TO BYPASS PUMP SPECIFICATIONS.
 2. EXISTING ATS SHALL BE RELOCATED TO NEW ELECTRICAL BUILDING AND INSTALLED IN A NEMA 1 ENCLOSURE.
 3. REMOVE ALL EXPOSED CONDUIT AND WIRE NOT USED PER EQUIPMENT DEMOLITION.
 4. REMOVE ALL WIRING IN UNDERGROUND CONDUIT THAT IS TO BE ABANDONED. CAP ALL ABANDONED CONDUIT.
 5. INTERCEPT EXISTING CONDUIT BY INSTALLING NEMA 4X SS 42 CKT PANELBOARD. REPULL ALL NEW WIRE.
 6. REMOVE EQUIPMENT PADS UNDERNEATH EQUIPMENT BEING DEMOLISHED. INSTALL NEW PADS UNDER NEW EQUIPMENT, SUCH AS NEW VFD JUNCTION BOXES. REFER TO STRUCTURAL DRAWINGS.
 7. REPLACE EXISTING FLUORESCENT BULBS WITH LED. IN THE EVENT THE GUARD AND GLOBE CAN NOT BE REMOVED, WITHOUT DAMAGE, A NEW REPLACEMENT LED FIXTURE SHALL BE INSTALLED.
 8. RELOCATE EXISTING ANTENNA TO NEW TOWER. SEE SHEET E1.02 FOR NEW LOCATION OF ANTENNA TOWER.
 9. MAS711 PUMP MONITORING UNITS TO BE RELOCATED TO NEW VFDs. COORDINATE INSTALLATION IN FIELD.



EXISTING BUILDING DRY WELL LIGHTING
SCALE: NTS

- LIGHTING NOTES:
1. WALL MOUNTED LIGHTING LOCATED ON BOTTOM LEVEL OF DRY WELL TO REMAIN.

DEMOLITION FLOOR PLAN
SCALE: 1/2"=1'-0"

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LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL DEMOLITION PLAN

PROJ. START DATE: 2020 JUN	SCALE
MCE PROJ. # 01024-0182	HORIZONTAL: 1/2"=1'-0"
DRAWN: JG	VERTICAL: TBD
DESIGNED: SS	
CHECKED: MAC	
PROJ. MGR: AAH	

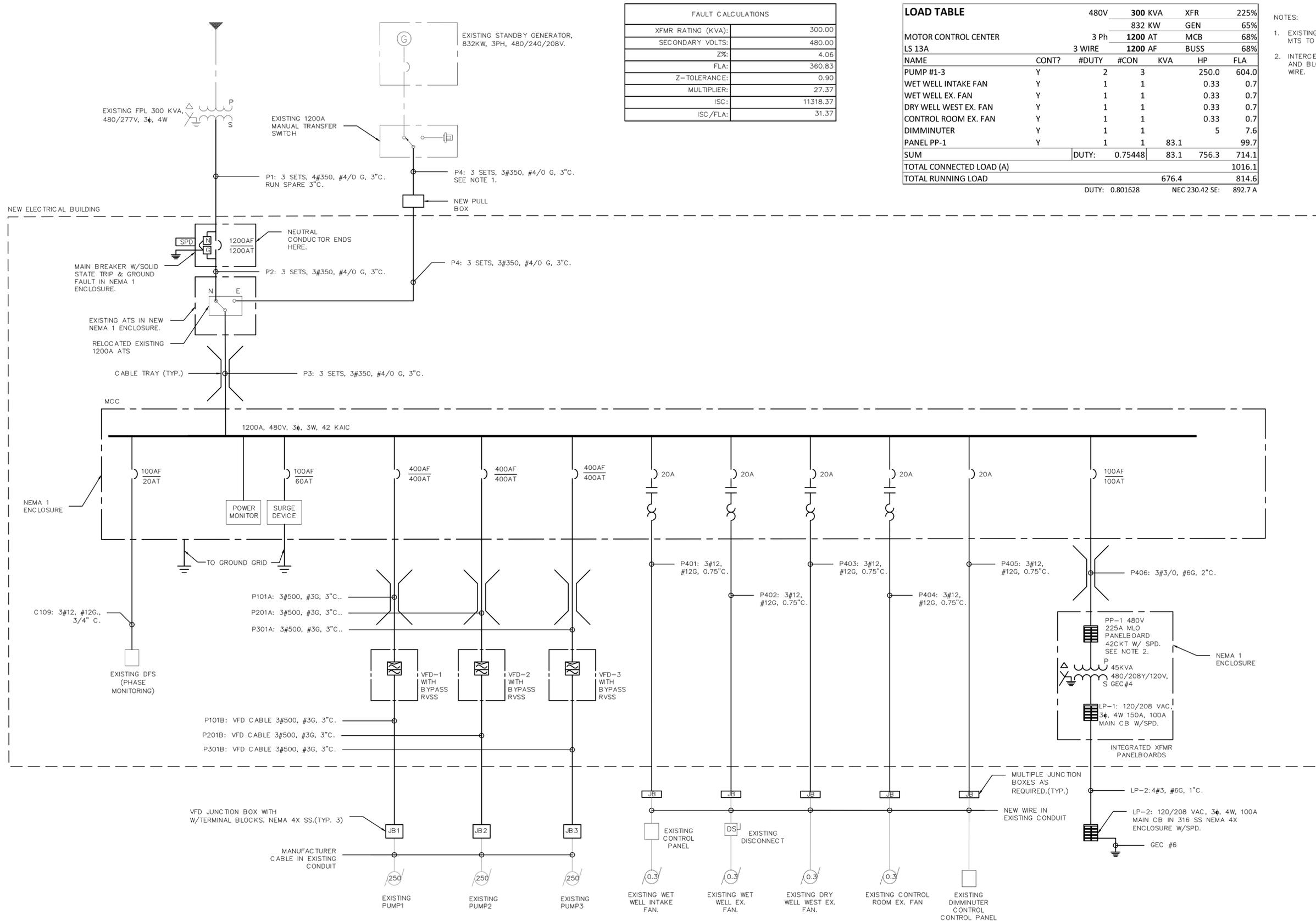
E1.00

DRAWING NUMBER

0

REVISION

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FAULT CALCULATIONS	
XFMR RATING (KVA):	300.00
SECONDARY VOLTS:	480.00
Z%:	4.06
FLA:	360.83
Z-TOLERANCE:	0.90
MULTIPLIER:	27.37
ISC:	11318.37
ISC/FLA:	31.37

LOAD TABLE		480V	300 KVA	XFR	225%	
MOTOR CONTROL CENTER LS 13A		3 Ph	832 KW	GEN	65%	
		3 WIRE	1200 AT	MCB	68%	
			1200 AF	BUSS	68%	
NAME	CONT?	#DUTY	#CON	KVA	HP	FLA
PUMP #1-3	Y	2	3		250.0	604.0
WET WELL INTAKE FAN	Y	1	1		0.33	0.7
WET WELL EX. FAN	Y	1	1		0.33	0.7
DRY WELL WEST EX. FAN	Y	1	1		0.33	0.7
CONTROL ROOM EX. FAN	Y	1	1		0.33	0.7
DIMMINUTER	Y	1	1		5	7.6
PANEL PP-1	Y	1	1	83.1		99.7
SUM		DUTY: 0.75448		83.1	756.3	714.1
TOTAL CONNECTED LOAD (A)						1016.1
TOTAL RUNNING LOAD				676.4		814.6
		DUTY: 0.801628		NEC 230.42 SE:		892.7 A

- NOTES:
- EXISTING CONDUIT TO BE ABANDONED IN PLACE FROM MTS TO OLD ATS LOCATION.
 - INTERCEPT CONDUIT FOR GENERATOR BATTERY CHARGER AND BLOCK HEATER AND ROUTE TO PP-1, PULL NEW WIRE.

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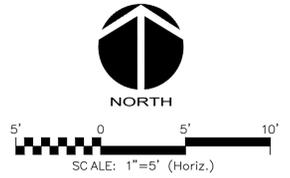


LIFT STATION 13A ELECTRICAL REHABILITATION

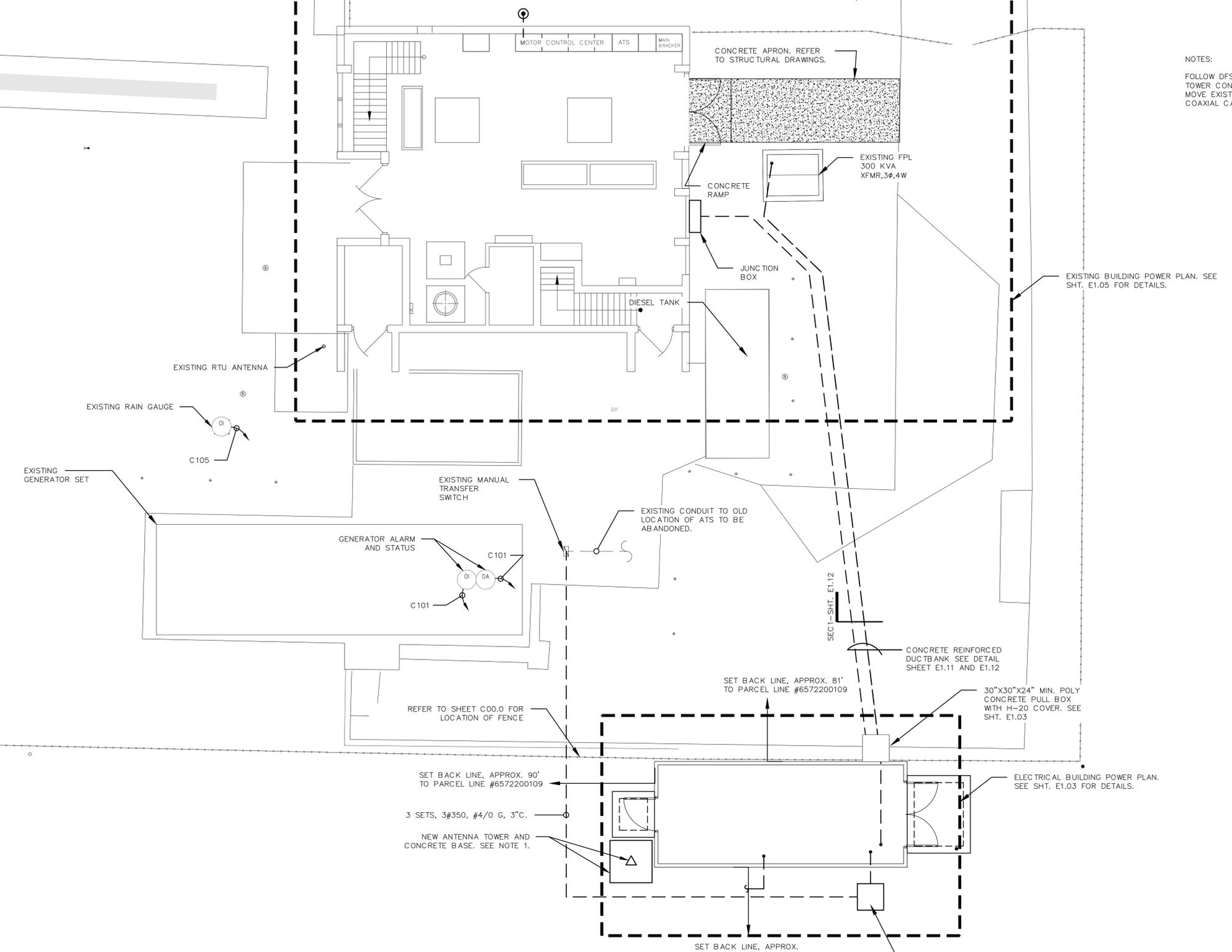
ELECTRICAL SINGLE LINE DIAGRAM

PROJ. START DATE: 2020 JUN	SCALE	E1.01
MCE PROJ. # 01024-0182	HORIZONTAL: N/A	
DRAWN JG	VERTICAL: TBD	0
DESIGNED SS		REVISION
CHECKED MAC		
PROJ. MGR. AAH		

STATUS: ISSUED FOR BID



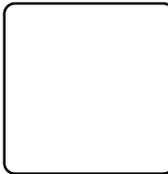
NOTES:
 FOLLOW DFS SPECIFICATIONS FOR CONCRETE BASE AND ANTENNA TOWER CONSTRUCTION. MATCH HEIGHT TO EXISTING TOWER.
 MOVE EXISTING YAGI ANTENNA TO NEW LOCATION. INSTALL NEW COAXIAL CABLE.



