

UNITED STATES COAST GUARD - BASE KODIAK

# REPAIR ELECTRICAL EQUIPMENT AT N11 POL FACILITY

KODIAK, ALASKA

GENERAL

G001 GENERAL INFORMATION

MECHANICAL

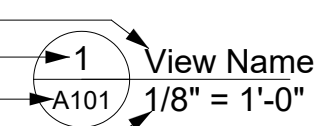
M001 ABBREVIATIONS, LEGENDS, AND SCHEDULES  
M002 ALARM AND CONTROL SEQUENCE  
M100 WORK PLANS AND DETAILS

ELECTRICAL

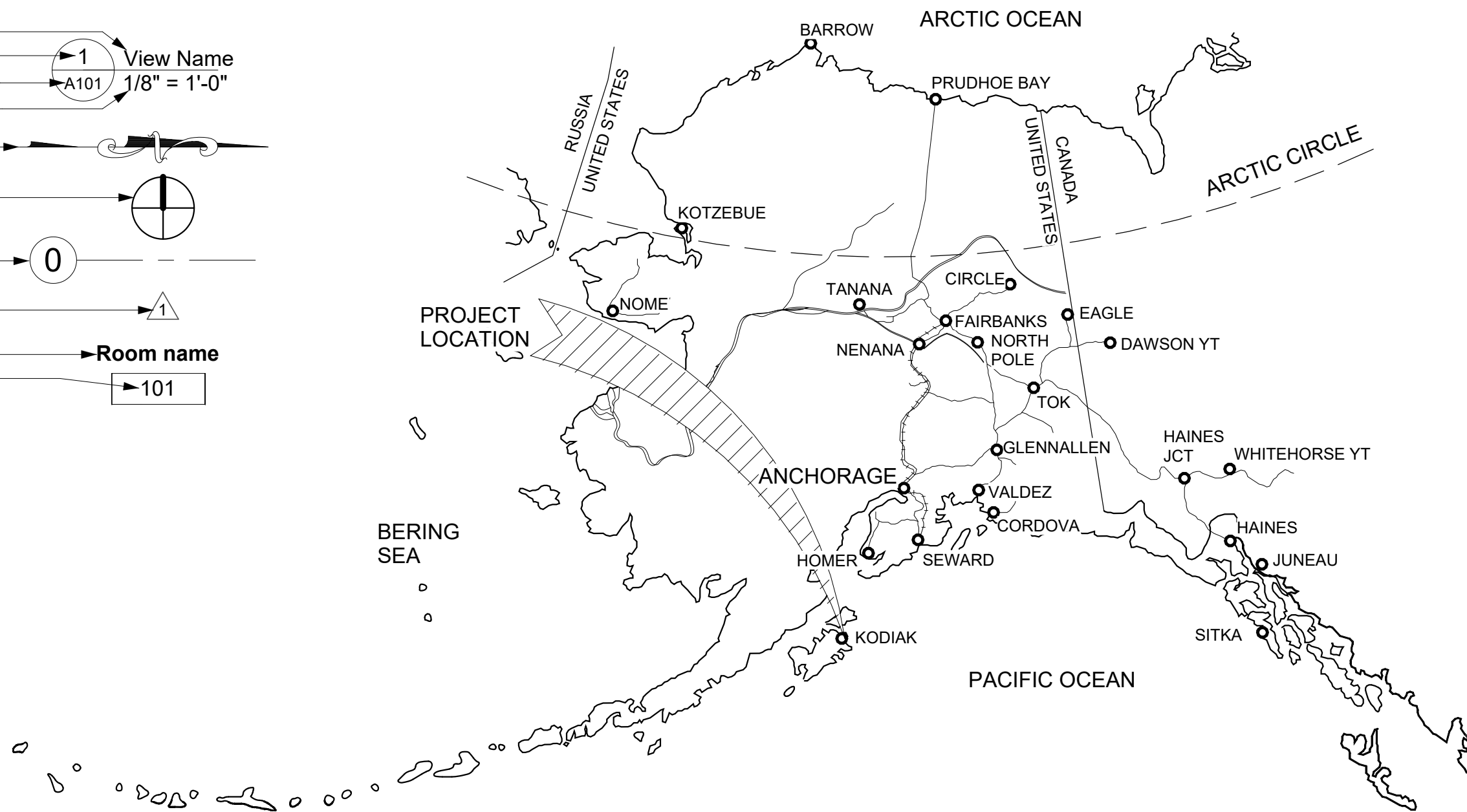
E001 LEGENDS & DETAILS  
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GENERAL SYMBOLS

SEE DISCIPLINES FOR SPECIFIC SYMBOLS

NAME \_\_\_\_\_  
NUMBER \_\_\_\_\_  
SHEET LOCATION  View Name  
SCALE

ALASKA MAP



VICINITY MAP



PROJECT TEAM

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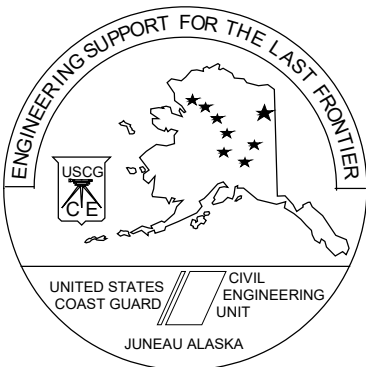
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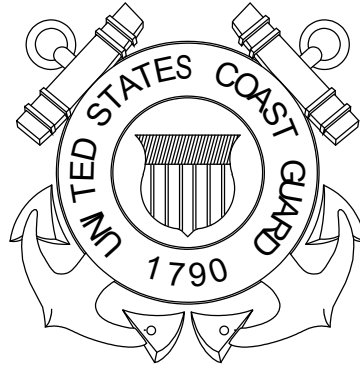
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CONSTRUCTION DOCUMENTS



**U. S. COAST GUARD  
CIVIL ENGINEERING UNIT  
JUNEAU**



**CIVIL ENGINEERING UNIT - JUNEAU**  
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ISSUE		
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	441807
CAD FILE NAME:	
DESIGNED BY:	F KIENTLE
DRAWN BY:	F KIENTLE
EDITED BY:	
CHECKED BY:	ETJ

SCALE: AS SHOWN PLOT SCALE: 1" : 1"

**SHEET TITLE**  
REPAIR ELECTRICAL EQUIPMENT AT  
N11 POL FACILITY

**KODIAK ALASKA**  
**GENERAL INFORMATION**

REVIEWED BY: RLB	REVIEWED BY: WDB	REVIEWED BY: BJG
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

APPROVING OFFICIAL		DATE
PROJECT NUMBER	DRAWING NUMBER	
8405333	J8405333	
DISCIPLINE/SHT NO		
G001		
	SHEET	1 OF 12

MECHANICAL ABBREVIATIONS

KEY NAME	MECHANICAL ABBREVIATIONS
#	NUMBER
&	AND
(E)	EXISTING
@	AT
A	AIR
AFF	ABOVE FINISHED FLOOR
AGT	AVERAGE GLYCOL TEMPERATURE
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
APPR	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASSOC	ASSOCIATED
AUTO	AUTOMATIC
BAL	BALANCING
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTOR
C	COMMON
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CAST IRON
CLG	COOLING
CO	CLEAN OUT
CR	CONDENSATE RETURN
Cv	VALVE COEFFICIENT
CW	COLD WATER
DB	DECIBEL
DB	DRYBULB
DI	DUCTILE IRON
DIA	DIAMETER
DN	DOWN
DWDI	DOUBLE WIDTH, DOUBLE INLET
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EGT	ENTERING GLYCOL TEMPERATURE
ELEC	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
FC	FORWARD CURVED
FD	FLOOR DRAIN
FLA	FULL LOAD AMPERAGE
FLEX	FLEXIBLE
FP	FIRE PROTECTION
GA	GAUGE
GALV	GALVANIZED
GHR	GLYCOL HEATING RETURN
GHS	GLYCOL HEATING SUPPLY
GI	GALVANIZED IRON
HB	HOSE BIBB
HW	HOT WATER
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INSUL	INSULATION
IPS	IRON PIPE SIZE
LAT	LEAVING AIR TEMPERATURE

MECHANICAL ABBREVIATIONS

KEY NAME	MECHANICAL ABBREVIATIONS
LGT	LEAVING GLYCOL TEMPERATURE
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MTR	MOTOR
NC	NORMALLY CLOSED
NC	NOISE CRITERIA
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPSH	NET PUMP SUCTION HEAD
NTS	NOT TO SCALE
OAT	OUTSIDE AIR TEMPERATURE
OBVD	OPPOSED BLADE VOLUME DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
ORD	OVERFLOW ROOF DRAIN
ORL	OVERFLOW RAIN LEADER
OSA	OUTSIDE AIR
P&T	PRESSURE AND TEMPERATURE
PD	PRESSURE DROP
PH	PHASE
PRDV	PRESSURE REDUCING VALVE
PRV	PRESSURE RELIEF VALVE
RA	RETURN AIR
RD	ROOF DRAIN
RHW	RECIRCULATING HOT WATER
RL	RAIN LEADER
RP	RADIANT PANEL
RPM	REVOLUTIONS PER MINUTE
S/M	SHEET METAL
S/S	START/STOP
SH	SHOWER
SIM	SIMILAR
SP	STATIC PRESSURE
SPEC	SPECIFICATIONS
SS	STAINLESS STEEL
ST	STEAM
SWSI	SINGLE WIDTH, SINGLE INLET
TDH	TOTAL DYNAMIC HEAD
THW	TEMPERED HOT WATER
TP	TRAP PRIMER
TYP	TYPICAL
V	VENT
VAV	VARIABLE AIR VOLUME
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH ROOF
W	WASTE
W/	WITH
W/O	WITHOUT
WB	WETBULB
WCO	WALL CLEAN OUT
WHA	WATER HAMMER ARRESTOR

ANNOTATION LEGEND

	SPECIFIC NOTE
	SENSOR
	THERMOSTAT - LOCAL
	BYPASS TIMER
	CARBON DIOXIDE SENSOR
	PIPE FLOW ARROW
	DUCT FLOW ARROW

GENERAL MECHANICAL SHEET NOTES

1. BULK FUEL FARM TO REMAIN IN OPERATION DURING CONSTRUCTION. EXISTING CONTROLS AND EQUIPMENT SHALL REMAIN OPERATIONAL UNTIL INSTALLED CONTROLS ARE TESTED AND OPERATIONAL. PROVIDE TEMPORARY CONTROL MEANS TO MAINTAIN FUNCTIONALITY OF THE EXISTING BULK FUEL TRANSFER SYSTEM DURING CONSTRUCTION AND TESTING OF INSTALLED CONTROLS.

2. CONTROL SEQUENCE OF OPERATION AS DESCRIBED IN FUEL FACILITIES OPERATIONS MANUAL. OFF LOADING OF BARGES (RECEIPT) AND SUPPLY (ISSUE) TO GOVERNMENT VESSELS AND FACILITIES WILL BE MAINTAINED DURING CONSTRUCTION.

UNIT HEATER SCHEDULE

SYMBOL	LOCATION	STYLE	CAPACITY	MAX FLOW (GPM)	MAX PD (FT H2O) (1)	EAT (F)	LAT (F)	MIN CFM	MOTOR DATA (2)	BASIS OF DESIGN	REMARKS
UH-1	CONTROL ENCLOSURE	HORIZONTAL	2 KW	----	----	65	92	----	208/3Ø/60	TRANE UHW 02	1. SURFACE MOUNT 2. UNIT MOUNTED THERMOSTAT

9/27/2021 5:01:16 PM

SCALE 0" 1"

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ISSUE

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A/E PROJECT NO: 441807

CAD FILE NAME:

DESIGNED BY: F KIENLE

DRAWN BY: F KIENLE

EDITED BY:

CHECKED BY: D HOPKINS

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N11 POL FACILITY

KODIAK ALASKA

MECHANICAL

ABBREVIATIONS, LEGENDS,  
AND SCHEDULES

REVIEWED BY: RLB

REVIEWED BY: WDB

REVIEWED BY: BJB

PROJECT ENG.

BRANCH CHIEF

TECH. DIRECTOR

APPROVING OFFICIAL

DATE

PROJECT NUMBER

DRAWING NUMBER

8405333

J8405333

DISCIPLINE/SHT NO

SHEET 2 OF 12

M001

ALARM AND MONITORING SYSTEM SEQUENCE OF OPERATIONS MATRIX												
SYSTEM INPUTS	SYSTEM OUTPUTS											
	KINGFISHER CONTROL PANEL					LEAK DETECTION CONTROL PANEL				KINGFISHER TRANSMISSION		
	ACTUATE ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	DISPLAY EVENT SPECIFIC INFORMATION	ACTUATE ALARM SIGNAL INDICATOR	ACTUATE SUPERVISORY WARNING INDICATOR	DISPLAY EVENT SPECIFIC INFORMATION	TRANSMIT ALARM SIGNAL	TRANSMIT TROUBLE SIGNAL
ALARM SYSTEM												
MANUAL PULL STATION	●	●									●	
HEAT DETECTOR - N11	●	●									●	
FACP AC POWER FAILURE					●	●	●				●	
FACP LOW BATTERY					●	●	●				●	
OPEN CIRCUIT					●	●	●				●	
GROUND FAULT					●	●	●				●	
APPLIANCE SHORT CIRCUIT					●	●	●				●	
LEAK DETECTION SYSTEMS												
LEAK DETECTOR - SUMP 1								●	●		●	
LEAK DETECTOR - SUMP 2								●	●		●	
DETECTION PANEL - WARNING ALARM								●			●	

NOTE:

KINGFISHER ALARMS ARE AUDIBLE AND VISUAL ALARMS ASSOCIATED WITH THE MANUAL PULL STATION AND N11 HEAT DETECTORS.

LEAK DETECTION ALARMS ARE ASSOCIATED WITH SUMP MONITORING.

ALARM AND TROUBLE NOTIFICATIONS WILL BE TRANSMITTED TO THE CENTRAL MONITORING STATION.

SUPERVISORY SIGNALS ARE VISIBLE SIGNALS ASSOCIATED WITH THE PANEL AND ARE NOT TRANSMITTED TO THE CENTRAL MONITORING STATION.