ELECTRICAL SITE PLAN
 SCALE: 1"=60'-0"

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LIFT STATION 13A ELECTRICAL REHABILITATION
 ELECTRICAL
ELECTRICAL SITE PLAN

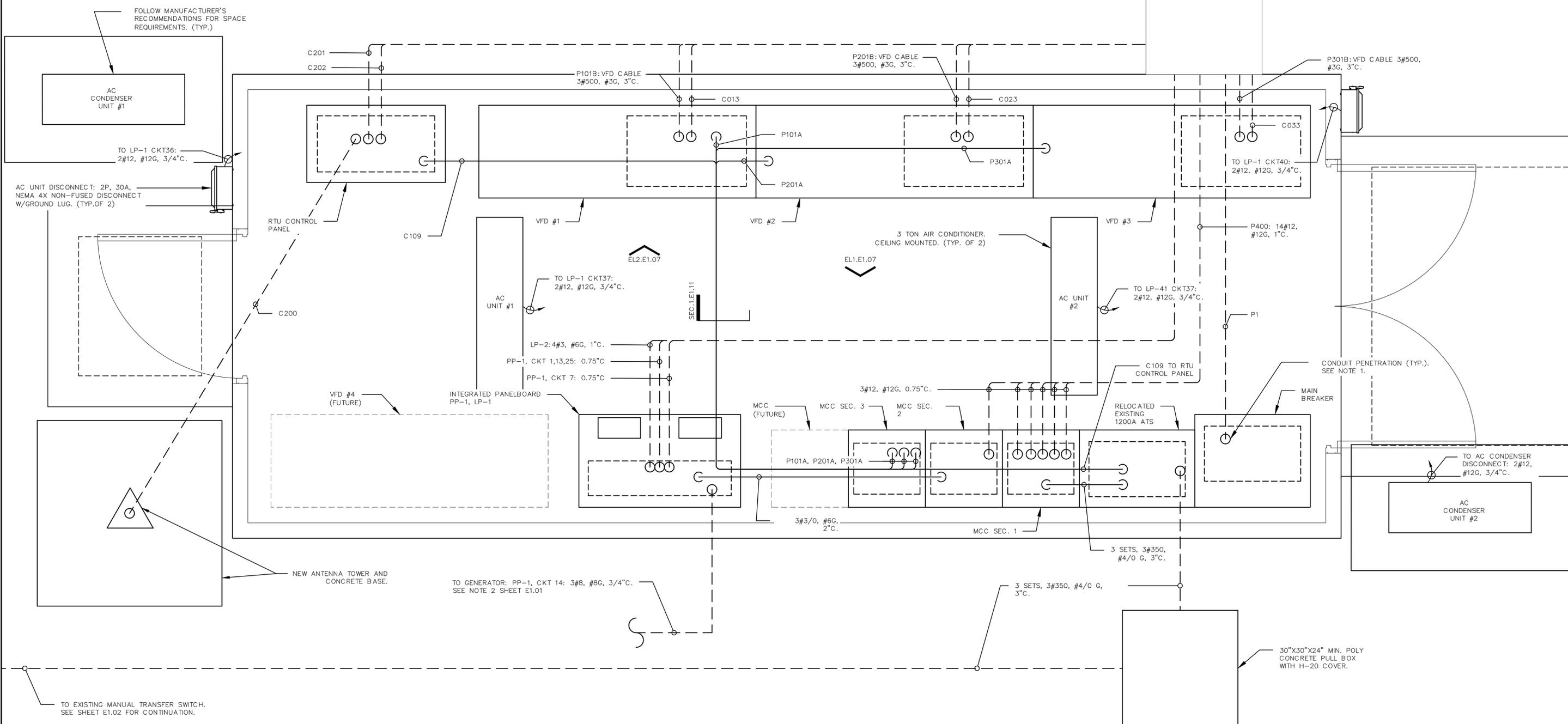
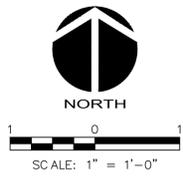
PROJ. START DATE: 2020 JUN
MCE PROJ. # 01024-0182
DRAWN JG
DESIGNED SS
CHECKED MAC
PROJ. MGR. AAH

SCALE	E1.02
HORIZONTAL: 3/16"=1'-0"	
VERTICAL: TBD	
DRAWING NUMBER	0
REVISION	

STATUS: **ISSUED FOR BID**

NOTES:

- CONTRACTOR TO CORE DRILL ALL CONDUIT PENETRATIONS THROUGH CONCRETE AND SEAL AFTER INSTALLATION WITH ECOFLEX PRODUCT OR EQUAL. DUCT SEAL NOT ALLOWED. SEE SHEET E1.08 - LIGHTING PLAN FOR EQUIPMENT CUTOUT LOCATIONS.
- CABLE TRAY REMOVED FOR CLARITY. SEE E1.04
- EXISTING ATS TO BE MOUNTED IN 91.5"H X 30"W X 24"D, NEMA 1 ENCLOSURE BY UL CERTIFIED PANEL SHOP W/LABEL.



ELECTRICAL BUILDING POWER PLAN
SCALE: 1"=1'-0"

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

SEAL

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Manatee County
FLORIDA

LIFT STATION 13A ELECTRICAL REHABILITATION

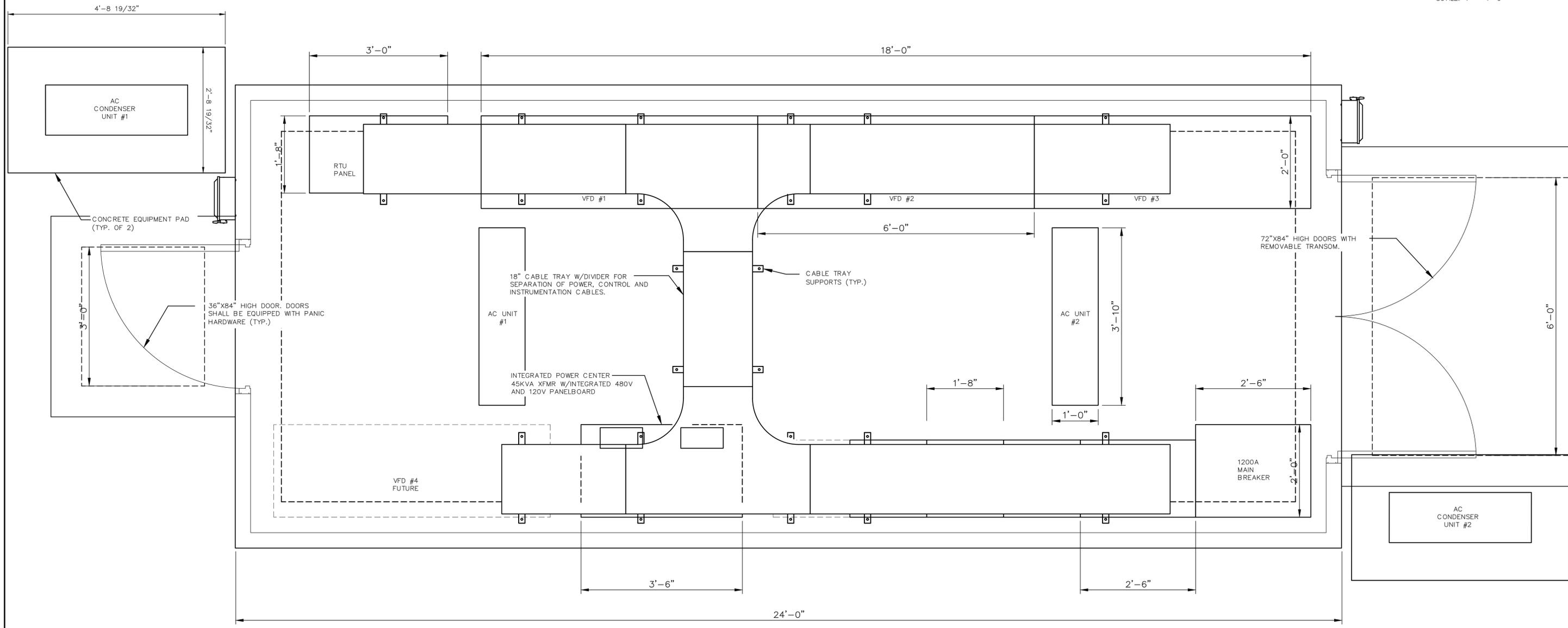
ELECTRICAL BUILDING POWER PLAN

PROJ. START DATE: 2020 JUN	SCALE: 1"=1'-0"	DRAWING NUMBER: E1.03
MCE PROJ. # 01024-0182	HORIZONTAL: 1"=1'-0"	
DRAWN: JG	VERTICAL: TBD	REVISION: 0
DESIGNED: SS		
CHECKED: MAC		
PROJ. MGR: AAH		

STATUS: **ISSUED FOR BID**



SCALE: 1" = 1'-0"



ELECTRICAL BUILDING LAYOUT
SCALE: 1"=1'-0"

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

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LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL BUILDING LAYOUT

PROJ. START DATE: 2020 JUN	SCALE: 1"=1'-0"	E1.04 DRAWING NUMBER
MCE PROJ. # 01024-0182	HORIZONTAL: TBD	
DRAWN: JG	VERTICAL: TBD	0 REVISION
DESIGNED: SS		
CHECKED: MAC		
PROJ. MGR: AAH		
STATUS: ISSUED FOR BID		

LP-2: 120/208 VAC, 3 ϕ , 4W, 100A MAIN CB IN 316 SS NEMA 4X ENCLOSURE W/SPD. REPU. ALL NEW WIRE.

NEW DISCONNECT FOR EXISTING HOIST GROUND FLOOR: 3P, 30A, NEMA 4X SS NON-FUSED.

CONTROLS TERMINAL BOX WITH TERMINAL BLOCKS. NEMA 4X SS. SEE NOTE 4.

3/4"x10' CU-CLAD GROUND ROD. (TYP.). SEE DETAILS SHT.E1.11

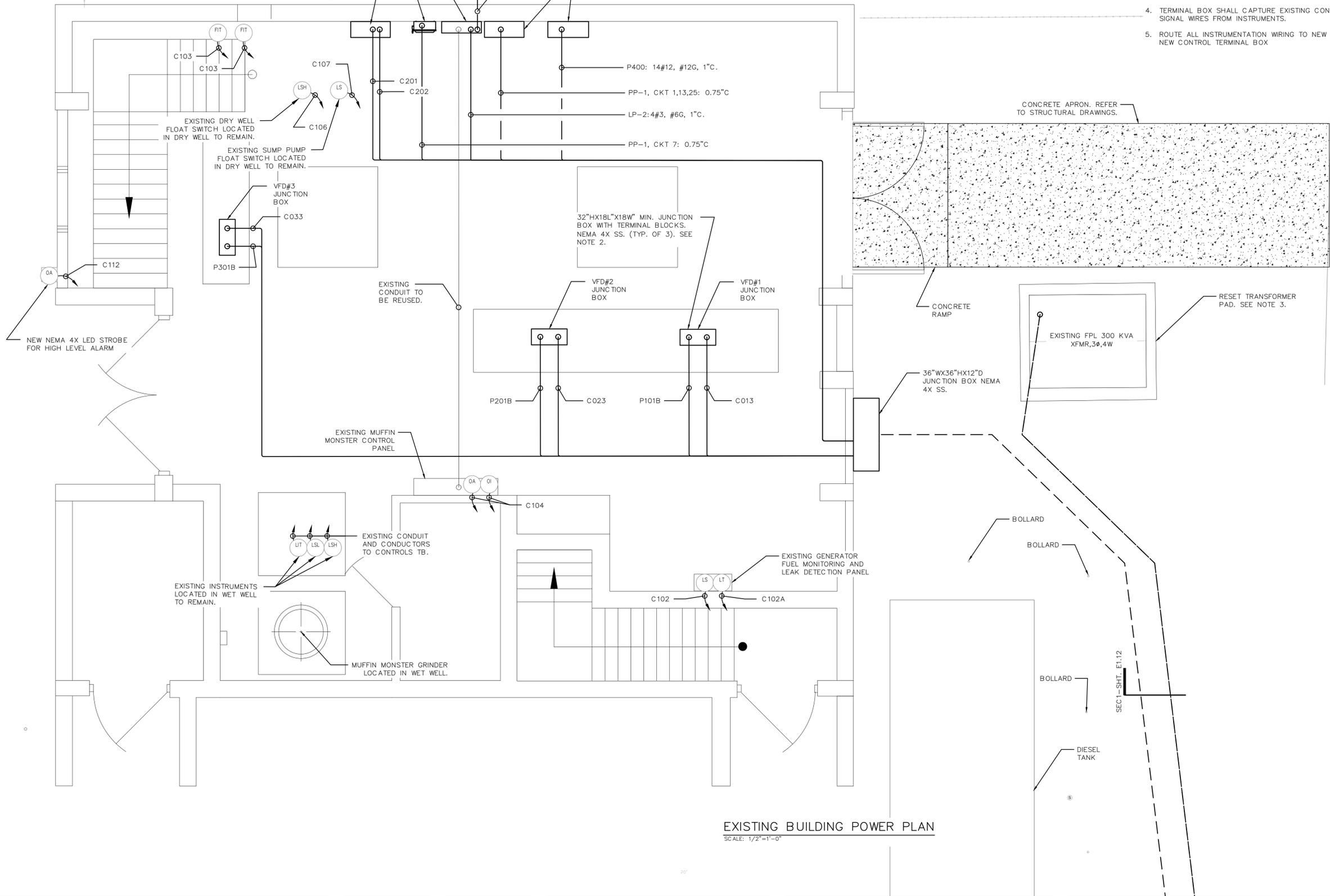
JUNCTION BOX. NEMA 4X SS. SEE NOTE 1.

NOTES:

1. INSTALL NEW JB TO INTERCEPT EXISTING PANELBOARD CONDUITS. EXTEND CONDUIT AS NECESSARY. SIZE JB PRIMARILY FOR TOP ENTRY (APPROX. 13 TOTAL).
2. JUNCTION BOX SHALL CAPTURE EXISTING CONDUIT TO DRY WELL.
3. COORDINATE WITH FPL TO RESET TRANSFORMER PAD. COMPACT AND LEVEL GROUND.
4. TERMINAL BOX SHALL CAPTURE EXISTING CONDUITS. INTERCEPT SIGNAL WIRES FROM INSTRUMENTS.
5. ROUTE ALL INSTRUMENTATION WIRING TO NEW ELEC. BLDG. THROUGH NEW CONTROL TERMINAL BOX



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



EXISTING BUILDING POWER PLAN
SCALE: 1/2"=1'-0"

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

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LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL

EXISTING BUILDING POWER PLAN

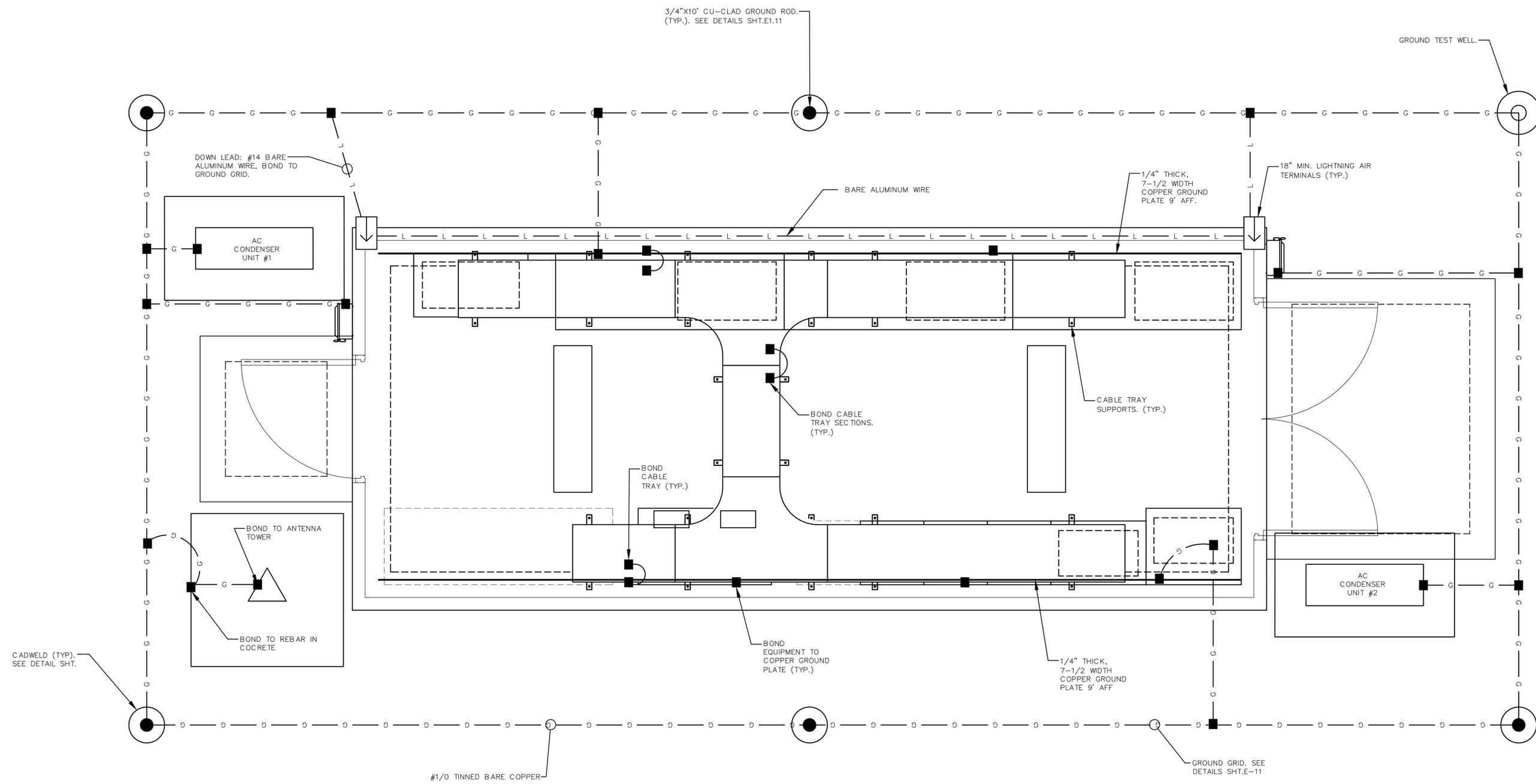
PROJ. START DATE: 2020 JUN	SCALE: 1/2"=1'-0"	E1.05
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DRAWN: JG	VERTICAL: TBD	DRAWING NUMBER: 0
DESIGNED: SS		REVISION: 0
CHECKED: MAC		
PROJ. MGR: AAH		

STATUS: **ISSUED FOR BID**



NORTH

0 1 2
SCALE: 3/4" = 1'-0"