FUELING CONTROL SYSTEM SEQUENCE OF OPERATIONS MATRIX																								
SYSTEM INPUTS	CONTROL PANEL										SYSTEM OUTPUTS													
											CONTROL FUNCTIONS													
	TANK N10 NOT FILLED - GREEN INDICATOR	TANK N12 NOT FILLED - GREEN INDICATOR	TANK N10 FILLED - RED INDICATOR	TANK N12 FILLED - RED INDICATOR	TANK N10 NOT TOPPED - GREEN INDICATOR	TANK N12 NOT TOPPED - GREEN INDICATOR	TANK N10 TOPPED - RED INDICATOR	TANK N12 TOPPED - RED INDICATOR	ACTUATE POLE STROBE LIGHT - TOPPED SIGNAL	ACTUATE AUDIBLE - TOPPED SIGNAL	SILENCE AUDIBLE - TOPPED SIGNAL													
FUEL FILLING SYSTEM (RECEIVE)																								
TANK FILL VALVE SELECTOR N10 + START																								
TANK FILL VALVE SELECTOR N12 + START																								
TANK FILL VALVE SELECTOR N10 + STOP																								
TANK FILL VALVE SELECTOR N12 + STOP																								
HIGH LEVEL (FILLED) PROBE - SENSOR DRY N10	●																							
HIGH LEVEL (FILLED) PROBE - SENSOR DRY N12		●																						
HIGH LEVEL (FILLED) PROBE - SENSOR WET N10			●						●	●														
HIGH LEVEL (FILLED) PROBE - SENSOR WET N12				●					●	●														
HIGH HIGH LEVEL (TOPPED) PROBE - SENSOR DRY N10					●																			
HIGH HIGH LEVEL (TOPPED) PROBE - SENSOR DRY N12						●																		
HIGH HIGH LEVEL (TOPPED) PROBE - SENSOR WET N10							●																	
HIGH HIGH LEVEL (TOPPED) PROBE - SENSOR WET N12								●																
ACTIVATE AUDIBLE ALARM SILENCE BUTTON										●														
FUEL TRANSFER SYSTEM (ISSUE)																								
TANK TRANSFER VALVE SELECTOR N10 + START																								
TANK TRANSFER VALVE SELECTOR N12 + START																								
TANK TRANSFER VALVE SELECTOR N10 + STOP																								
TANK TRANSFER VALVE SELECTOR N12 + STOP																								
EQUIPMENT HEATING																								
FS-1 HEATING SYSTEM - ON																								
FS-1 HEATING SYSTEM - OFF																								
FS-2 HEATING SYSTEM - ON																								
FS-2 HEATING SYSTEM - OFF																								
FS-3 HEATING SYSTEM - ON																								
FS-3 HEATING SYSTEM - OFF																								
FS-1 IMMERSION HEATER - ON																								
FS-1 IMMERSION HEATER - OFF																								
FS-2 IMMERSION HEATER - ON																								
FS-2 IMMERSION HEATER - OFF																								
FS-3 IMMERSION HEATER - ON																								
FS-3 IMMERSION HEATER - OFF																								
LEAK DETECTION SYSTEMS																								
LEAK DETECTOR - SUMP 1																								
LEAK DETECTOR - SUMP 2																								
DETECTION PANEL - WARNING ALARM																								

2  
M002 FUELING FACILITY CONTROL SYSTEM SEQUENCE OF OPERATION  
NOT TO SCALE

LEAK DETECTION SYSTEM SEQUENCE OF OPERATIONS MATRIX												
SYSTEM INPUTS	SYSTEM OUTPUTS											
	LEAK DETECTION CONTROL PANEL										CONTROL FUNCTIONS	
	ACTUATE PANEL ALARM LIGHT	DISPLAY EVENT SPECIFIC INFORMATION	ACTUATE PANEL WARNING LIGHT								TRANSMIT ALARM SIGNAL TO KINGFISHER ALARM PANEL	TRANSMIT SUPERVISORY SIGNAL TO KINGFISHER ALARM PANEL
LEAK DETECTION SYSTEMS												
LEAK DETECTOR - SUMP 1	●	●									●	
LEAK DETECTOR - SUMP 2	●	●									●	
DETECTION PANEL - WARNING ALARM			●								●	

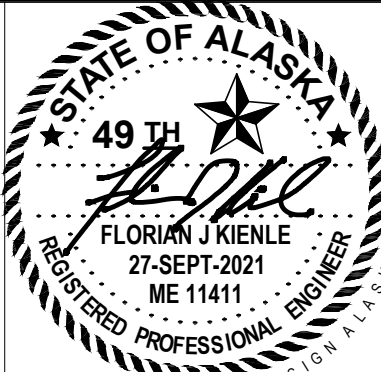
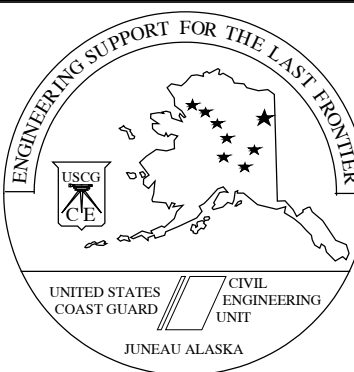
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M002 LEAK DETECTION SYSTEM SEQUENCE OF OPERATION  
NOT TO SCALE

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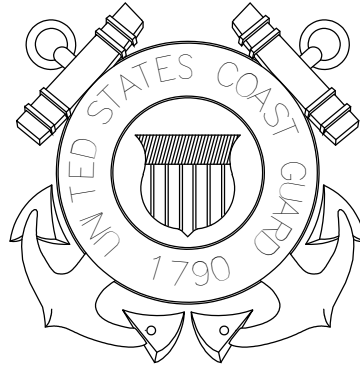
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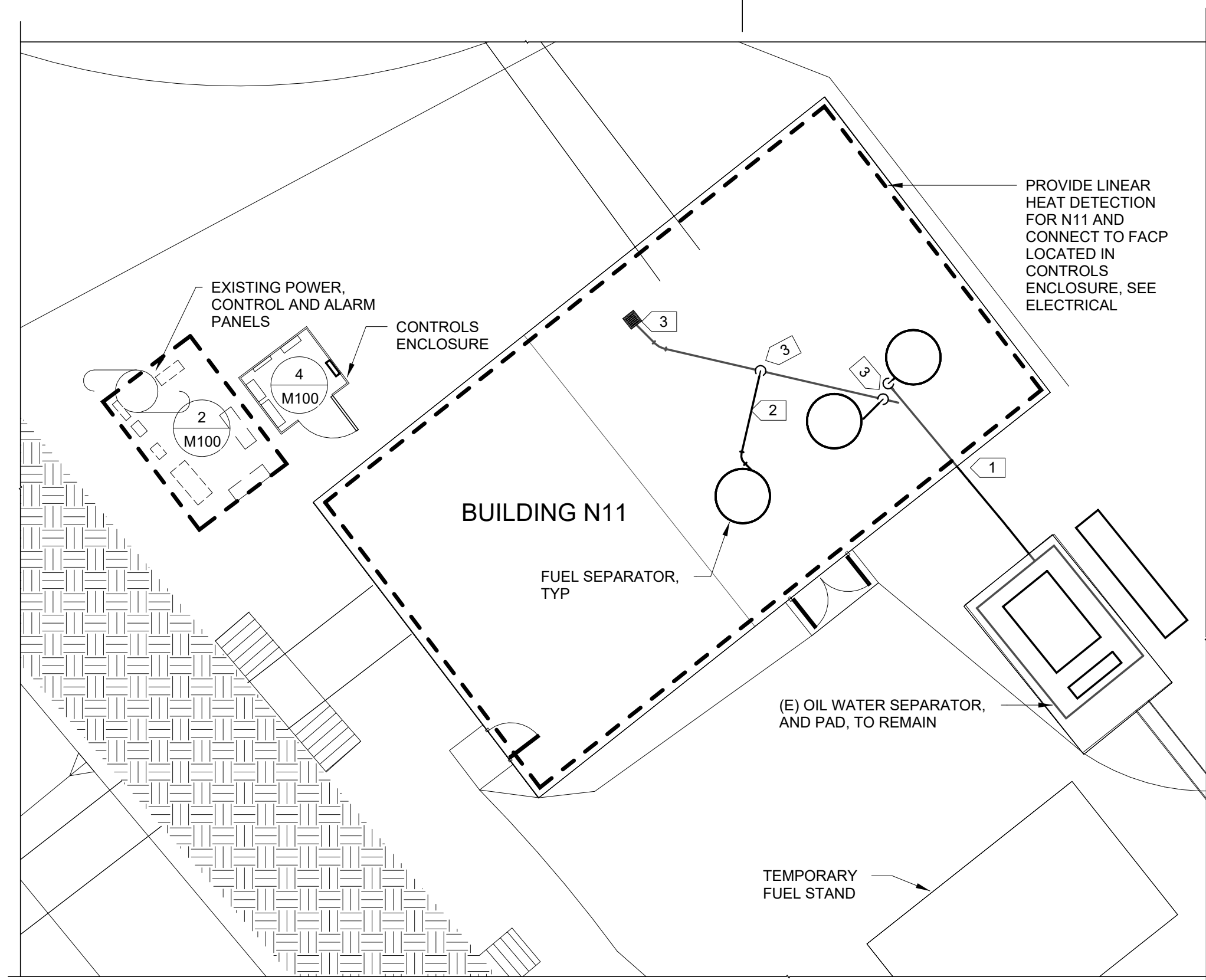
SCALE: AS SHOWN PLOT SCALE: 1" : 1"

SHEET TITLE  
REPAIR ELECTRICAL EQUIPMENT AT  
N11 POL FACILITY

KODIAK ALASKA  
MECHANICAL  
ALARM AND CONTROL  
SEQUENCE

REVIEWED BY: RLB	REVIEWED BY: WDB	REVIEWED BY: BJG
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

APPROVING OFFICIAL		DATE
PROJECT NUMBER	DRAWING NUMBER	
8405333	J8405333	
DISCIPLINE/SHT NO M002	SHEET 3 OF 12	



#### SPECIFIC NOTES

- 1 REMOVE 6" WASTE TO STEM WALL AND CAP AT WALL WITH 12 GAUGE STEEL PLATE.
- 2 DISCONNECT FILTER/SEPARATOR PIPING LEADING TO DRAIN. CAP LIQUID TIGHT AT FILTER/SEPARATOR DISCHARGE
- 3 PLUG DRAIN WITH CONCRETE AND GRIND FLUSH WITH TOP OF SLAB, OBSERVE SAFE WORK PRACTICES IN CLASS 1 DIVISION 1 AREAS.

1 WORK PLAN  
M100 1/8" = 1'-0"

- ELECTRICAL POWER PANEL:
- N11 LIGHTING
  - SITE LIGHTING
  - SEPARATOR(FS-1 TO 3) HEAT TAPE
  - SEPARATOR(FS-1 TO 3) IMMERSION HTR
  - P-5 PUMP POWER
  - UNIT HEATER POWER (UH-1)

FIRE ALARM CONTROL PANEL:  
(NEW), SEE ALARM  
MATRIX  
Provide FACP submittal

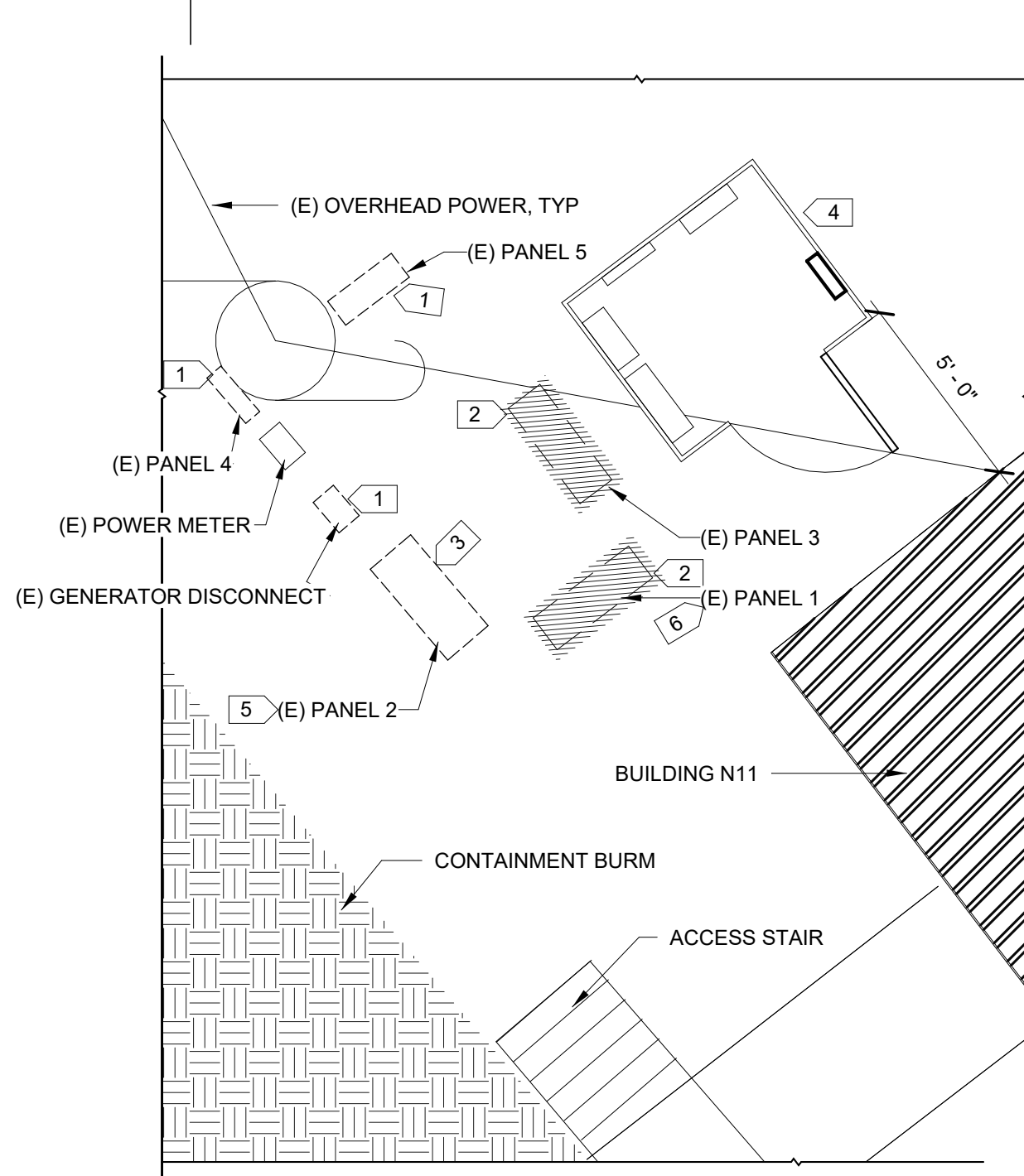
(E) PANEL 5 (RELOCATED):