GROUNDING AND LIGHTNING PROTECTION PLAN

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

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

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FLORIDA

LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL

GROUNDING AND LIGHTNING PLAN

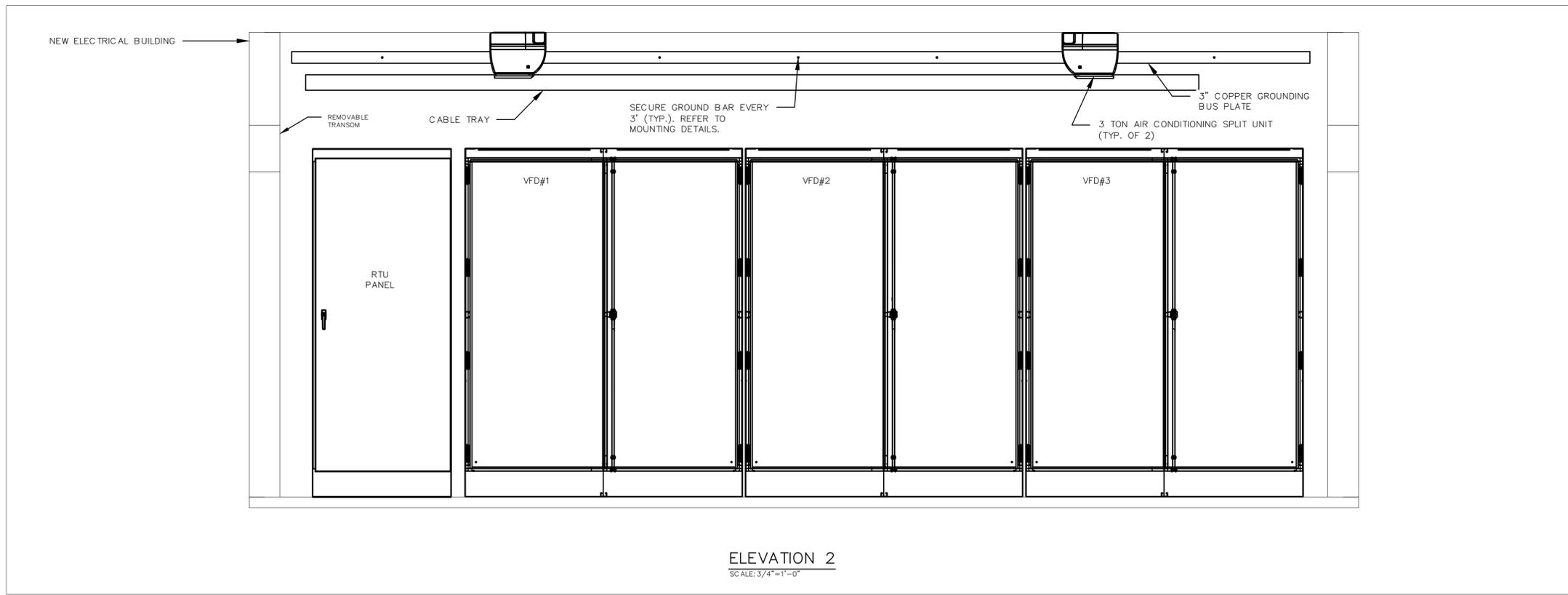
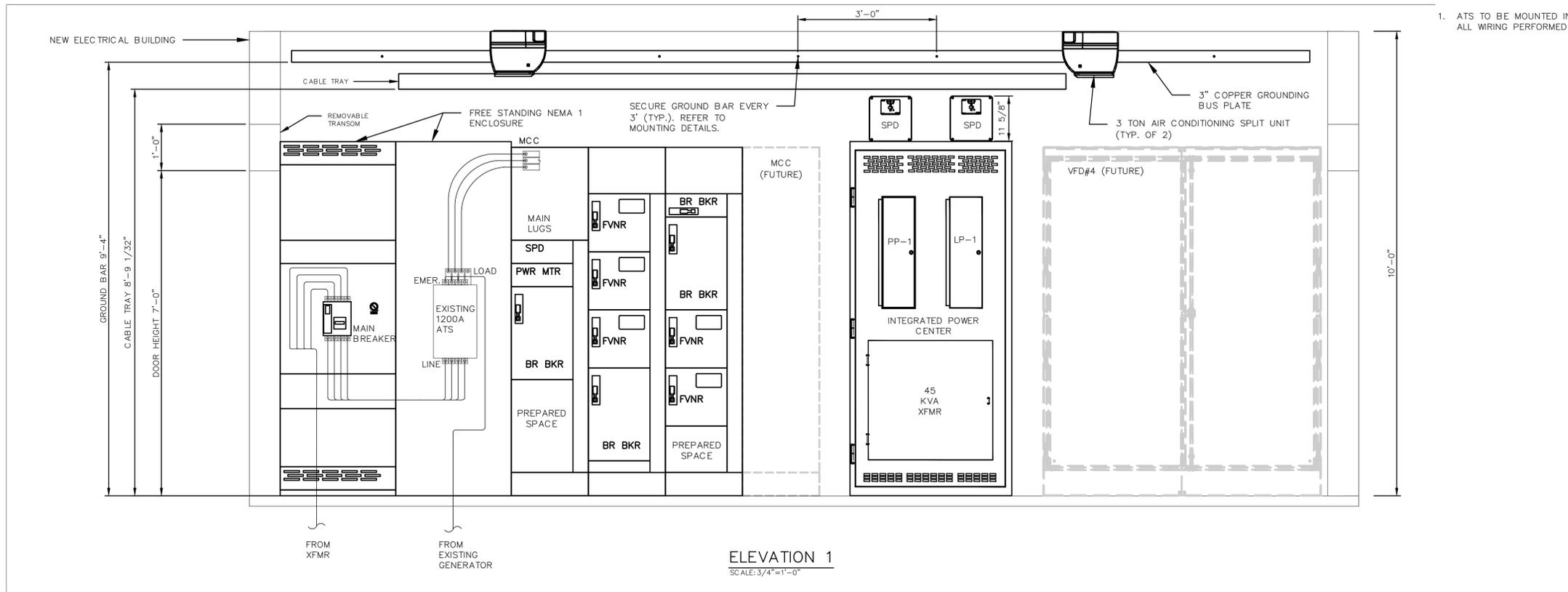
PROJ. START DATE: 2020 JUN
MCE PROJ. # 01024-0182
DRAWN JG
DESIGNED SS
CHECKED MAC
PROJ. MGR. AAH

SCALE	E1.06
HORIZONTAL: 3/4"=1'-0"	
VERTICAL: TBD	
DRAWING NUMBER	0
REVISION	

STATUS: ISSUED FOR BID

NOTES:

1. ATS TO BE MOUNTED IN THE FIELD BY UL CERTIFIED PANEL SHOP. ALL WIRING PERFORMED IN FIELD BY CONTRACTOR.



REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

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LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL

MCB ATS MCC ELEVATIONS

PROJ. START DATE: 2020 JUN	SCALE
MCE PROJ. # 01024-0182	HORIZONTAL: N/A
DRAWN JG	VERTICAL: TBD
DESIGNED SS	
CHECKED MAC	
PROJ. MGR. AAH	

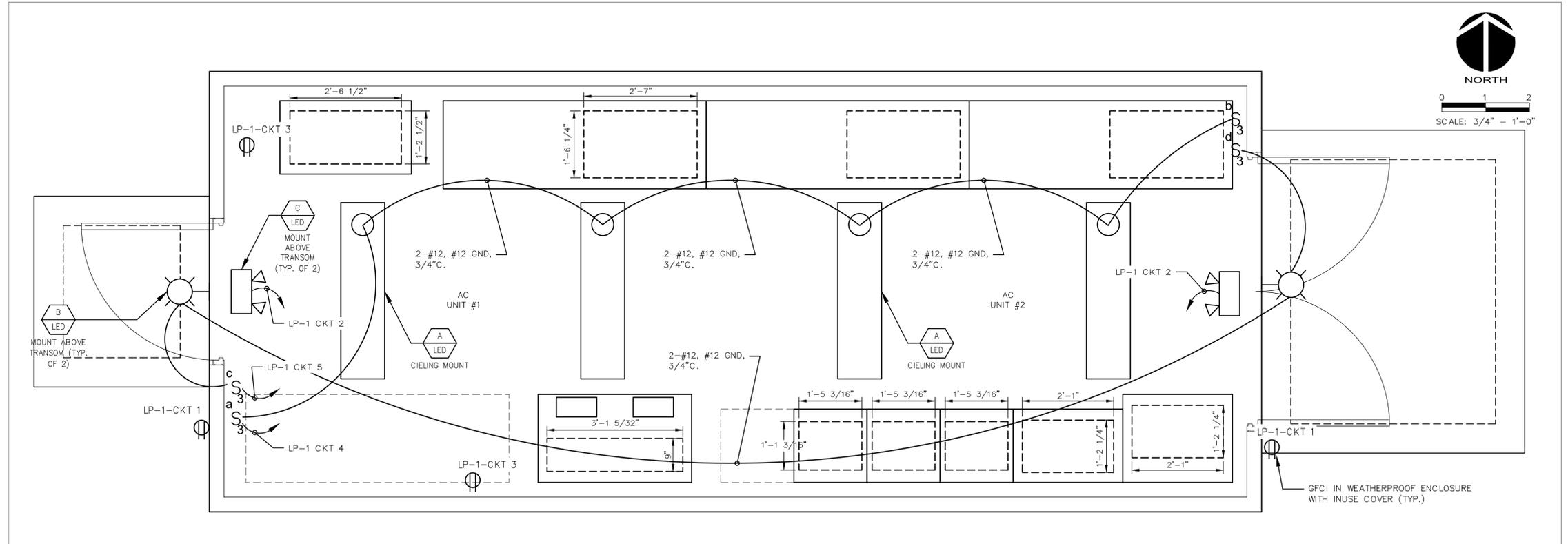
E1.07

DRAWING NUMBER

0

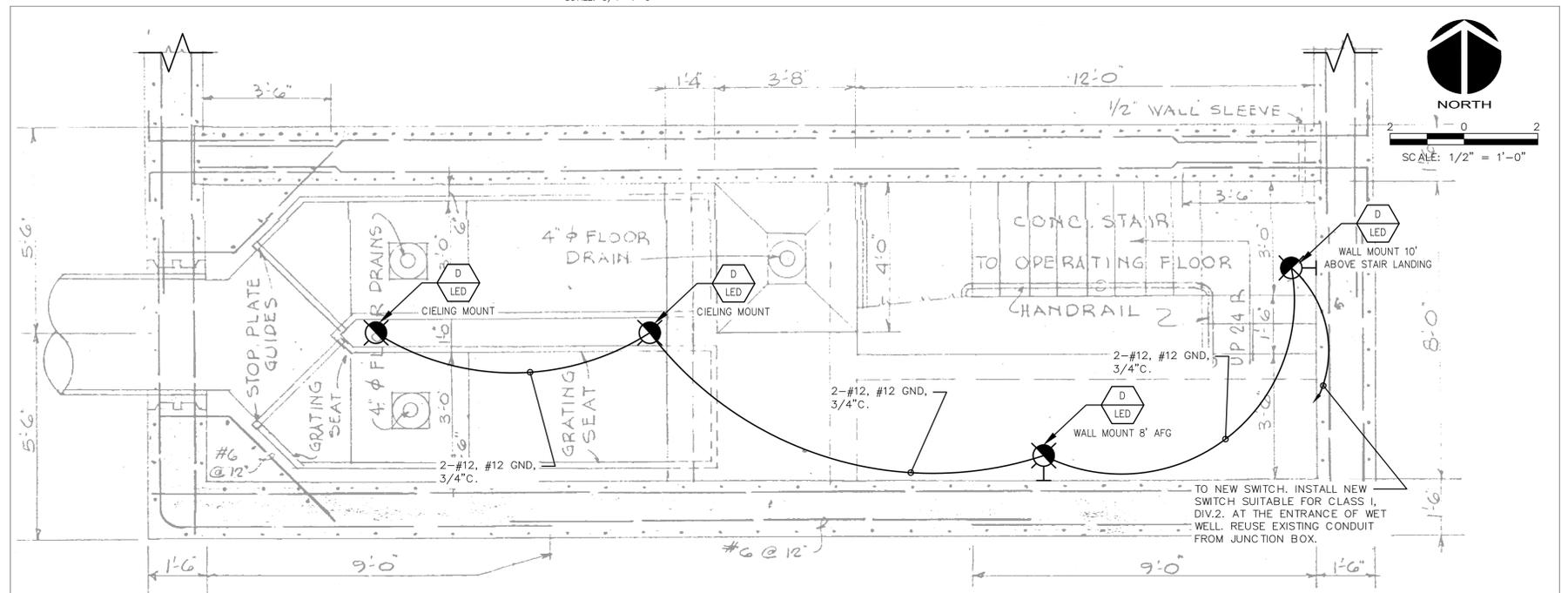
REVISION

STATUS: **ISSUED FOR BID**



ELECTRICAL BUILDING LIGHTING PLAN
SCALE: 3/4"=1'-0"

LIGHTING SCHEDULE				
LETTER	DESCRIPTION	LAMPS	REMARKS	SYMBOL
A	4' SURFACE MOUNT LED LUMINAIRE. ROLLED STEEL HOUSING. IMPACT MODIFIED LINEAR FACETED REFRACTOR. INTEGRAL OCCUPANCY SENSOR.	LED MIN CRI 82, L90/60,000HRS, 39W, 4000K	LITHONIA LIGHTING MOD. WL4-40L-LP840-NES7-SC OR APPROVED EQUAL.	
B	LED OUTDOOR RATED WALL PACK. TYPE II/WIDE DISTRIBUTION. INTEGRAL BALLAST & PHOTOCCELL. FULL CUTOFF. DARK BRONZE.	20 LED 73W 4000K	LITHONIA LIGHTING DSXW2 LED, LSI INDUSTRIES XGB WM3, OR APPROVED ALTERNATE	
C	WALL MOUNT EMERGENCY EXIT LIGHT W/SIGN. INJECTION-MOLDED, FLAME-RETARDANT, HIGH-IMPACT, THERMOPLASTIC HOUSING. BATTERY BACKUP. TEST SWITCH FOR MANUAL ACTIVATION OF 30-SECOND DIAGNOSTIC TESTING. SELF DIAGNOSTIC TESTING EVERY 30 DAYS.	LED, RED LENS <1W, 120V	LITHONIA LIGHTING MOD. LHQM OR APPROVED EQUAL.	
D	LED, CLASS 1, DIV 2 RATED, EXPLOSION PROOF FIXTURE WITH DOME REFLECTOR AND GLOBE GUARD.	LED, 40W, 120V.	KILLARK MODEL NO. EMLC-50-30 OR APPROVED EQUAL. WALL MOUNT AND CEILING MOUNT AS NECESSARY.	



WET WELL LIGHTING PLAN
SCALE: 1/2"=1'-0"

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021

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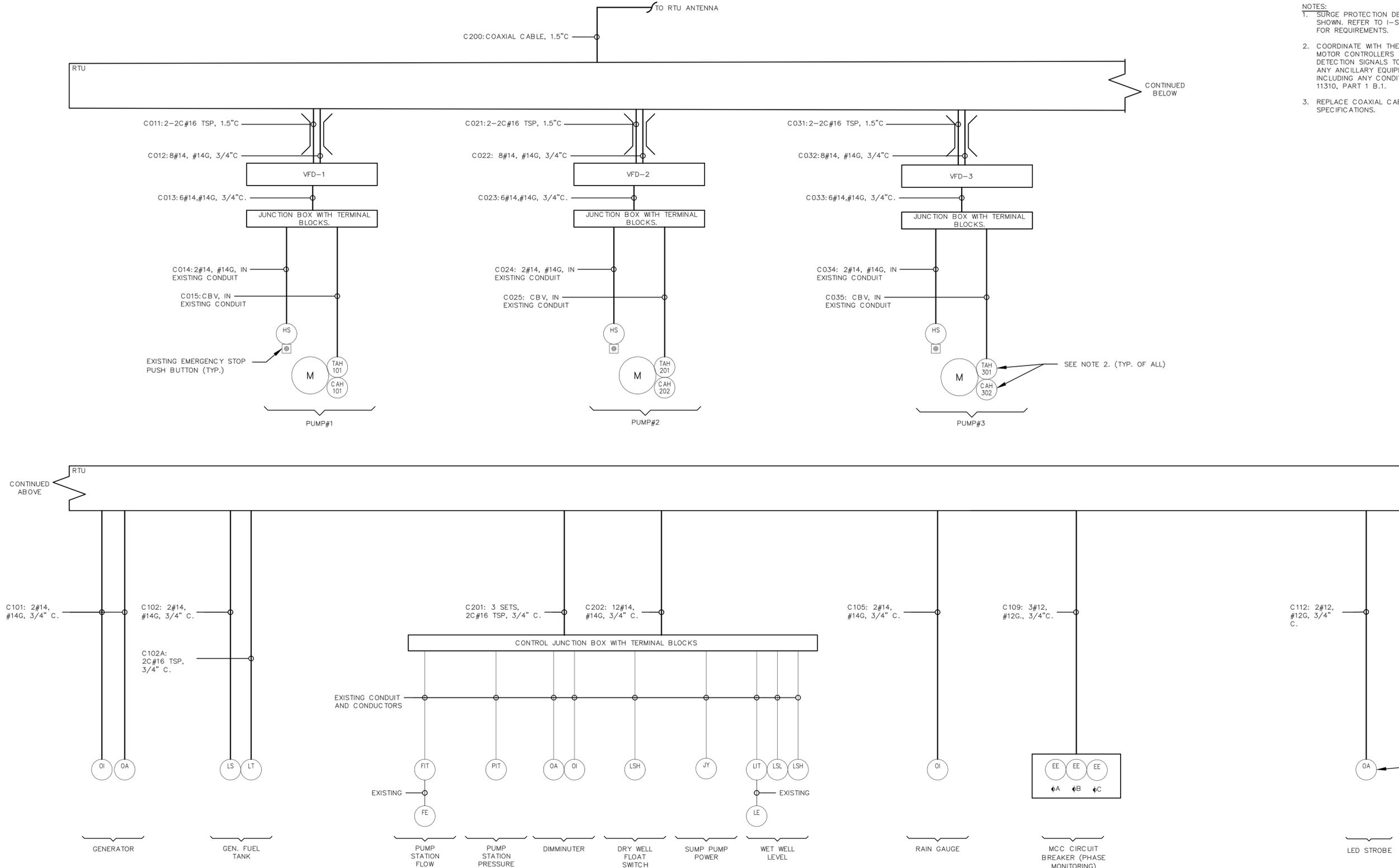
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FLORIDA

LIFT STATION 13A ELECTRICAL REHABILITATION
ELECTRICAL LIGHTING PLAN

PROJ. START DATE: 2020. JUN	SCALE: HORIZONTAL: AS SHOWN, VERTICAL: TBD	E1.08 DRAWING NUMBER 0 REVISION
MCE PROJ. # 01024-0182	DRAWN: JG, DESIGNED: SS, CHECKED: MAC, PROJ. MGR: AAH	
STATUS: ISSUED FOR BID		

- NOTES:
1. SURGE PROTECTION DEVICES REQUIRED, THOUGH GENERALLY NOT SHOWN. REFER TO I-SHEETS AND CONTRACT SPECIFICATIONS FOR REQUIREMENTS.
 2. COORDINATE WITH THE PROVIDER OF THE VARIABLE FREQUENCY MOTOR CONTROLLERS TO PROVIDE THE THERMAL AND LEAK DETECTION SIGNALS TO THE DRIVE MANUFACTURER AND SUPPLY ANY ANCILLARY EQUIPMENT REQUIRED FOR THESE SIGNALS, INCLUDING ANY CONDITIONING DEVICES. SEE SPECIFICATIONS 11310, PART 1 B.1.
 3. REPLACE COAXIAL CABLE IN IT'S ENTIRETY PER DFS SPECIFICATIONS.



ELECTRICAL INTERCONNECTION
DIAGRAM
SCALE: NTS

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

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LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL INTERCONNECTION DIAGRAM

PROJ. START DATE: 2020 JUN	SCALE	E1.09 DRAWING NUMBER
MCE PROJ. # 01024-0182	HORIZONTAL: N/A	
DRAWN JG	VERTICAL: TBD	
DESIGNED SS	REVISION: 0	
CHECKED MAC		
PROJ. MGR. AAH		
STATUS: ISSUED FOR BID		

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE			POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	20	HOIST DRY WELL	0.27	1.0	3	2.1			3	6.5	1.8	ODOR CONTROL	20	2
			0.27				2.1			1.8				
			0.27					2.1		1.8				
7	20	HOIST GROUND FLOOR	0.27	1.0	3	10.3			3	36.1	10	30KVA EXISTING GENERATOR TRANSFORMER	50	8
			0.27				10.3			10				
			0.27					10.3		10				
13	20	HOIST OVER WET WELL	0.27	1.0	3	15.3			3	54.1	15	45KVA TRANSFORMER	70	14
			0.27				15.3			15				
			0.27					15.3		15				
19	20	SPARE			3	0.0			3			SURGE PROTECTION DEVICE	20	20
							0.0							
								0.0						
25	20	INTAKE EAST DRY FAN	0.075	0.3	3	0.1			3			SPARE	30	26
			0.075				0.1							
			0.075					0.1						
31		SPARE			3	0.0			3			SPACE		32
							0.0							
								0.0						
37		SPARE			3	0.0			3			SPACE		38
							0.0							
								0.0						
PANEL PP-1 LOCATION MANATEE COUNTY LS13A BUILDING ELECTRICAL BUILDING NOTES: INTEGRATED PANELBOARD						TOTAL KVA 27.7 27.7 27.7			SERVICE CHARACTERISTICS VOLTS: 480 225 A MLO PHASE: 3 0 A MCB WIRE: 3 10K MIN AIC SYMM, FULLY RATED ASSEMBLY			GRAND CONNECTED TOTAL KVA 83.1		