- LEAK DETECTION  
CONTROLLER AND ALARMS

CONTROL PANEL: SEE MATRIX

- FUEL RECEIVE / ISSUE
- PUMP P-5 CTRL
- LEVEL CONTROLLERS AND ALARMS

4 LARGE SCALE CONTROL PANEL ENCLOSURE WORK PLAN  
M100 1" = 1'-0"



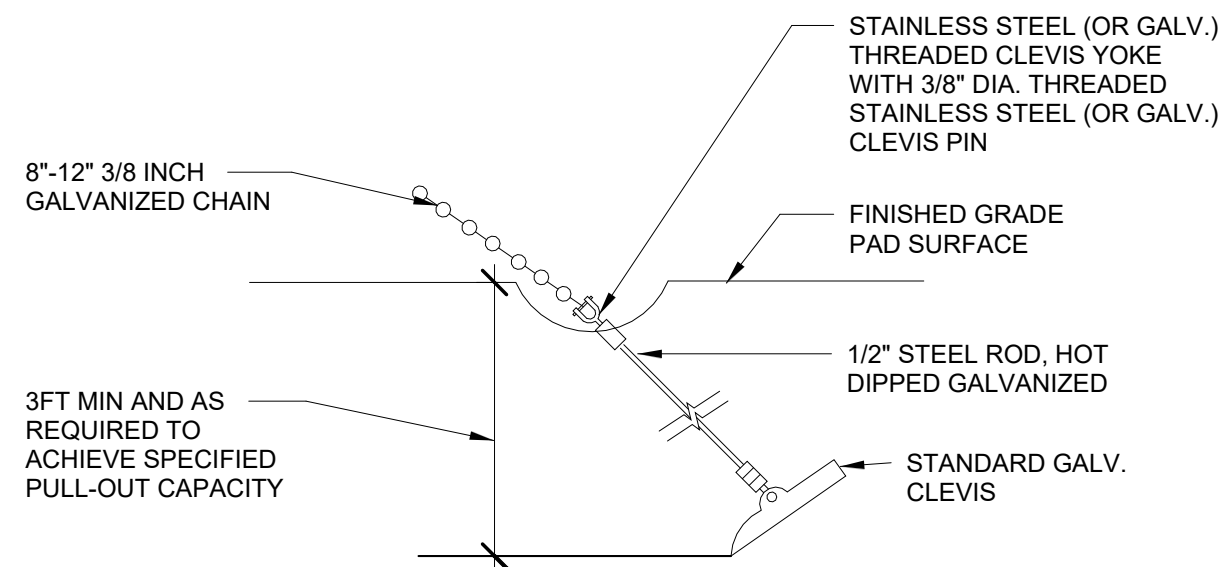
#### SPECIFIC NOTES

- 1 RELOCATE PANEL AND FUNCTIONALITY TO ENCLOSURE
- 2 REMOVE PANEL AND CONTROLS UNLESS OTHERWISE NOTED.
- 3 PANEL TO REMAIN
- 4 RELOCATE FS-1,2,3 IMMERSION HEATING AND HEAT TRACE POWER CIRCUITS TO ENCLOSURE PANEL A
- 5 RETAIN PANEL FOR TERMINAL STRIPS AND JUNCTIONS. RETAIN SENSOR WIRING. PROVIDE TERMINAL STRIPS AND RECONNECT WITHIN PANEL. ROUTE EXISTING CONTROL SIGNALS TO CONTROL PANEL WITHIN ENCLOSURE. RELOCATE LEVEL SENSOR CONTROLLERS TO CP-1.
- 6 RELOCATE CONTROLS TO ENCLOSURE. TANK RECEIVE/ISSUE CONTROL VALVES, PUMP CONTROL, LEVEL ALARMS, AND STATUS CONTROLS SHALL BE IN A NEW PANEL WITH SAME FUNCTIONALITY. RETAIN WIRING AND CONNECTIONS AS REQUIRED IN EXISTING PANEL JB-1.

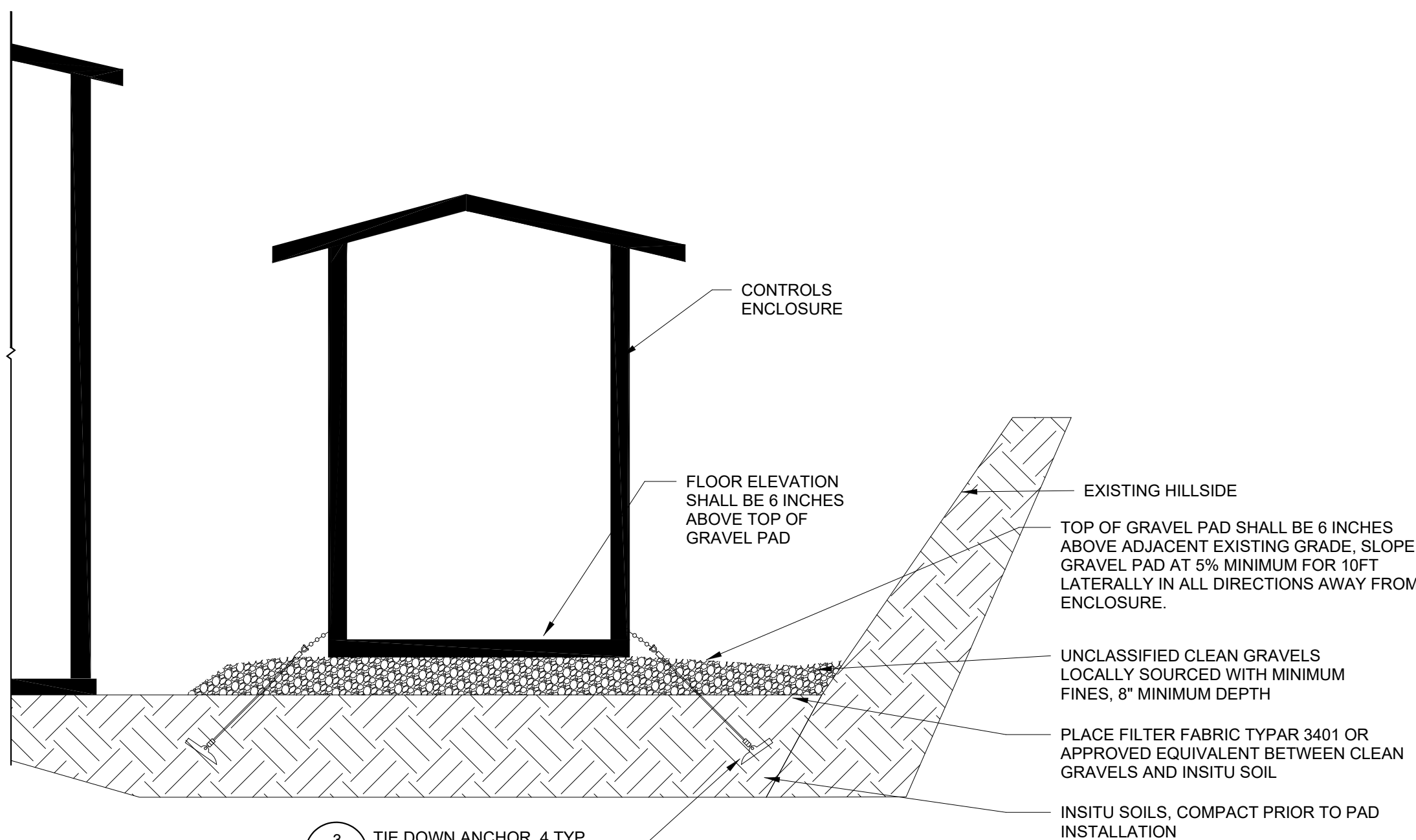
2 LARGE SCALE WORK PLAN - EXISTING PANELS  
M100 1/4" = 1'-0"

#### GENERAL SHEET NOTES

1. LOCATE CONTROL PANEL ENCLOSURE PAD TO ACCOMMODATE EXISTING STRUCTURES AND ACCESS
2. ROUTE CONTROL WIRING IN SEALED DUCT BANKS AND SUPPORTED ON BUILDING UNLESS OTHERWISE NOTED
3. REMOVE UNUSED PANELS, CONDUIT, SUPPORTS AND CHANNEL STRUT AFTER REMOVAL OF EXISTING POWER OR CONTROL PANELS IN WORK AREA
4. SEE ELECTRICAL PLANS AND DETAILS FOR CONTROLS WIRING AND TERMINAL BOX TERMINATIONS
5. BASIS OF DESIGN ENCLOSURE: MODEL #EFC-72X60 MANUFACTURED BY ENGINEERED FIBERGLASS COMPOSITES, INC. NEW LISBON, WI.
  - A. MOLDED ONE-PIECE FIBERGLASS BUILDING WITH DIMENSIONS AS INDICATED, 7FT-6IN HIGH OVERALL, 7FT-0IN AT EAVES. PROVIDE WITH PEAKED ROOM AND TWO CADMIUM PLATED LIFTING EYES.
  - B. COMPOSITE BUILDING PANELS WITH SMOOTH WHITE ULTRAVIOLET RESISTANT GELCOAT FINISH. EXTERIOR SURFACE TO BE A MINIMUM OF 1/8" THICK.
  - C. PROVIDE BUILDING WITH WITH 1" THICK INSULATED POLYISOCYANURATE RIGID FOAM HAVING AN R-VALUE OF 6.0.
  - D. BUILDING SHALL INCLUDE A 36" WIDE X 78" HIGH FLUSH-FITTING SINGLE DOOR OF FIBERGLASS COMPOSITE CONSTRUCTION, BE MOUNTED WITHIN AN INTEGRAL FIBERGLASS FRAME, WITH NEOPRENE GASKET (WEATHER-STRIPPING) AND NON-CORROSIVE HARDWARE
  - E. BUILDING SHALL BE SUPPLIED WITH AN INTEGRAL FIBERGLASS BASE MOUNTING FLANGE, 4" WIDE X 1/4" THICK, INTEGRAL WITH WALLS, PREDRILLED FOR 1/2" DIAMETER ANCHOR BOLTS (ANCHOR BOLTS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR). CLOSED CELL NEOPRENE RUBBER BASE MOUNTING GASKET SHALL BE FURNISHED TO SEAL BUILDING FOUNDATION.



3 TIE DOWN ANCHOR  
M100 NO SCALE



3 TIE DOWN ANCHOR, 4 TYP,  
M100 AT 45 DEGREES TO EACH  
CORNER OF ENCLOSURE

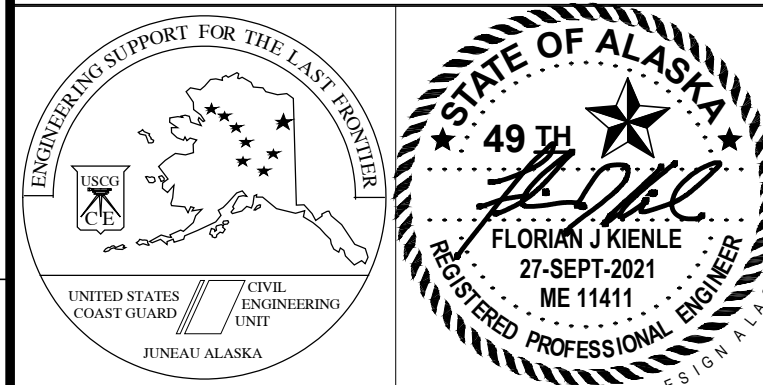
5 ENCLOSURE ELEVATION  
M100 NO SCALE

#### CONSULTANTS

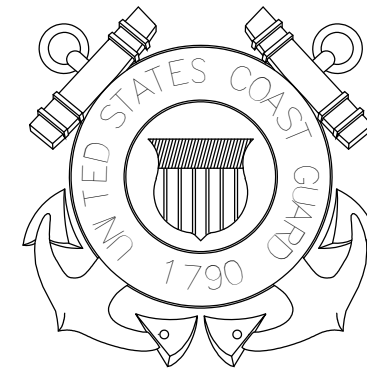
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#### ISSUE

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A/E PROJECT NO: 441807

CAD FILE NAME:

DESIGNED BY: F KIENTLE

DRAWN BY: F KIENTLE

EDITED BY:

CHECKED BY: F KIENTLE

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KODIAK ALASKA  
MECHANICAL  
WORK PLANS AND DETAILS

REVIEWED BY: RLB REVIEWED BY: WDB REVIEWED BY: BJB

PROJECT ENG. BRANCH CHIEF TECH. DIRECTOR

APPROVING OFFICIAL DATE

PROJECT NUMBER DRAWING NUMBER

8405333 J8405333

DISCIPLINE/SHT NO SHEET 4 OF 12

M100

# ELECTRICAL SYMBOL LEGEND

	NOTE KEY - INDICATES NOTES APPLICABLE ON EACH SHEET
	PANELBOARD: FLUSH MOUNTED, SURFACE MOUNTED
	JUNCTION BOX
	EQUIPMENT CONNECTION
	LIGHT FIXTURE - SEE SCHEDULE OR NOTES
WP	WEATHERPROOF
UON	UNLESS OTHERWISE NOTED
	MANUAL PULL STATION
	PILOT LIGHTED SWITCH
	INDICATES HOME-RUN (NUMBER OF ARROWS = NUMBER OF CIRCUITS) (NOTE B BELOW)
	EXPOSED ELECTRICAL CONDUIT
— OHE —	OVERHEAD ELECTRICAL
— UGE —	UNDERGROUND ELECTRICAL
— CTL —	CONTROL CABLE
— F/A —	FIRE ALARM CABLE
GFPE	GROUND FAULT BREAKER FOR PROTECTION OF EQUIPMENT (30 mA TRIP)

## NOTES:

ALL BRANCH CIRCUITS #12, 1/2" C. TO 20A., 1P. CIRCUIT BREAKER UON  
 e.g. A-30(4 #8, 3/4" C. TO 40/3) INDICATES CIRCUIT BREAKER  
 30 IN PANEL 'A' FEEDS TO EQUIPMENT FROM A 40 A. 3P. CIRCUIT  
 BREAKER WITH 4 #8 AWG WIRES RUN IN 3/4" CONDUIT.

- NO. OF WIRES (IF OTHER THAN 2) INDICATED BY NO. OF SLASHES  
 ( 1" — 4" = TWO "HOT" WIRES AND TWO "NEUTRAL WIRES" )
- HOME-RUN DESIGNATION: 'A' = PANELBOARD NOTATION; '2,4' =  
 CIRCUIT NUMBERS
- INSTALL INSULATED GROUNDING CONDUCTOR, SIZED IN  
 ACCORDANCE WITH NEC REQUIREMENTS IN ALL FEEDER AND  
 BRANCH CIRCUIT CONDUITS.