PANEL SCHEDULE PP-1
SCALE: NTS

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE			POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	20	ELEC. BUILDING RECEPTACLES OUTSIDE	0.36	3.0	1	0.5			1	1.5	0.18	ELEC. BUILDING EMERG. EXIT LIGHT	20	2
3	20	ELEC. BUILDING RECEPTACLES INSIDE	0.72	6.0	1		1.5		1	6.7	0.8	ELEC. BUILDING LIGHTING INSIDE	20	4
5	20	ELEC. BUILDING OUTSIDE WALL PACKS	0.5	4.2	1			2.1	2	15.4	1.6	ELEC. BUILDING AC OUTDOOR UNIT #1	25	6
7	15	ELEC. BUILDING AC INDOOR UNIT #1	0.1	1.0	2	1.7			2	15.4	1.6	ELEC. BUILDING AC OUTDOOR UNIT #2	25	10
			0.1				1.7			1.6				
11	15	ELEC. BUILDING AC INDOOR UNIT #2	0.1	1.0	2			1.7	2	15.4	1.6	ELEC. BUILDING AC OUTDOOR UNIT #2	25	10
			0.1					1.7		1.6				
15	20	SURGE PROTECTION DEVICE	0.1	0.8	3				3	73.3	8.8	PANEL LP-2	100	14
			0.1							8.8				
			0.1							8.8				
21		SPARE			1	1.6			1	12.5	1.5	RTU CONTROL PANEL	20	20
23		SPARE			1		0.0		1			SPARE	20	22
25		SPARE			1			0.0	1			SPARE	20	24
27		SPARE			1	0.0			1			SPARE	20	26
29		SPARE			1			0.0	1			SPARE	20	28
31		SPARE			1			0.0	1			SPARE	20	30
33		SPARE			1	0.0			1			SPARE	20	32
35		SPARE			1			0.0	1			SPARE	20	34
37		SPARE			1			0.0	1			SPARE	20	36
39		SPARE			1	0.0			1			SPARE	20	38
41		SPARE			1			0.0	1			SPARE	20	40
								0.0	1			SPARE	20	42
PANEL LP-1 LOCATION MANATEE COUNTY LS13A BUILDING ELECTRICAL BUILDING NOTES: INTEGRATED PANELBOARD						TOTAL KVA 12.7 12.1 12.7			SERVICE CHARACTERISTICS VOLTS: 208Y/120 PHASE: 3 150 A MLO WIRE: 4 10K MIN AIC SYMM, FULLY RATED ASSEMBLY			GRAND CONNECTED TOTAL KVA 37.6		

PANEL SCHEDULE LP-1
SCALE: NTS

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE			POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	50	HOT WATER	4	38.5	2	4.2			1	1.7	0.2	OPER FL RECEPT	20	2
			4				4.2		1	1.7	0.2	OPER FL RECEPT	20	4
5	20	EMERGENCY LIGHTING	0.2	1.7	1			1.0	1	6.9	0.83	SUMP PUMP 0.33 HP	20	6
7	20	OPER FL LIGHTING	0.2	1.7	1	0.8			1	5.0	0.6	ALARM SYSTEM PANEL	20	8
9	20	OPER FL LIGHTING	0.2	1.7	1		0.9		1	5.6	0.67	FUEL TRANSFER PUMP	20	10
11	20	OUTDOOR LIGHTING	0.5	4.2	1			1.8	1	10.8	1.3	ENG. HEATERS	20	12
13	20	CHLOR STR. LIGHTING	0.2	1.7	1	0.5			1	2.3	0.28	TOILET FAN	20	14
15	20	DRY WELL LIGHTING	1.2	10.0	1		2.7		1	12.5	1.5	WATER HEATER	20	16
17	20	DRY WELL LIGHTING	1.6	13.3	1			1.7	1	0.4	0.05	SPRINKLER SYSTEM	20	18
19	20	WET WELL LIGHTING	1.5	12.5	1	2.2			1	5.6	0.67	WET WELL SUPPLY	30	20
21	20	CHLOR RM & TOILET LIGHTING	0.2	1.7	1		1.5		1	10.8	1.3	OPERATION FLOOR EXHAUST FAN	20	22
23	20	DRY WELL SUPPLY & EX. FAN TIMER	0.1	0.8	1			0.1	1			SPARE	20	24
25	20	WET WELL SUPPLY	1.3	10.8	1	1.3			1			SPARE	20	26
27	30	OPERATION FLOOR EXHAUST FAN	1.3	10.8	1		1.3		1			SPARE	20	28
29	20	SURGE PROTECTION DEVICE	0.1	0.8	3				1			SPARE	20	30
			0.1			0.1			1			SPARE	20	32
			0.1				0.1		1			SPARE	20	34
35	20	SPARE			1			0.0	1			SPARE	20	36
37	20	SPARE			1	0.0			1			SPARE	20	38
39	20	SPARE			1			0.0	1			SPARE	20	40
41	20	SPARE			1			0.0	1			SPARE	20	42
PANEL LP-2 LOCATION MANATEE COUNTY BUILDING OLD PUMP BUILDING NOTES:						TOTAL KVA 9.1 10.7 4.7			SERVICE CHARACTERISTICS VOLTS: 208Y/120 PHASE: 3 100 A MLO WIRE: 4 10K MIN AIC SYMM, FULLY RATED ASSEMBLY			GRAND CONNECTED TOTAL KVA 24.4		

PANEL SCHEDULE LP-2
SCALE: NTS

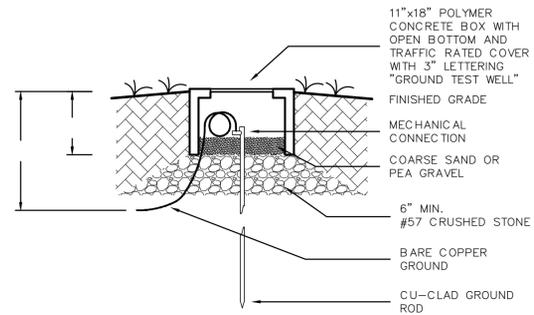
REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021

SEAL
AUBREY A. HAUDRICOURT, P.E.
No. 66861

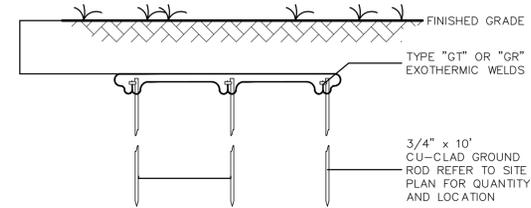


LIFT STATION 13A ELECTRICAL REHABILITATION
ELECTRICAL
PANELBOARD SCHEDULES

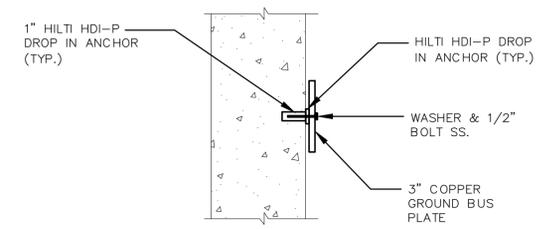
PROJ. START DATE: 2020 JUN	SCALE: HORIZONTAL	E1.10 DRAWING NUMBER 0 REVISION
MCE PROJ. # 01024-0182	N/A	
DRAWN: JG	TBD	
DESIGNED: SS		
CHECKED: MAC		
PROJ. MGR: AAH		
STATUS: ISSUED FOR BID		



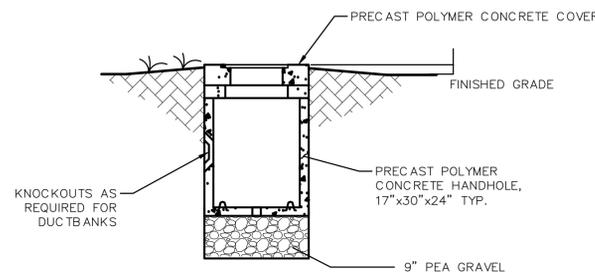
GROUND ROD TEST WELL
SCALE: N.T.S.



BELOW GRADE GROUND ROD/CABLE CONNECTION DETAIL
SCALE: N.T.S.

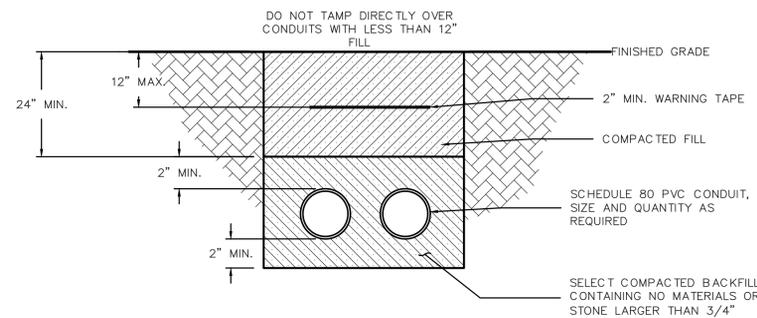


COPPER GROUND BUS PLATE MOUNTING DETAIL
SCALE: N.T.S.

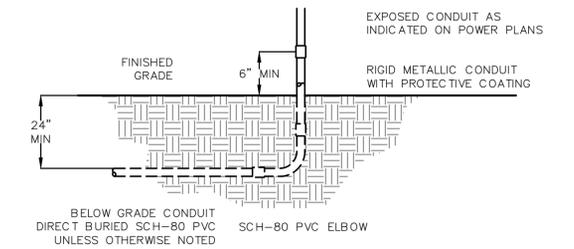


SMALL HANDHOLE DETAIL
SCALE: N.T.S.

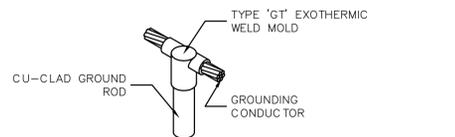
- SMALL HANDHOLE NOTES:**
- PROVIDE PRODUCTS OF ONE OF THE FOLLOWING:
 - STRONGWELL QUAZITE
 - OLD CASTLE
 - OR APPROVED EQUAL
 - MATERIAL: PRECAST POLYMER CONCRETE.
 - DUCT ENTRANCES SIZED AND LOCATED TO SUIT DUCTBANKS.
 - ENCLOSURES AND COVERS SHALL BE UL-LISTED.
 - ENCLOSURES, BOXES, AND COVERS SHALL COMPLY WITH TEST PROVISIONS OF ANSI/SCTE 77 FOR TIER 15 & 22 APPLICATIONS.
 - COVERS SHALL HAVE COEFFICIENT OF FRICTION OF NOT LESS THAN 0.50, IN ACCORDANCE WITH ASTM C1028.



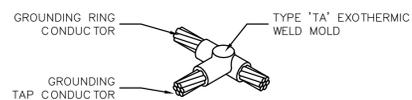
DIRECT BURIED DUCT BANK
SCALE: N.T.S.



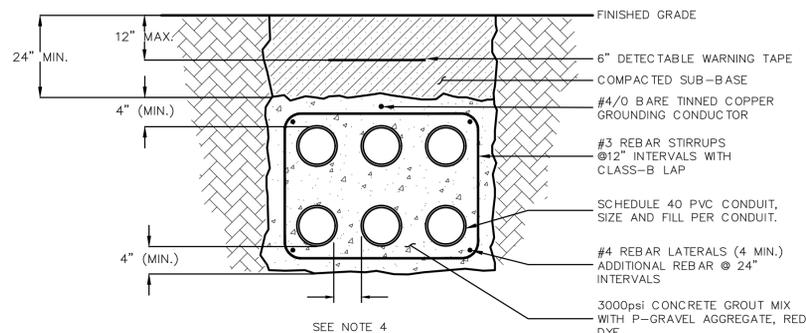
CONDUIT TRANSITION DETAIL
SCALE: N.T.S.



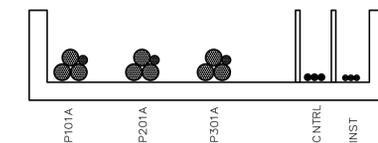
EXOTHERMIC WELD 'GT' CONNECTION
SCALE: N.T.S.



EXOTHERMIC WELD 'TA' CONNECTION
SCALE: N.T.S.



REINFORCED CONCRETE DUCT BANK
SCALE: N.T.S.



1
E1.02E1.11

SECTION 1
N.T.S.

NOTES:

- MINIMUM WIRE SIZE FOR ALL POWER CIRCUITS IS #12AWG CU UNLESS OTHERWISE NOTED.
- MINIMUM CONDUIT SIZE IS 3/4" TRADE SIZE.
- SWAB CLEAN EXISTING CONDUITS PRIOR TO PULLING NEW CIRCUITS.
- FOR LOW VOLTAGE DUCTBANKS MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 2".

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

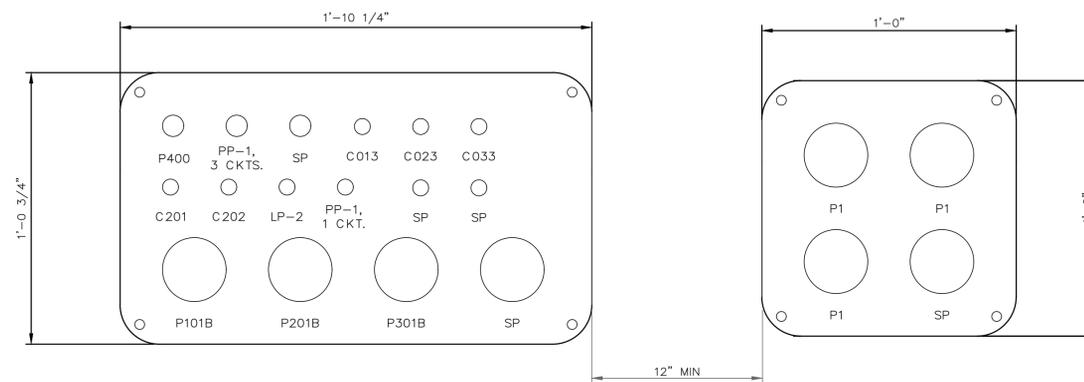
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LIFT STATION 13A ELECTRICAL REHABILITATION
ELECTRICAL DETAILS I

PROJ. START DATE: 2020 JUN	SCALE	E1.11 DRAWING NUMBER
MCE PROJ. # 01024-0182	HORIZONTAL: N/A	
DRAWN JG	VERTICAL: TBD	
DESIGNED SS	REVISION: 0	
CHECKED MAC		
PROJ. MGR. AAH		
STATUS: ISSUED FOR BID		



1
E1.05 E1.12

DUCTBANK - SECTION 1
SCALE: NTS

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	DEC 2021
REVISIONS		

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LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL DETAILS II

PROJ. START DATE: 2020 JUN
MCE PROJ. # 01024-0182
DRAWN JG
DESIGNED PM
CHECKED PM
PROJ. MGR. AAH

SCALE
HORIZONTAL: N/A
VERTICAL: TBD

E1.12
DRAWING NUMBER
0
REVISION

STATUS: **ISSUED FOR BID**

1 ALL SYMBOLS

ANY INST ANY OIT ANY PLC ANY OWS ANY LIGHT ANY FUNCTION

ANY FLOW ANY LEVEL ANY PRESSURE ANY VALVE

ANY ACTUATOR ANY PUMP ANY EQPT

PLC

ANY HARDWARE ANY MISC

3 INSTRUMENT/PLC BUBBLES

FIELD PRIMARY SECONDARY HIDDEN

CONVERT COMPUTE

E - VOLTAGE
I - CURRENT
P - PNEUMATIC
A - ANALOG
B - BINARY

H - HYDRAULIC
O - ELEC TROMAGNETIC, SONIC
R - RESISTANCE (ELEC.T.)
D - DIGITAL

Σ SUMMING
Δ DIFFERENCE
X MULTIPLYING
÷ DIVIDING
√ ROOT EXTRACTION
K PROPORTIONAL
D/DV DERIVATIVE

∑/A AVERAGING
1:1 RATIO
Xⁿ EXPONENTIAL
> HIGH SELECTING
< LOW SELECTING
∫ INTEGRAL
PID PID

5 INSTRUMENTATION FLOW

6 INSTRUMENT LEVEL

7 INSTRUMENT PRESSURE/TEMPERATURE

9 VALVES / GATES

11 LINEWORK

2 PUMPS

4 EQUIPMENT

8 CONTROL SYSTEM HARDWARE

10 MISCELLANEOUS

NOTES:

- ALL SYMBOLS MAY NOT BE UTILIZED FOR THIS PROJECT. ADDITIONAL SYMBOLS NOT SHOWN ON THIS DRAWING MAY BE SHOWN ELSEWHERE ON THE ELECTRICAL DRAWINGS.
- EXISTING CONTROL PANEL WILL BE RELOCATED. NEW CONDUCTORS SHALL BE ROUTED TO ALL EXISTING AND NEW I/O.
- PROGRAMMING SERVICES FOR DFC'S EQUIPMENT SHALL BE REQUIRED FOR ANY ADDITIONAL I/O.
- ALL I/O SHALL REQUIRE LOOP CHECKS/TESTING TO INSURE PROPER OPERATION OF ALL I/O. IT IS RECOMMENDED THAT THE CONTRACTOR VERIFY OPERATION OF ALL EXISTING I/O PRIOR TO COMMENCING WORK AND PROVIDE LIST OF ANY DEFICIENCIES FOUND

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LIFT STATION 13A ELECTRICAL REHABILITATION

INSTRUMENTATION

INSTRUMENTATION SYMBOL SHEET 1

PROJ. START DATE: 2020 JUN	SCALE: HORIZONTAL: 10.00
MCE PROJ. # 01024-0182	HORIZONTAL: N/A
DRAWN: JG	VERTICAL: TBD
DESIGNED: MFF	REVISION: 0
CHECKED: MAC	
PROJ. MGR: AAH	

STATUS: ISSUED FOR BID

1 PID FUNCTION SYMBOLS

	FIRST LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	Analysis		Alarm		
B	Burner, Combustion		Programmer		
C	Conductivity (Electrical)			Control	Closed
D	Density or Specific Gravity	Differential			
E	Voltage		Sensor (Primary Element)	Eduction	
F	Flow Rate	Ratio (Fraction)			
G	Gaging		Glass, Viewing Device		
H	Hand				High
I	Current (Electrical)		Indicate		
J	Power	Scan			
K	Time, Time Schedule			Control Station	
L	Level		Light (Pilot)		Low
M	Motor				Middle, Intermediate
N	Vibration				
O	Operation	Offset	Orifice, Restriction		Open
P	Pressure, Vacuum		Point (Test) Connection		
Q	Quantity, Event	Integrate, Totalize	Integrate		
R	Radiation		Record, Print	Regulate	
S	Speed, Frequency	Safety		Switch	
T	Temperature			Transmit	
U	Multivariable	Trend	Multifunction	Multifunction	Multifunction
V	Viscosity	Vacuum		Valve, Damper, Louver, Gate	
W	Weight, Force, Torque		Well		
X	Unclassified		Unclassified	Unclassified	Unclassified
Y				Relay, Compute, Convert	
Z	Position			Final Control Element	Drive, Actuator, Unclassified, Final Control Element

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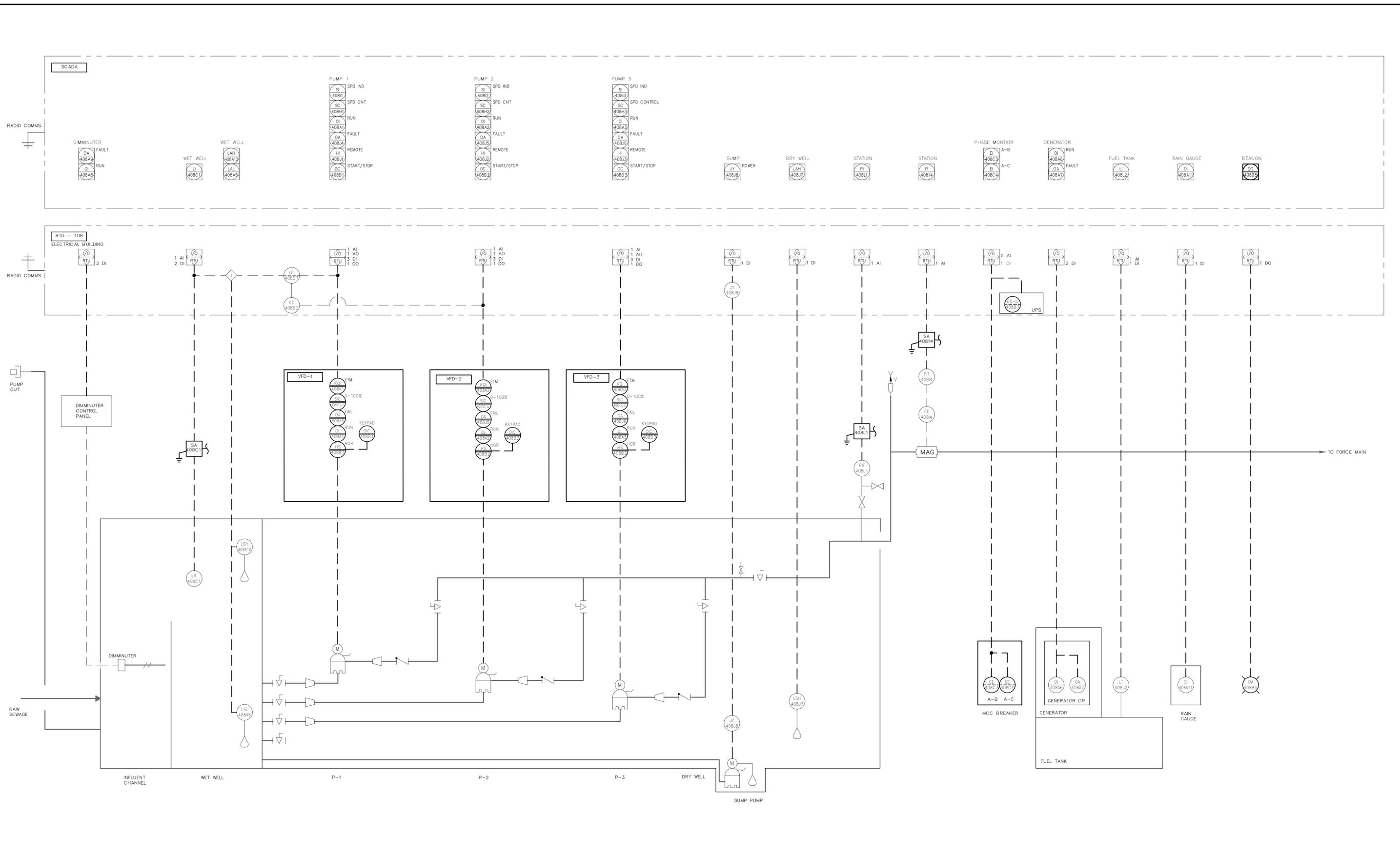