SYMBOLS SHOWN ABOVE ARE DRAWN AS THEY ARE USED ON THE  
 DRAWINGS TO INDICATE NEW WORK OR NEW LOCATIONS OF EXISTING  
 EQUIPMENT. EXISTING EQUIPMENT TO BE ABANDONED IN PLACE,  
 REMOVED OR RELOCATED IS SHOWN USING THE SAME SYMBOLS BUT  
 DRAWN WITH DASHED LINES.



1. ABBREVIATIONS ARE USED WITHIN THESE DRAWINGS TO INDICATE STATUS OF SYSTEMS.
  - 1.1. (E) = EXISTING DEVICE OR EQUIPMENT TO REMAIN.
  - 1.2. (D) = EXISTING DEVICE OR EQUIPMENT TO BE DEMOLISHED.
  - 1.3. (R) = EXISTING DEVICE OR EQUIPMENT TO BE RELOCATED OR RETURNED TO OWNER.
  - 1.4. (N) = NEW DEVICE OR EQUIPMENT TO BE PROVIDED BY CONTRACTOR.
2. ITEMS WHICH ARE TO BE DEMOLISHED ARE IDENTIFIED WITH LIGHT DASHED LINES.

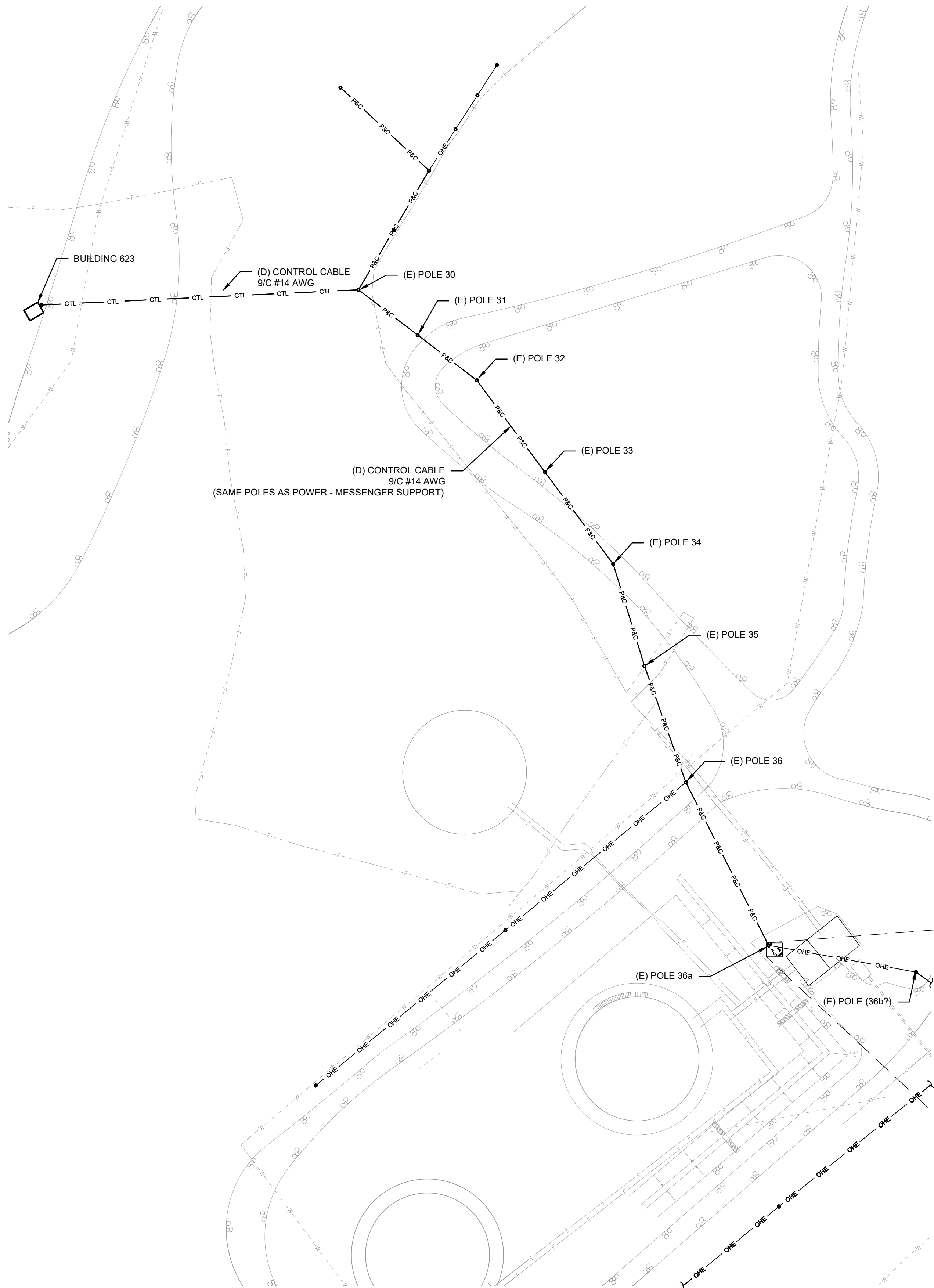
- 1 PROVIDE NEW FEEDER IN RIGID CONDUIT TO EQUIPMENT ENCLOSURE WITH ABOVE GRADE CONDUIT SYSTEM A MINIMUM OF 7 FEET ABOVE GRADE TO ALLOW PERSONNEL TO WALK UNDER SECTION. PROVIDE STRUCTURAL SUPPORT OF RACEWAY AT INTERVALS OF NO LONGER THAN 8 FEET.
- 2 REPLACE EXISTING GENERATOR INLET AND MOVE TO A LOCATION ON THE FAR SIDE OF THE STAIRWAY INTO THE TANK FARM DIKE AREA. PROVIDE FEEDER 4 #2, 60 HGD IN 1 3/4" RIGID CONDUIT AND SUPPORTS AS NEEDED TO EXTEND TO NEW LOCATION. FINAL LOCATION OF GENERATOR INLET TO BE COORDINATED BY CONTRACTING OFFICER.
- 3 WHERE PRESENCE OF ROCK PREVENTS DRIVING GROUND RODS VERTICALLY, THEY MAY BE INSTALLED AT AN ANGLE UP TO AND INCLUDING A HORIZONTAL ANGLE. WHERE THE GROUND ROD SHALL BE AT LEAST 30° BELOW THE FINAL GRADE AT THE SITE OR TOP OF THE ROCK WHICHEVER IS DEEPER.

LIGHTING FIXTURE SCHEDULE			
KEY	LIGHT TYPE	DESCRIPTION	MOUNTING HEIGHT
A1	LED	2' INDUSTRIAL LED ENCLOSED AND GASKETED LIGHT WITH POLYCARBONATE LENS, MULTIVOOLTAGE OUTPUT WITH 4000K COLOR TEMPERATURE. PROVIDE WITH EMERGENCY BACKUP BATTERY WITH SELF DIAGNOSTIC FUNCTIONS.	CEILING CENTER PEAK OF ENCLOSURE



PROJECT NUMBER	DRAWING NUMBER
8405333	J8405333
DISCIPLINE/SHT NO	
E001	SHEET 5 OF 12

SCALE 0"  1"

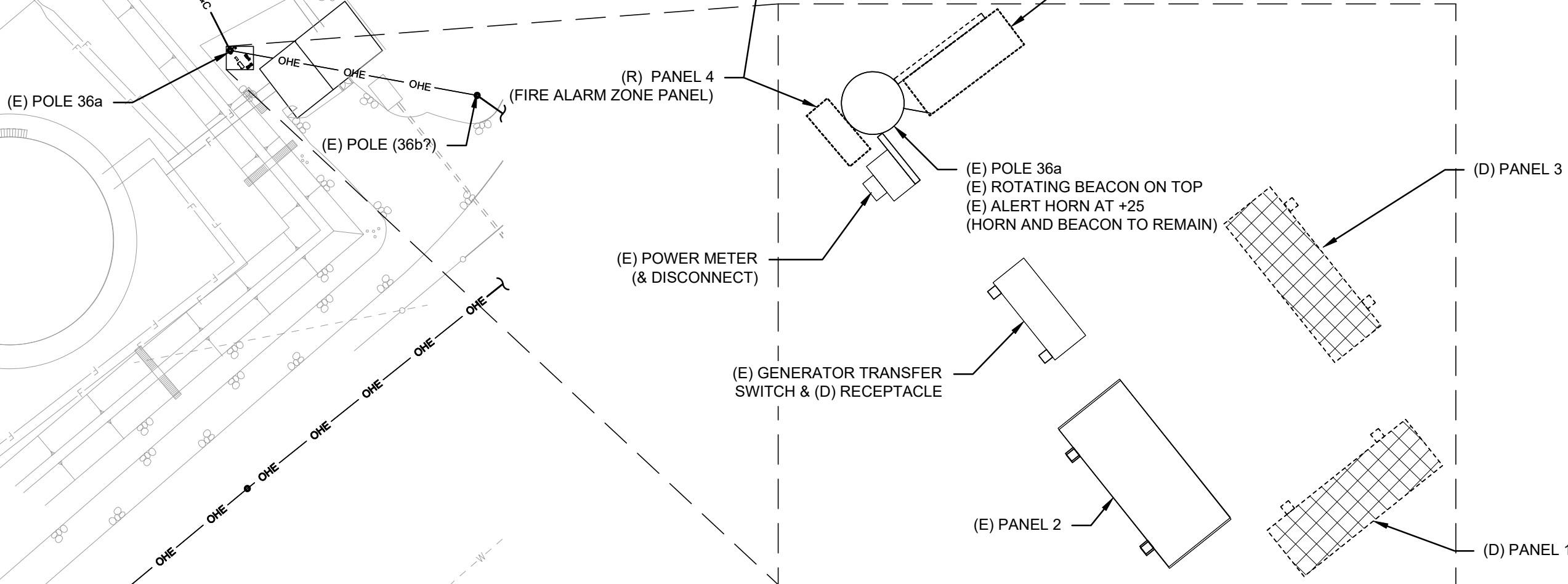


## GENERAL PHASING NOTES - DEMOLITION

- THE PROJECT SHALL BE PHASED SO MANY OF THE EXISTING SYSTEMS ARE KEPT ON-LINE THROUGHOUT THE PROCESS AND TRANSITIONED OVER ONCE NEW INFRASTRUCTURE (EQUIPMENT ENCLOSURE WITH NEW SYSTEMS INSTALLED) IS IN PLACE TO ACCOMMODATE TRANSITION FROM EXISTING TO NEW.
  - POWER METER & DISCONNECT
  - GENERATOR TRANSFER SWITCH - & RECEPTACLE WILL BE RELOCATED TO MORE ACCESSIBLE LOCATION
  - PANEL 2
- EXISTING COMPONENTS WHICH WILL BE REPLACED WITH NEW SYSTEMS IN THE EQUIPMENT ENCLOSURE THEN DEMOLISHED/SALVAGED/RELOCATED WITHIN TRANSITION
  - PANEL 1 - DEMO
  - PANEL 3 - DEMO
  - PANEL 4 (KING FISHER FIRE ALARM CONTROL PANEL) SALVAGE, NEW PANEL INSTALLED IN NEW ENCLOSURE
  - PANEL 5 - RELOCATED INTO NEW ENCLOSURE
- PANEL 1 SUPPORTING STRUCTURE MAY REMAIN TO ALLOW FOR SUPPORT OF FEEDERS AND/OR BRANCH CIRCUIT WIRING TO REMAINING SYSTEMS IN PANEL 2 NOT MIGRATED OVER TO NEW EQUIPMENT SHELTER.
- PANEL 2 WILL REMAIN IN PLACE AFTER THE TRANSITION. ACTIVE COMPONENTS WITHIN THE ENCLOSURE WILL BE REPLACED BY NEW EQUIPMENT IN THE NEW ENCLOSURE AND ONCE TRANSITION IS COMPLETE WILL BECOME A JUNCTION/TERMINAL BOX. PANEL 2 SHALL TO ALLOW EXISTING CABLES TO BE INTERCEPTED AND CONNECTED TO THE NEW CONTROL CABLES TO BE INSTALLED WITHIN THE NEW EQUIPMENT ENCLOSURE. ONCE NEW SYSTEMS ARE ACTIVE, ANY REMAINING EQUIPMENT NOT NEEDED TO SUPPORT THE FACILITY SYSTEMS SHALL BE REMOVED FROM THE ENCLOSURE AND DISPOSED OF.
- PANEL 3 AND SUPPORTING STRUCTURES ARE TO BE DEMOLISHED ENTIRELY ONCE ALL ELECTRICAL AND CONTROL SYSTEMS CURRENTLY FED FROM THIS LOCATION ARE TRANSITIONED OVER TO NEW EQUIPMENT ENCLOSURE AND FED FROM NEW EQUIPMENT.
- PANEL 4 (FIRE ALARM CONTROL PANEL) TO BE MAINTAINED UNTIL NEW SYSTEM IS DEPLOYED AND FUNCTIONAL. ONCE NEW SYSTEM IS COMMISSIONED, THE CONTRACTOR SHALL CONFIRM WITH THE DISPOSITION OF THE REMOVED SYSTEMS TO INCLUDE THE FIRE ALARM CONTROL PANEL, ANTENNA AND OTHER RELATED EQUIPMENT TO WHETHER THEY ARE TO BE DEMOLISHED OR TURNED OVER TO BASE PERSONNEL AS SALVAGE. THE EQUIPMENT REMOVED AND TURNED OVER TO MAINTENANCE FOR USE AS SPARE PARTS FOR OTHER USE WITHIN THE BASE.
- PANEL 5 LEAK DETECTION SYSTEM TO BE TRANSITIONED OVER TO NEW EQUIPMENT ENCLOSURE. ONCE TRANSITIONED THE REMAINING EQUIPMENT WHICH IS TAKEN OUT OF SERVICE ENTIRELY AT THE EXISTING LOCATION TO BE DEMOLISHED.
- EXISTING OVERHEAD CONTROL CABLE BETWEEN N11 SITE AND INDUSTRIAL FILLSTAND TO BE REPLACED AS PART OF PROJECT. EXISTING CABLE TO REMAIN IN PLACE UNTIL NEW CABLE IS INSTALLED THEN CIRCUITS TRANSFERRED OVER TO NEW CONTROL CABLE.