LIFT STATION 13A ELECTRICAL REHABILITATION

INSTRUMENTATION

INSTRUMENTATION SYMBOL SHEET 2

PROJ. START DATE: 2020 JUN	SCALE
MCE PROJ. # 01024-0182	HORIZONTAL: N/A
DRAWN JG	VERTICAL: TBD
DESIGNED MFF	DRAWING NUMBER: 10.01
CHECKED MAC	REVISION: 0
PROJ. MGR. AAH	ISSUED FOR BID



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0	ISSUED FOR BID	DEC 2021
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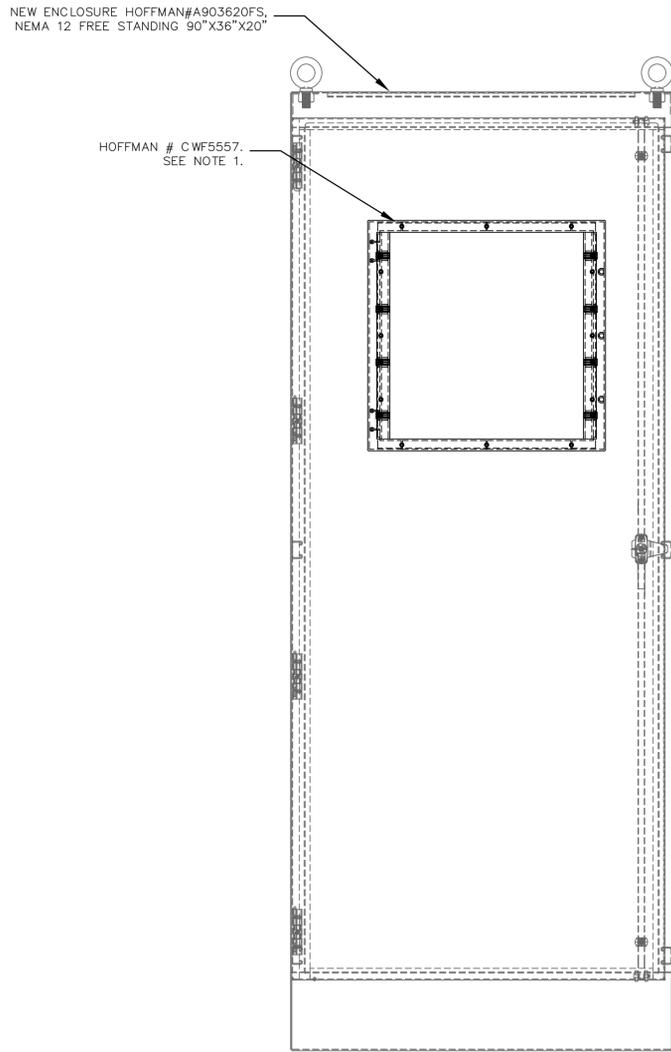
LIFT STATION 13A ELECTRICAL REHABILITATION

INSTRUMENTATION

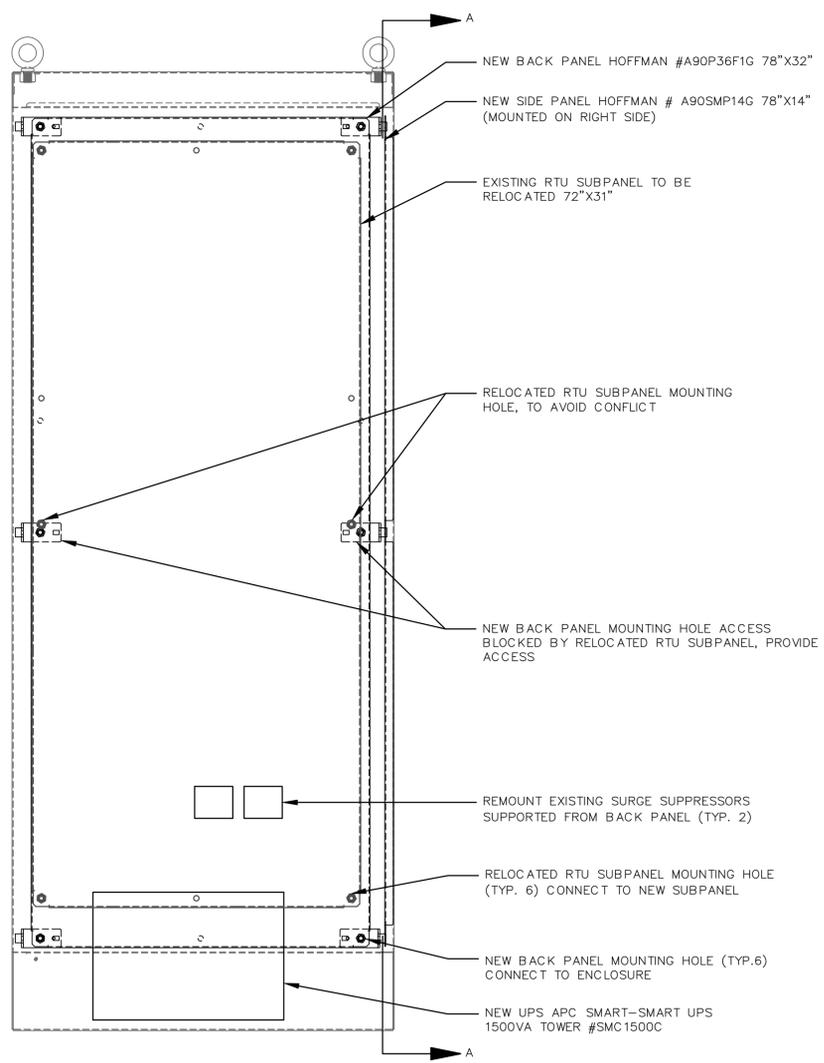
PROCESS AND INSTRUMENT DIAGRAM

PROJ. START DATE: 2020 JUN	SCALE: 11.00
MCE PROJ. # 01024-0182	HORIZONTAL: N/A
DRAWN: JG	VERTICAL: TBD
DESIGNED: MFF	DRAWING NUMBER: 0
CHECKED: MAC	REVISION: 0
PROJ. MGR: AAH	
STATUS: ISSUED FOR BID	

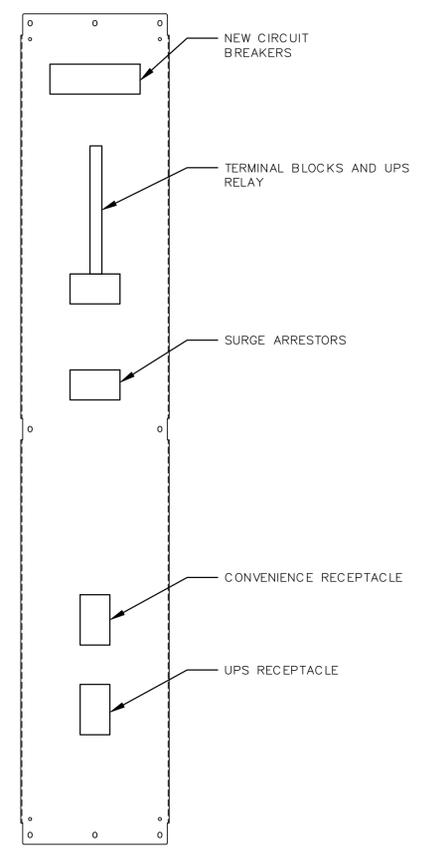
- NOTES:
1. LOCATE WINDOW IN POSITION WHICH ALLOWS DFS-RTU TO BE VISIBLE WITHOUT OPENING THE PANEL DOOR
 2. SUBPANEL LAYOUT AND SCHEMATIC ARE DIAGRAMATIC TO CONVEY MINIMUM REQUIREMENTS FOR FABRICATION AND INSTALLATION.
 3. NEW SHUNT AND UPS COMMON ALARM SHALL BE WIRED TO SPARE INPUT B7. B7 IS NORMALLY CONFIGURED FOR ALARM IS SILENCED INDICATION AND SHALL BE CHANGED IN DFS SOFTWARE.



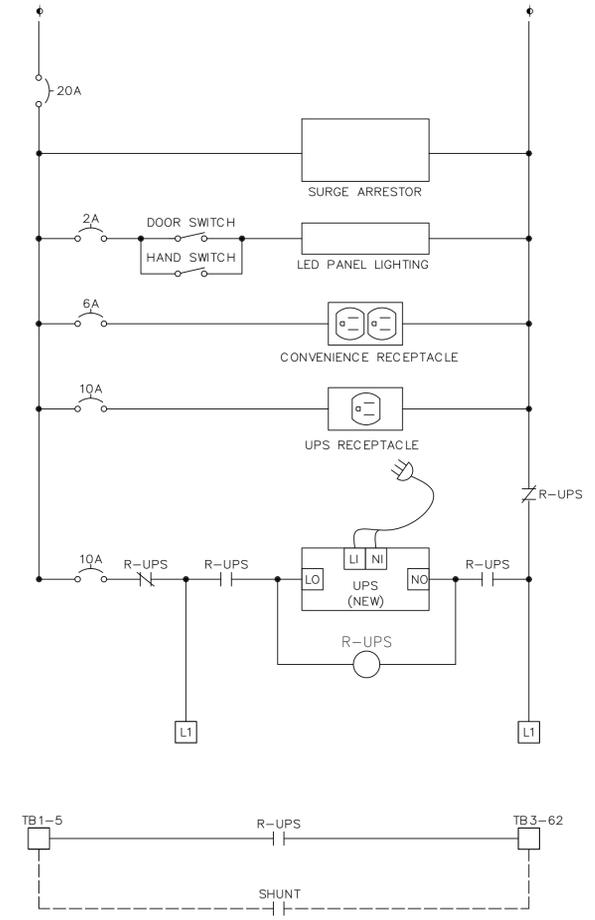
FRONT ELEVATION
SCALE: NTS



BACK PANEL
SCALE: NTS, SEE NOTE 2.



SIDE PANEL ELEVATION A
SCALE: NTS, SEE NOTE 2.



CONTROL PANEL SCHEMATIC DIAGRAM
SCALE: NTS, SEE NOTE 2.

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LIFT STATION 13A ELECTRICAL REHABILITATION

INSTRUMENTATION CONTROL PANEL

PROJ. START DATE: 2020 JUN	SCALE	11.01
MCE PROJ. # 01024-0182	HORIZONTAL: N/A	
DRAWN JG	VERTICAL: TBD	0
DESIGNED MFF		REVISION
CHECKED MAC		
PROJ. MGR. AAH		

STATUS: **ISSUED FOR BID**