CONDUIT FROM PANEL 5  
3-CONDUITS TO BELOW GRADE  
2 - PANEL 4  
1 - PANEL 5  
CONDUIT TO BELOW GRADE  
CONDUIT TO BELOW GRADE  
CONDUIT TO PANEL 4  
(R) PANEL 5  
(VEEDER ROOT PANEL)  
CONDUCTORS FROM  
CONDUIT BELOW GRADE  
CONDUCTORS FROM  
PANEL 2



1 ELECTRICAL EXISTING SITE PLAN  
E100 1" = 50'

2 ENLARGED EXISTING/DEMO OUTDOOR EQUIPMENT PLAN  
E100 1/2" = 1'-0"

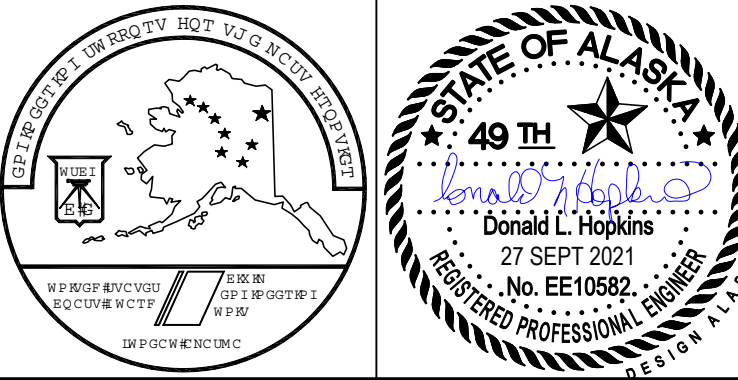
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## CONSULTANTS

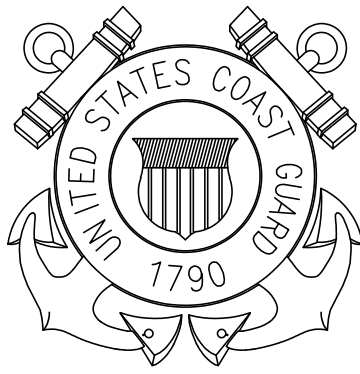
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## ISSUE

MARK	DATE	DESCRIPTION
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A/E PROJECT NO: 441807

CAD FILE NAME:

DESIGNED BY: DLH

DRAWN BY: DLH

EDITED BY: ETJ

CHECKED BY: ETJ

SCALE: AS SHOWN PLOT SCALE: 1" : 1"

## SHEET TITLE

REPAIR ELECTRICAL EQUIPMENT AT  
N11 POL FACILITY

KODIAK ALASKA

ELECTRICAL  
EXISTING SITE PLANS  
& DETAILS

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
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RLB	WDB	BJG
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PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR
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APPROVING OFFICER

DATE

PROJECT NUMBER

DRAWING NUMBER

8405333

J8405333

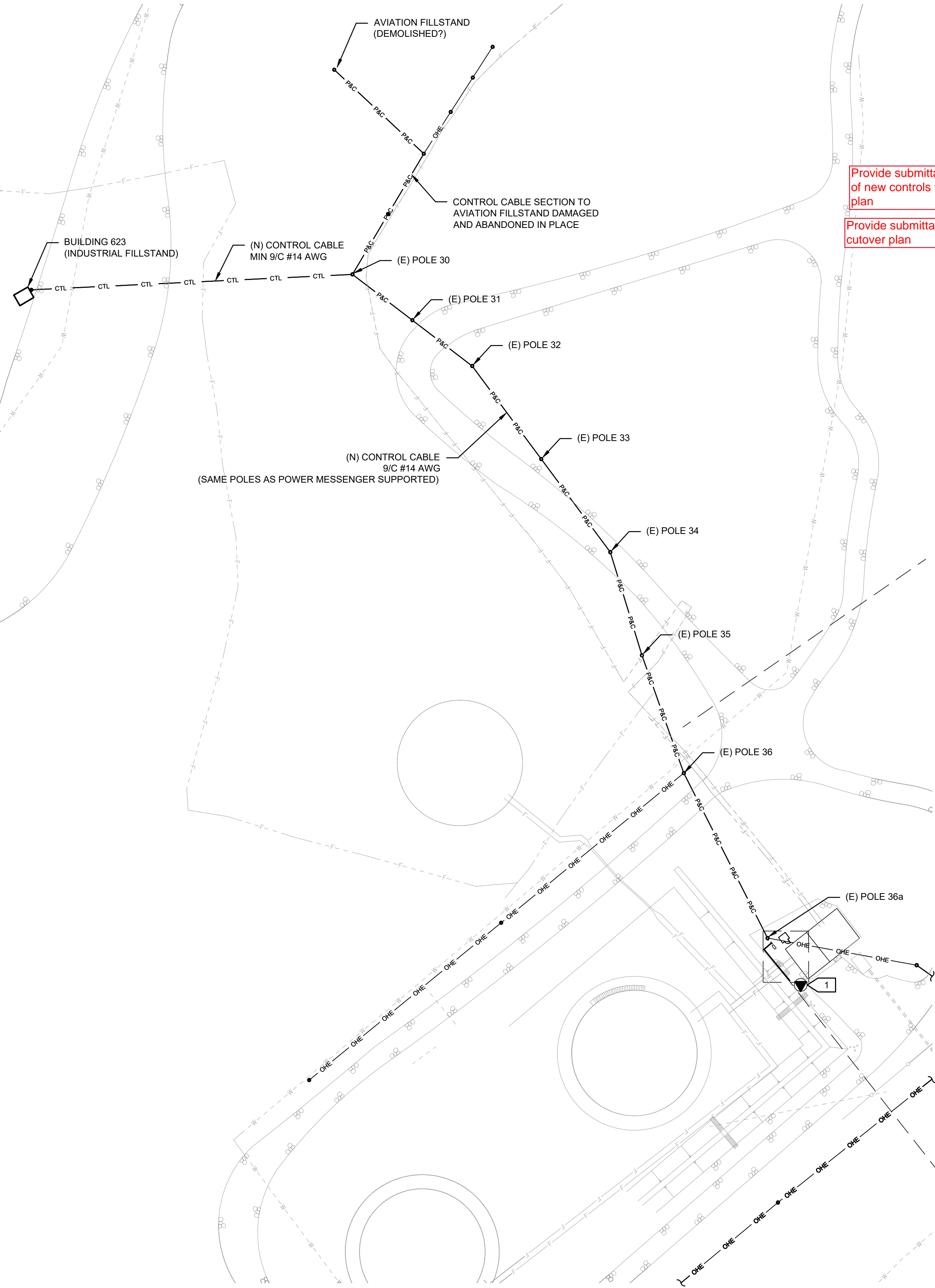
DISCIPLINE/SHT NO

E100

SHEET 6 OF 12

SPECIFIC NOTES

1. RELOCATE EXISTING GENERATOR INLET TO A LOCATION ON THE FAR SIDE OF THE STAIRWAY INTO THE TANK FARM DIKE AREA. PROVIDE FEEDER 4 #2, #6 GND IN 1 1/4" RIGID CONDUIT AND SUPPORTS AS NEEDED TO EXTEND TO NEW LOCATION. FINAL LOCATION OF GENERATOR INLET TO BE APPROVED BY CONTRACTING OFFICER.



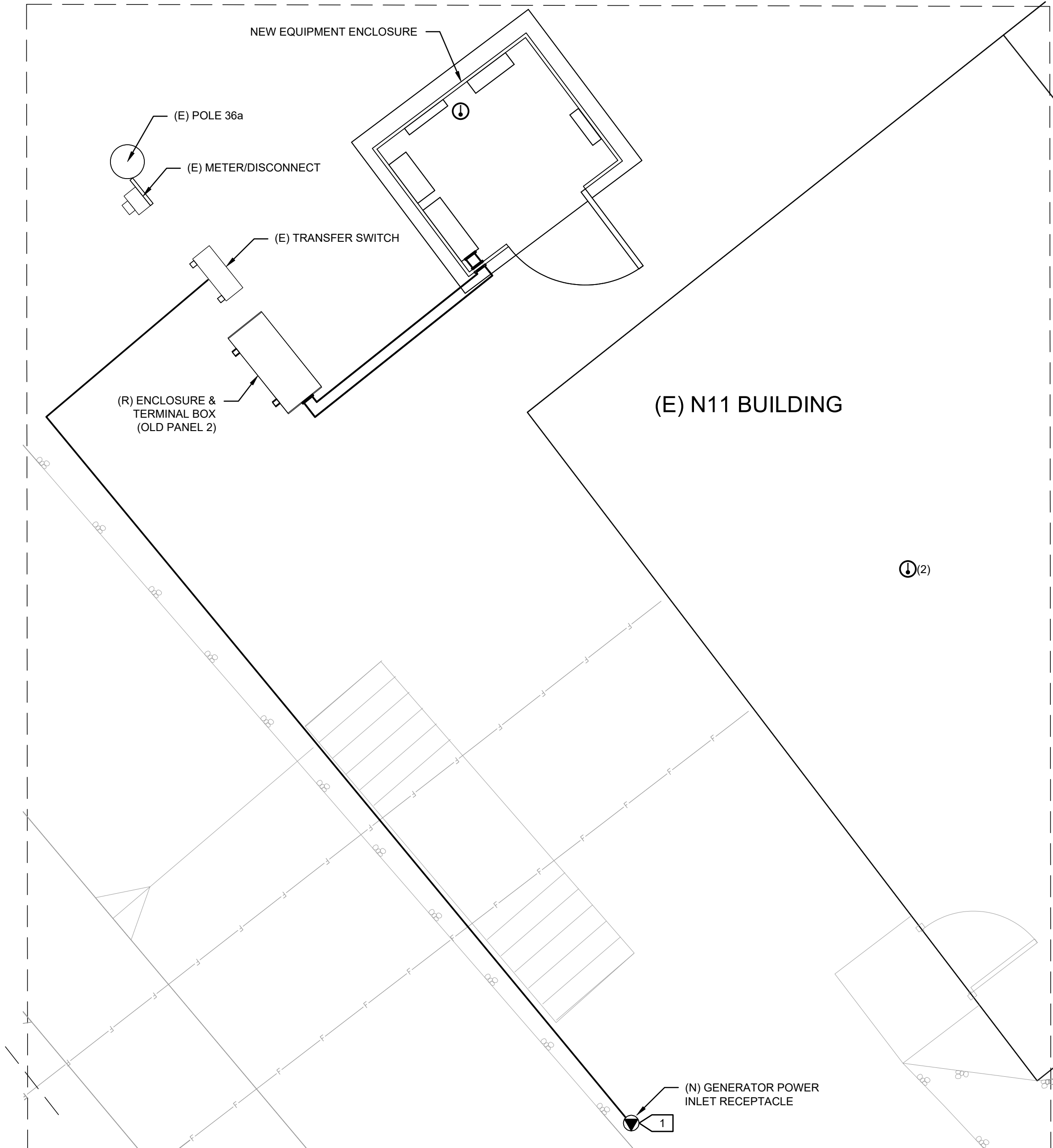
1 ELECTRICAL REVISED SITE PLAN  
E200 1" = 50'

GENERAL PHASING NOTES - NEW WORK

- EXISTING SERVICE AND METER/DISCONNECT TO BE USED TO FEED NEW PANEL 'A' AND AS NEEDED TO PICK UP REMAINING CIRCUITS FED FROM EXISTING PANEL 1 (TO BE DEMOLISHED). FROM NEW ELECTRICAL POWER PANEL IN EQUIPMENT ENCLOSURE. EXISTING CIRCUITS FROM OLD PANEL A WHICH NEED TO BE RE-CIRCUITED AND RE-FED INCLUDE BUT ARE NOT LIMITED TO:
  - IMMERSION HEATER FS-1 208V SINGLE PHASE 20A CIRCUIT.
  - IMMERSION HEATER FS-2 208V SINGLE PHASE 20A CIRCUIT.
  - IMMERSION HEATER FS-2 208V SINGLE PHASE 20A CIRCUIT.
  - AREA LIGHTS WITH SWITCH AND PHOTOCELL CONTROL 208V SINGLE PHASE 20A CIRCUIT, REQUIRES RELAY TO PHOTOCELL FOR CONTROL OF LIGHTS.
  - PUMP G-5 20 HP 208 3-PHASE 100A CIRCUIT.
- PROVIDE NEW CONTROL CABLE TO REPLACE EXISTING IN TWO SECTIONS: 1) MESSENGER SUPPORTED AERIAL CABLE BETWEEN (R) ENCLOSURE (CONVERTED TO TERMINAL BOX) AND BUILDING 632 AT THE FUEL TRANSFER DOCK. ALL CONDUCTORS SHALL BE TERMINATED AND LABELED IN PREPARATION FOR TRANSITION OF SYSTEMS ONCE NEW CONTROLLERS ARE IN PLACE. NEW CONTROL CABLE TO BE SUPPORTED WITH EXISTING MESSENGER, AND EXISTING CONTROL CABLE MAY REMAIN IN PLACE TO SERVICE THE FUEL TRANSFER OPERATIONS WHILE THE NEW EQUIPMENT ENCLOSURE AND NEW EQUIPMENT IS INSTALLED AND PRE-COMMISSIONED. THIS PRELIMINARY WORK NECESSARY SO THE CONTRACTOR CAN REPLACE SYSTEM WHERE CONNECTED CONTROL DEVICES WILL HAVE MINIMAL OUTAGE TIMES TO ACCOMPLISH EACH TRANSITION. COORDINATE WITH COR FOR PERIODS WHERE OUTAGES TO OCCUR PRIOR TO WORK.
- EXISTING 100A SERVICE TO NEW EQUIPMENT ENCLOSURE AND MANUAL TRANSFER SWITCH WILL WILL FEED PANELBOARD 'A' WITHIN ENCLOSURE. GENERATOR RECEPTACLE TO BE RELOCATED TO ALLOW EASIER ACCESS TO PLUG IN STANDBY POWER FROM ROLL UP GENERATOR.
- FOR MUCH OF THE TRANSITION PERIOD, SYSTEMS WILL BE PREPARED AND TESTED PRIOR TO CUTOVER TO ALLOW FOR ORDERLY TRANSITION FROM EXISTING CIRCUITS AND CONTROLLERS TO NEW EQUIPMENT. ONCE NEW SYSTEMS FINALLY CONNECTED AND CUT OVER, MUCH OF THESE EXISTING SYSTEMS WILL BE DEMOLISHED.
- COORDINATE WITH COR TO DETERMINE PERIOD WHERE THESE SYSTEMS CAN BE OFFLINE BETWEEN FUEL OIL DELIVERIES AND ALL WORK NEEDED TO PROVIDE FOR FUEL LOADING/UNLOADING REQUIRED WITHIN THESE AFFECTED SYSTEMS SHALL BE ACCOMPLISHED DURING THIS PERIOD. CONTRACTOR MAY PRE-STAGE AND PREPARE WORK IN ADVANCE OF THE ACTUAL CUTOVER DATE TO ALLOW WORK TO BE COMPLETED AND TESTED PRIOR TO NEXT FUEL DELIVERY.
- PROVIDE HEAT DETECTION FOR THE NEW EQUIPMENT ENCLOSURE TO PROTECT THE NEW ALARM PANEL AND ALSO TWO (2) NEW HEAT DETECTORS IN THE EXISTING N11 BUILDING LOCATED IN THE PEAK OF THE ROOF PER NFPA SPACING CRITERIA.

Provide submittal of new controls test plan

Provide submittal of cutover plan



2 ENLARGED REVISED OUTDOOR EQUIPMENT PLAN  
E110 3/8" = 1'-0"

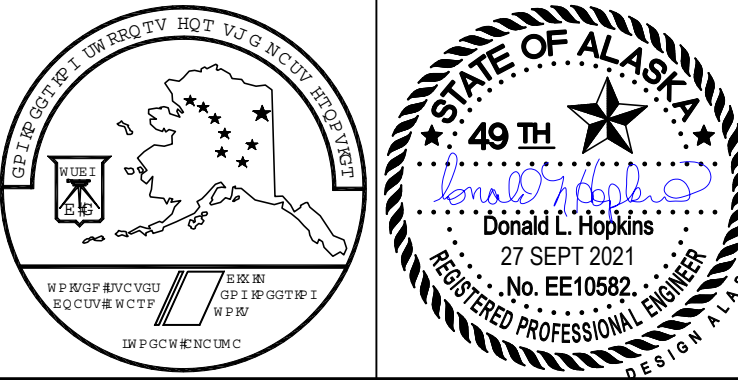
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CONSULTANTS

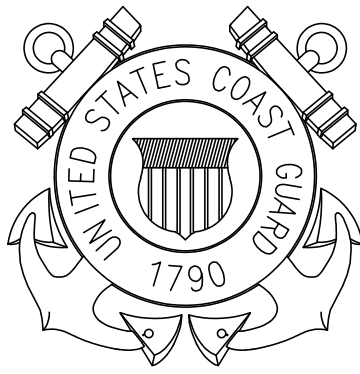
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ISSUE

MARK	DATE	DESCRIPTION

A/E PROJECT NO: 441807  
CAD FILE NAME:  
DESIGNED BY: DLH  
DRAWN BY: DLH  
EDITED BY: ETJ  
CHECKED BY: ETJ

SCALE: AS SHOWN PLOT SCALE: 1" : 1"

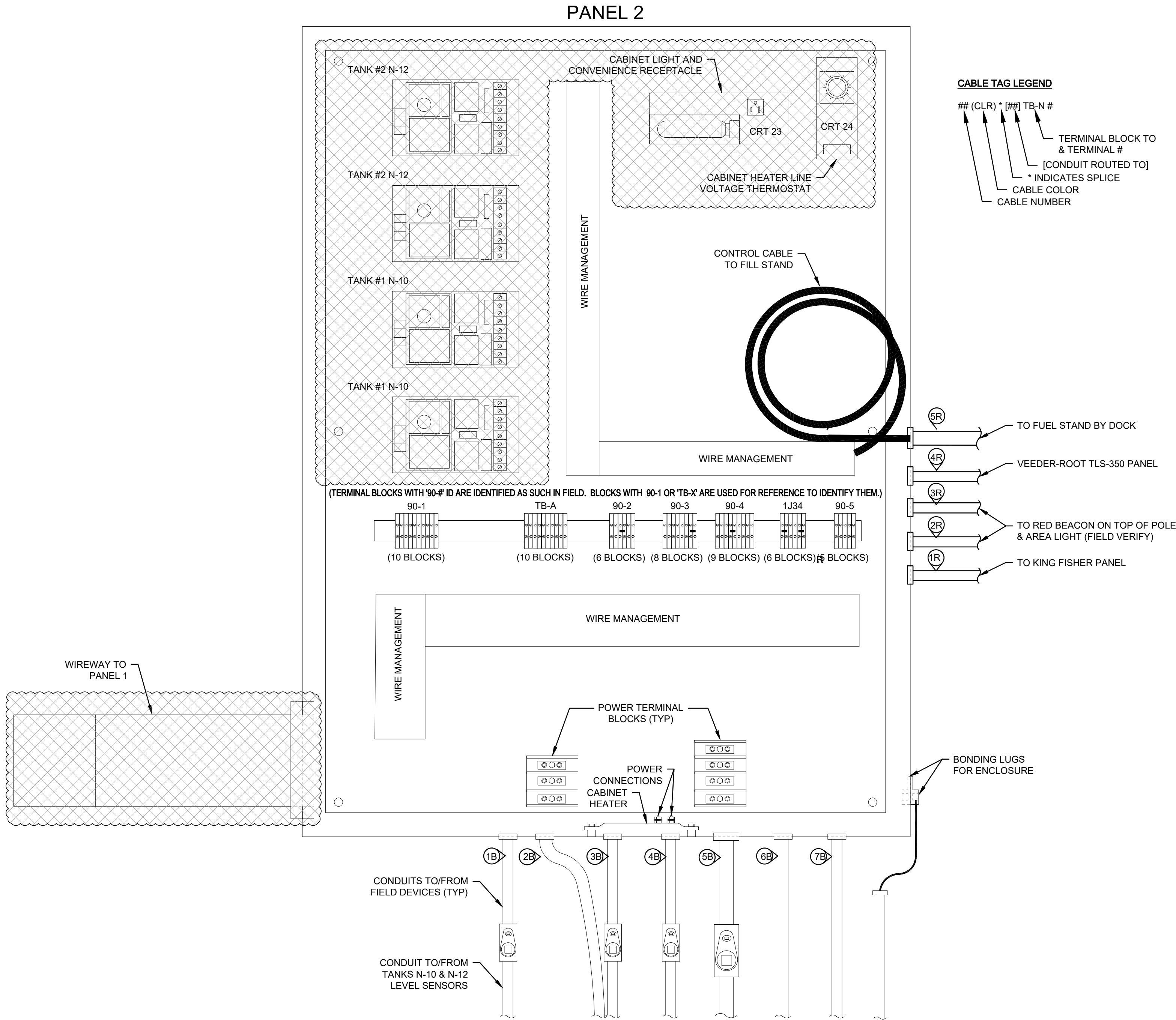
SHEET TITLE  
REPAIR ELECTRICAL EQUIPMENT AT  
N11 POL FACILITY

KODIAK ALASKA  
ELECTRICAL  
NEW SITE PLANS &  
DETAILS

REVIEWED BY: RLB	REVIEWED BY: WDB	REVIEWED BY: BJG
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

APPROVING OFFICER DATE

PROJECT NUMBER 8405333	DRAWING NUMBER J8405333
DISCIPLINE/SHT NO E110	SHEET 7 OF 12



1 EXISTING TERMINAL BOX (PANEL 2)  
E200 NO SCALE

### GENERAL SCHEMATIC INTERCONNECT WIRING NOTES - CONTROL PANEL RELOCATION

- MANY OF THE EXISTING CIRCUIT CONDUCTORS ARE ROUTED FROM DEVICES IN THE FIELD TO TERMINAL BOX (PANEL 2). THIS TERMINAL BOX WILL REMAIN FOR RE-CONNECTION OF AND EXTENSION OF FIELD WIRING TO NEW CONTROL SYSTEMS WITHIN NEW EQUIPMENT ENCLOSURE. NEW WIRING WILL BE ROUTED FROM NEW CONTROL SYSTEMS INTO THIS PANEL FROM NEW WIREWAY FROM EQUIPMENT ENCLOSURE TO PANEL 2 AS DEPICTED ON OTHER DRAWINGS.
- PHOTO ON SHEET SHOWS DEPICTION OF EXISTING EQUIPMENT WITH ITEMS NOTED AS EITHER DEMOLITION OR RELOCATION NOTED WITH REVISION CLOUDING. ITEMS TO BE DEMOLISHED WILL INCLUDE HATCHING WITH IN THE REVISION CLOUDING.
- EXISTING PENETRATIONS INTO ENCLOSURE WHICH ARE NO LONGER UTILIZED AFTER THE RELOCATION OF SYSTEMS OUTSIDE OF THIS ENCLOSURE SHALL BE PLUGGED AND PERMANENTLY SEALED PANEL KNOCKOUT SEALS. SEALS WILL HAVE THE GASKETS FOR USE IN OUTDOOR ENVIRONMENTS AND ALSO AS ADDED PROTECTION SHALL BE COATED WITH EPOXY OR SILICONE SEAL TO PREVENT WATER INTRUSION INTO ENCLOSURE.
- AS ALL ACTIVE EQUIPMENT WILL BE REMOVED FROM ENCLOSURE AND ONLY TERMINAL BLOCKS TO REMAIN, HEATER, LIGHT AND SERVICE OUTLET WILL BE REMOVED FROM THE ENCLOSURE. CABLE MANAGEMENT SYSTEMS TO REMAIN AS IS FOR USE IN ROUTING WIRING, BUT ALL WIRING NO NEEDED IN THE REVISED CONFIGURATION TO BE REMOVED FROM THE ENCLOSURE.
- TERMINAL BLOCK AND CONDUIT CONDUCTOR CONTENTS LISTED ON THIS DRAWING AND OTHER SHEETS WITHIN THE CONTRACT DOCUMENTS REPRESENT INFORMATION FROM AS-BUILT INFORMATION AND SITE INVESTIGATIONS IN OCTOBER 2018 AND MAY 2021 SO ACTUAL CONDITIONS MAY DIFFER FROM SYSTEMS IDENTIFIED HEREIN AT THE TIME OF THE CONTRACT IS AWARD. CONTRACTOR SHAL TRACE AND VERIFY ALL THESE CONNECTIONS AND ENSURE THE ACCURACY OF THE SYSTEMS THEY CONNECT TO AS THE SHOP DRAWINGS ARE DEVELOPED FOR THE NEW SYSTEMS TO BE INSTALLED IN THE EQUIPMENT ENCLOSURE.

### CONDUIT CONDUCTOR CONTENTS / DESCRIPTIONS

- (1B) 10 CONDUCTORS - 4X2 TO SCULLY ST-15-116H SCONTROL CARDS (PROBE INPUTS), 1X2 (BLACK/WHITE) TO DIN RAIL 90-4, #3, #5 (JUMPERED TO 4)
- (2B) 3 CONDUCTORS TO TERMINAL BLOCK 90-2
- (3B) 3 CONDUCTORS (BLK/RED) TO CONDUIT 3R (ALARM HORN/LIGHT)
- (4B) 4-CONDUCTORS TO TERMINAL BLOCK 90-7
- (5B) 10 CONDUCTORS TERMINAL BLOCK 90-3
- (6B) 3 CONDUCTORS WIREWAY VIA TERMINAL BLOCKS THEN TO PANEL 1 MOTOR STARTER (SIZE 3)
- (7B) 4 CONDUCTORS TO TERMINAL BLOCK 1J34, 1 WHT - SPARE, 1 GRN - GROUND
- (8B) 2 CONDUCTORS FROM F/A PANEL TO PANEL A
- (9B) 3 PHASE, 1 NEUTRAL TO TERMINAL BLOCKS, THEN TO WIREWAY AND CKTS 8,10,12 IN PANEL A
- (10B) 2 CONDUCTORS TO WIREWAY TO PANEL A, 1 GND CONDUCTOR, 2 CONDUCTORS TO CONDUIT 6B (CONDUCTORS/CONDUIT REMOVED AS PANEL TRANSITIONED TO NEW EQUIPMENT ENCLOSURE)
- (11B) 4 CONDUCTORS 3 TO TERMINAL BLOCK 90-2, 1 GND
- (12B) 3 CONDUCTORS 2 TO TERMINAL BLOCK 90-3, 1 GND
- (13B) 4 CONDUCTORS, 3 TO TERMINAL BLOCK 90-5, 1 CONDUCTOR TO WIREWAY TO PANEL 1 (CONDUCTORS/CONDUIT REMOVED AS VEEDER ROOT TRANSITIONED TO NEW EQUIPMENT ENCLOSURE)
- (14B) MULTICONDUCTOR CABLE (8) 3 BLANK, 3 TERMINAL BLOCK 1J34, 2 SPLICE TERMINAL BLOCK 90-4 - 6B, 4B

2 EXISTING TERMINAL BLOCK EXISTING  
E200 NO SCALE

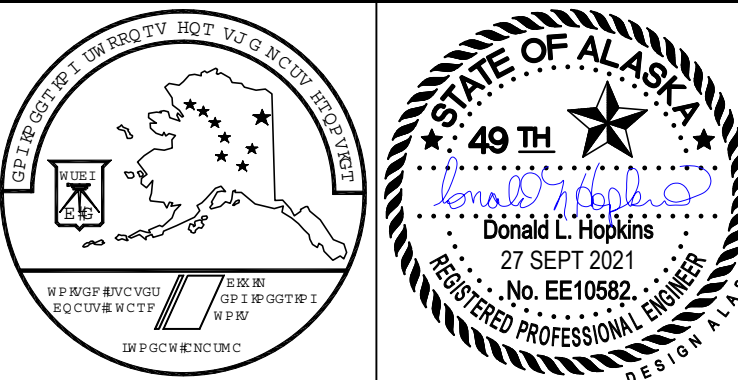
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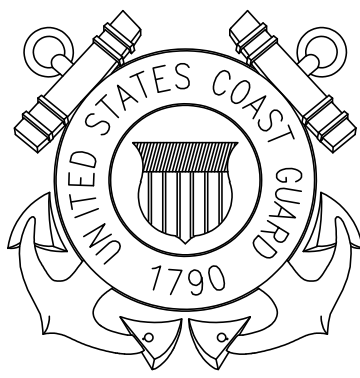
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### ISSUE

MARK	DATE	DESCRIPTION

A/E PROJECT NO: 441807

CAD FILE NAME:

DESIGNED BY: DLH

DRAWN BY: DLH

EDITED BY: ETJ

CHECKED BY: ETJ

SCALE: AS SHOWN PLOT SCALE: 1" : 1"

SHEET TITLE  
REPAIR ELECTRICAL EQUIPMENT AT  
N11 POL FACILITY

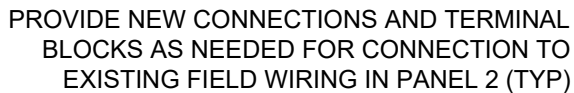
KODIAK ALASKA

ELECTRICAL  
DETAILS & SCHEMATICS  
EXISTING PANEL 2

REVIEWED BY: RLB	REVIEWED BY: WDB	REVIEWED BY: BJG
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

APPROVING OFFICER	DATE
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PROJECT NUMBER 8405333	DRAWING NUMBER J8405333
DISCIPLINE/SHT NO E200	SHEET 8 OF 12



## SCULROL TERMINAL ASSIGNMENTS

(E) TANK N-12  
LEVEL SENSORS

HIGH HIGH  
LEVEL SENSOR

## HIGH LEVEL SENSOR

(E) TANK N-10  
LEVEL SENSORS

HIGH HIGH  
LEVEL SENSOR

## HIGH LEVEL SENSOR

PROVIDE NEW CONNECTIONS AND TERMINAL  
BLOCKS AS NEEDED FOR CONNECTION TO  
EXISTING FIELD WIRING IN PANEL 2 (TYP)

(E) TANK N-12  
LEVEL SENSORS

HIGH HIGH  
LEVEL SENSOR

## HIGH LEVEL SENSOR

(E) TANK N-10  
LEVEL SENSORS

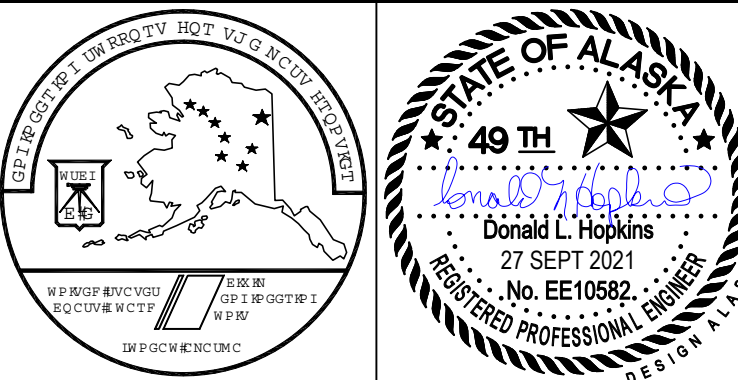
HIGH HIGH  
LEVEL SENSOR

## HIGH LEVEL SENSOR

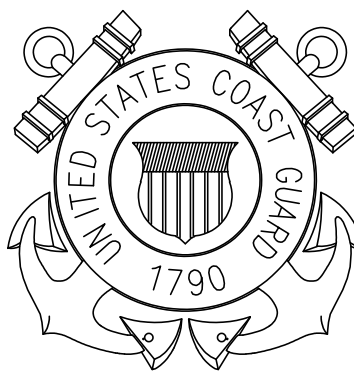
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SCALE: AS SHOWN

PLOT SCALE: 1" : 1'

## SHEET TITLE

# REPAIR ELECTRICAL EQUIPMENT AT N11 POL FACILITY

KODIAK ALASKA  
ELECTRICAL

## SENSOR/FILL CONTROLS SCHEMATIC DIAGRAM

REVIEWED BY: RLB	REVIEWED BY: WDB	REVIEWED BY: BJG
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PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR
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APPROVING OFFICER

DATE \_\_\_\_\_

PROJECT NUMBER

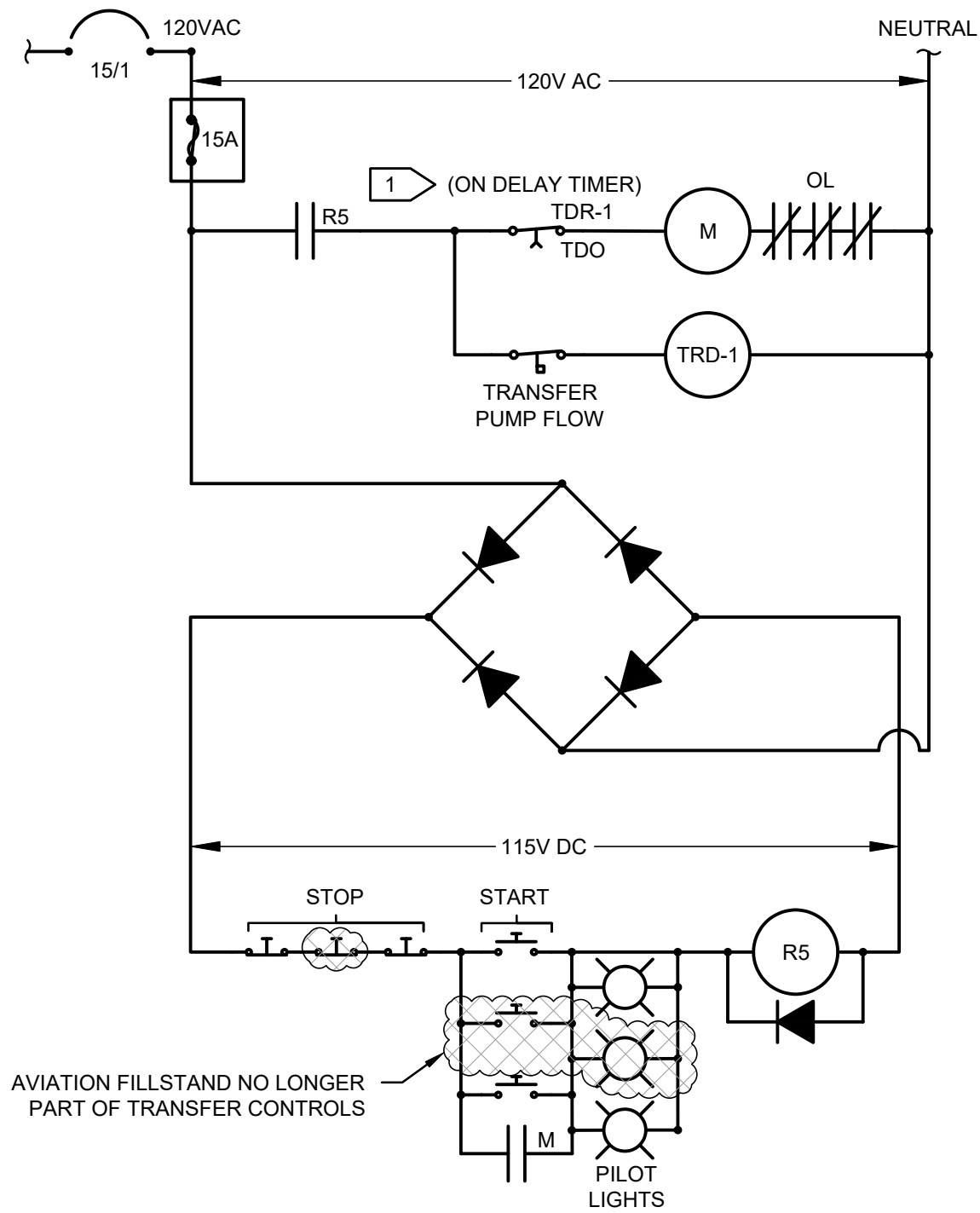
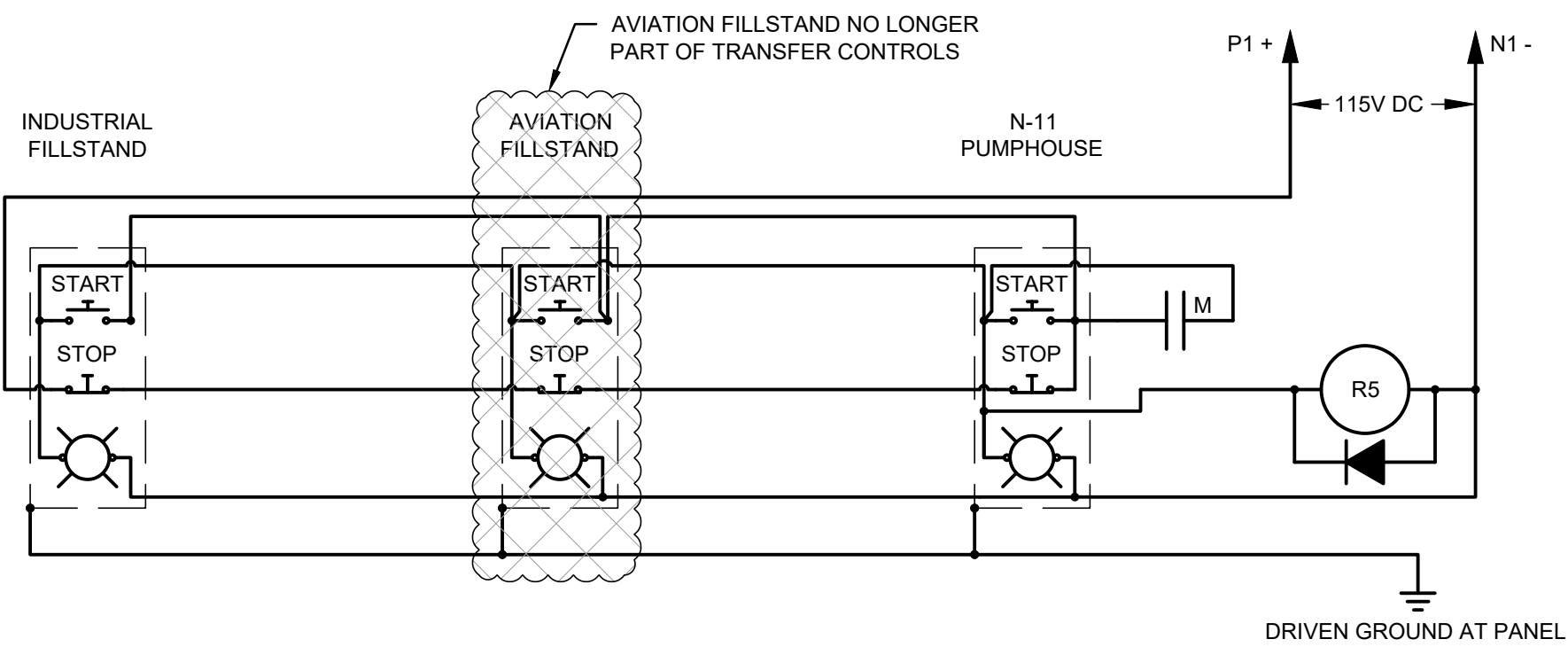
DRAWING NUMBER

DISCIPLINE/SHT NO

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F210

SHEET 9 OF 12



SPECIFIC NOTES

1 CONTRACTOR TO UTILIZE SAME TIMER ON DELAY SETPOINTS AS EXISTING SYSTEMS.

1 REVISED TRANSFER PUMP CONTROLS  
E211 NO SCALE

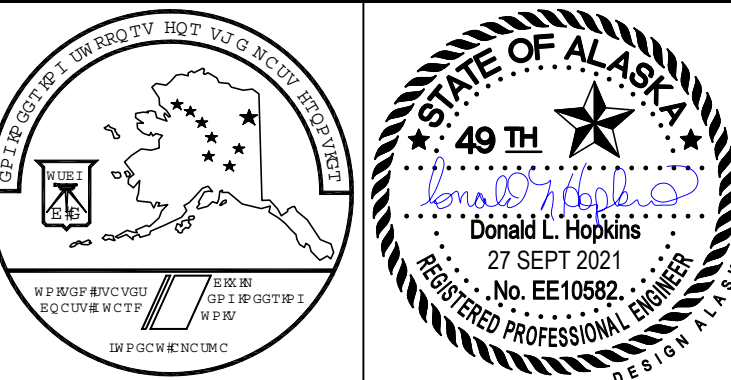
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CONSULTANTS

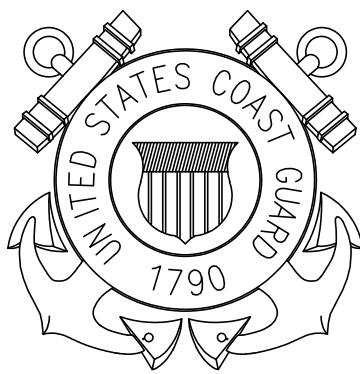
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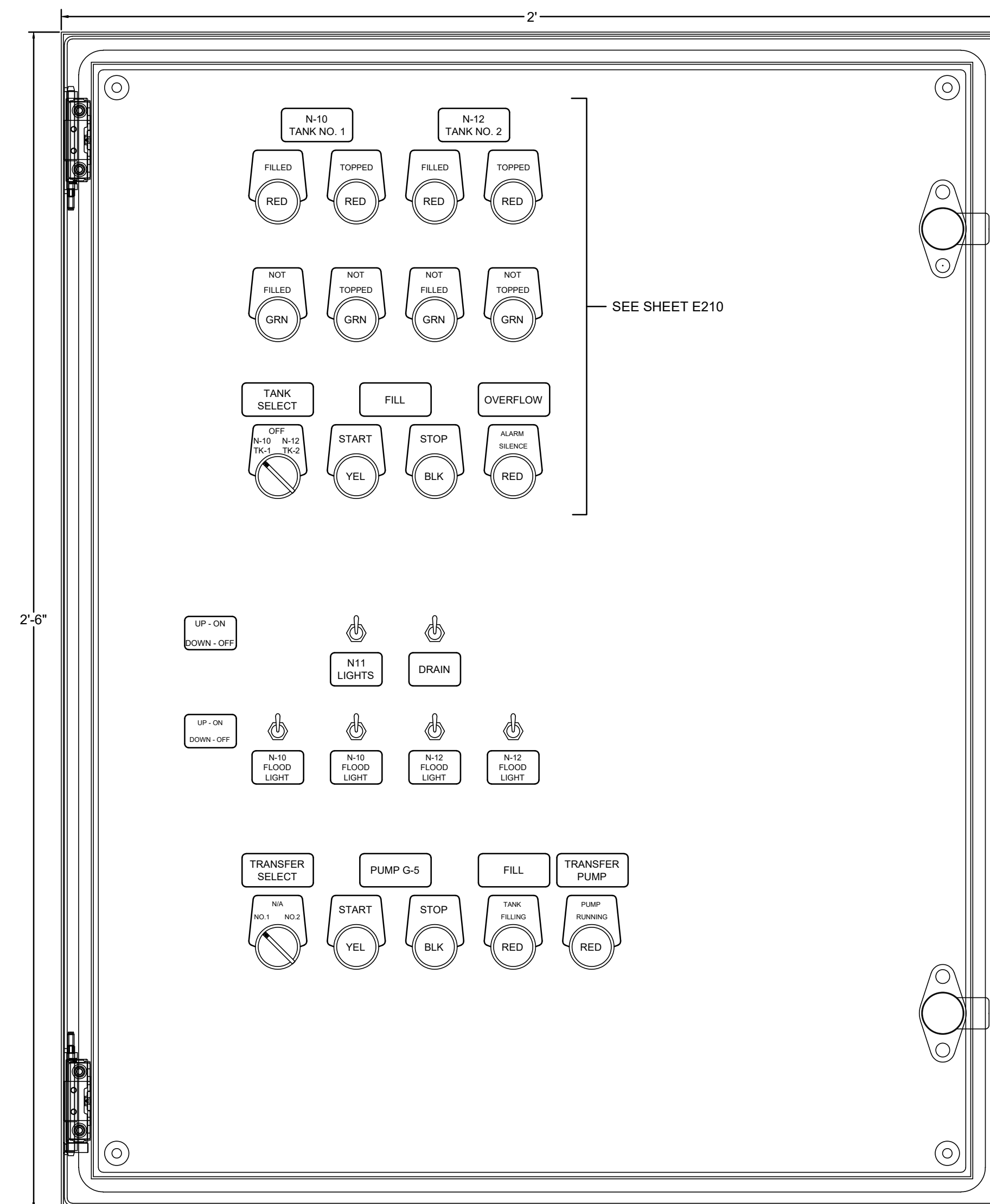
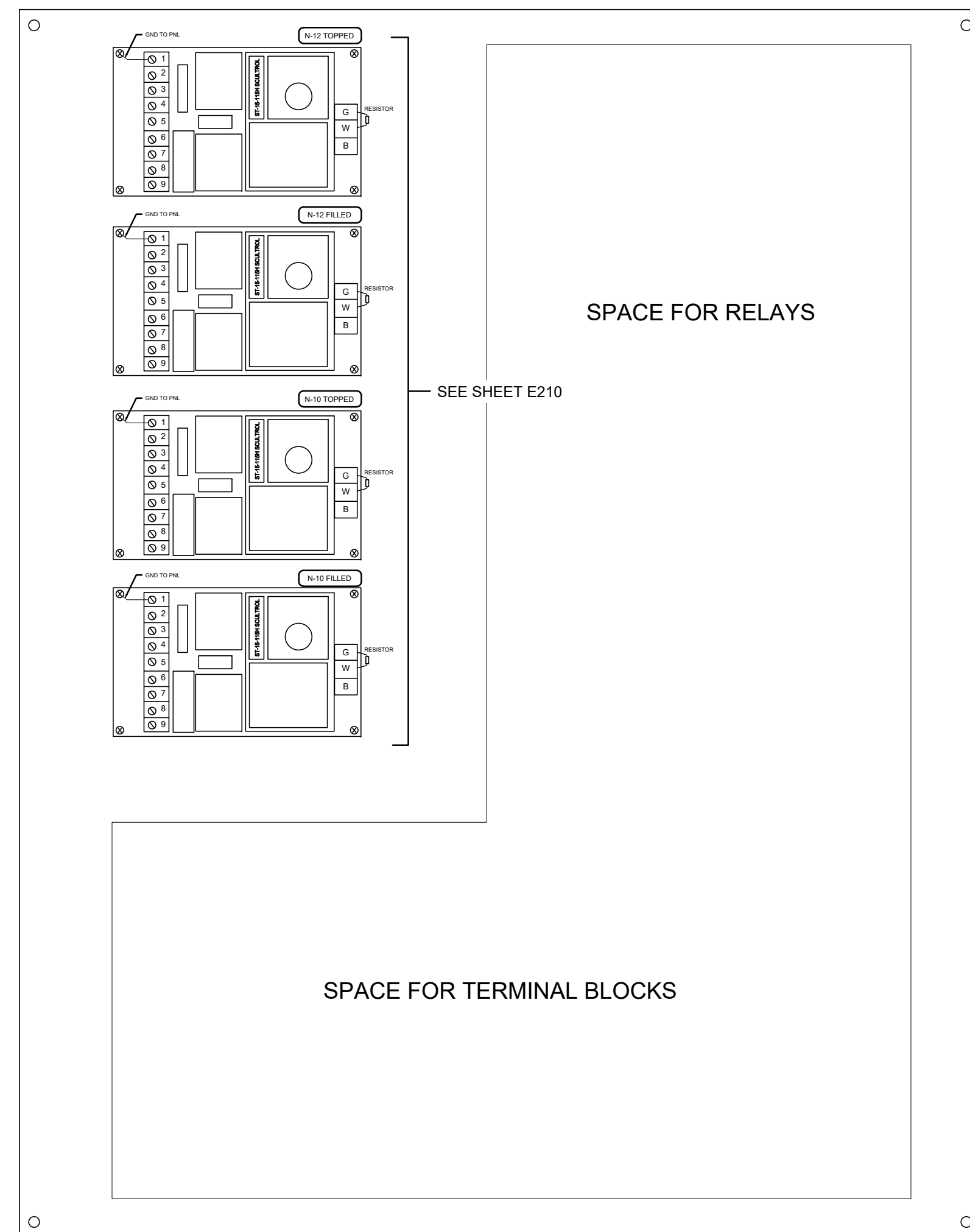
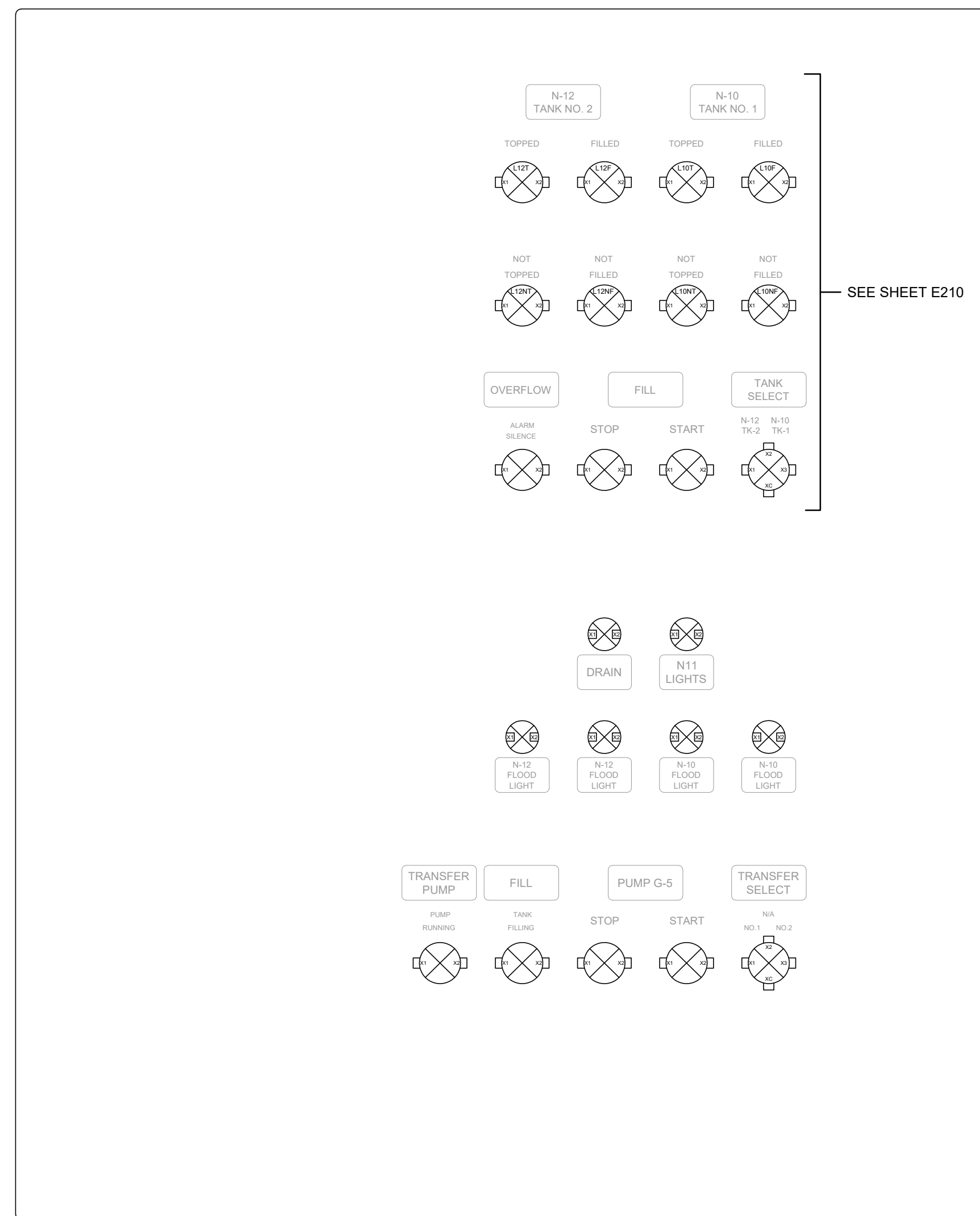
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SHEET TITLE  
REPAIR ELECTRICAL EQUIPMENT AT  
N11 POL FACILITY  
  
KODIAK ALASKA  
ELECTRICAL  
TRANSFER PUMP  
SCHEMATIC DIAGRAM

REVIEWED BY: RLB	REVIEWED BY: WDB	REVIEWED BY: BJG
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

APPROVING OFFICER DATE

PROJECT NUMBER	DRAWING NUMBER
8405333	J8405333
DISCIPLINE/SHT NO E211	SHEET 10 OF 12

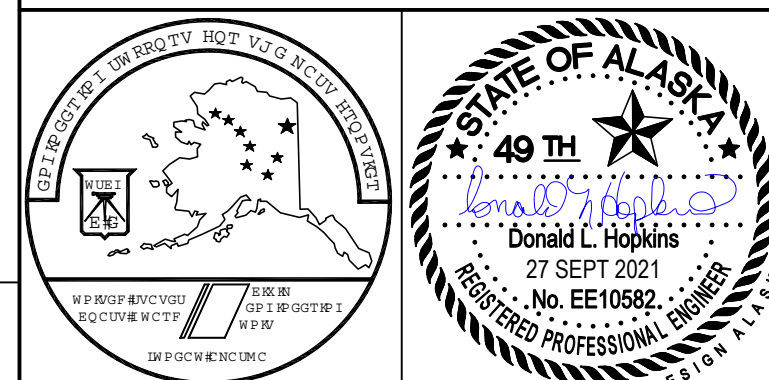


CONSULTANTS

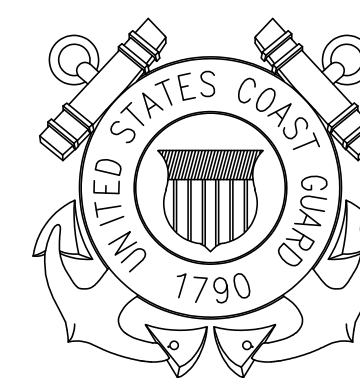
# Design Alaska

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# CONSTRUCTION DOCUMENTS



U. S. COAST GUARD  
CIVIL ENGINEERING UNIT  
JUNEAU



CIVIL ENGINEERING UNIT – JUNEAU  
709 W 9TH ST, RM 817  
JUNEAU, AK 99802-5517

ISSUE		
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	441807
CAD FILE NAME:	
DESIGNED BY:	DLH
DRAWN BY:	DLH
EDITED BY:	ETJ
CHECKED BY:	ETJ

SCALE: AS SHOWN      PLOT SCALE: 1" : 1"

SHEET TITLE
REPAIR ELECTRICAL EQUIPMENT AT N11 POL FACILITY

KODIAK ALASKA

## ELECTRICAL CONTROL PANEL LAYOUT AND NOTES

REVIEWED BY: RLB	REVIEWED BY: WDB	REVIEWED BY: BJG
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

APPROVING OFFICER

DATE

PROJECT NUMBER	DRAWING NUMBER
8405333	J8405333
DISCIPLINE/SHT NO	
E212	SHEET 11 OF 12

## 1 GENERAL CONTROL PANEL LAYOUT

E212 NO SCALE



## 2 EXISTING VEEDER ROOT PANEL & NOTES

E212	NO SCALE
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Veeder Root Panel is Panel 5

## GENERAL VEEDER ROOT CONTROL PANEL RELOCATION

1. THE EXISTING VEEDER ROOT PANEL SHALL BE RELOCATED TO THE NEW EQUIPMENT ENCLOSURE. FIELD WIRING WILL BE INTERCEPTED AT THE CURRENT LOCATION AND NEW TERMINAL BLOCK WILL BE PROVIDED FOR CONNECTIONS BETWEEN THESE CONDUCTORS AND NEW CONDUCTORS ROUTED TO THE NEW EQUIPMENT ENCLOSURE. CONTRACTOR MAY UTILIZE EXISTING FLEXIBLE LIQUIDTIGHT CONDUITS AND EXISTING COMPOSITE ENCLOSURE AND BACK PANEL FOR THIS WORK.
2. CONTRACTOR SHALL COORDINATE WITH STATION OPERATIONS TO OPERATE AND OBSERVE THE EXISTING SYSTEM IN OPERATION FOR A BASELINE FUNCTIONALITY AND ENSURE THE SYSTEM IS WORKING CORRECTLY. ONCE THE UNIT IS RELOCATED CONTRACTOR TO VERIFY OPERATIONS OF THE UNIT ARE THE SAME AS DETERMINED AT THE BASELINE PRIOR TO RELOCATION. IF SYSTEM DOES NOT OPERATE THE SAME AS BASELINE, CONTRACTOR TO TROUBLESHOOT AND CORRECT FOR CONTRACTING OFFICERS APPROVAL.
3. THE EXISTING HEATER IN THE VEEDER ROOT ENCLOSURE (SHOWN IN HATCHED CLOUDING) IS NOT NEEDED AFTER THE RELOCATION OF THE UNIT (NO REMAINING ACTIVE COMPONENTS) SO THESE SYSTEM COMPONENTS ARE NOT REQUIRED TO BE RE-FED.

Demo and dispose of heater

SCALE 0"  1"

(D) PANEL 'A'												
CKT NO.	P	TRIP	LOAD SERVED	LOAD TYPE	LOAD (VA)	BUS	LOAD (VA)	LOAD TYPE	LOAD SERVED	TRIP	P	CKT NO.
1	1	20	QUALITY MONITOR	E	0	A	0	E	(R) IMMERSION HEATER	20	2	2
3	1	20	STR HEATER	E	0	B	0	E	FS-3			4
5	2	20	(R) HEAT TAPE FS-1, FS-2, FS-3	E	0	C	0	E	(R) IMMERSION HEATER	20	2	6
7			" "	E	0	A	0	E	FS-2			8
9	1	20	SPARE	S	0	B	0	E	(R) IMMERSION HEATER	20	2	10
11	1	20	SPARE	S	0	C	0	E	FS-1			12
13	1	15	ALARM OIL/WATER	E	0	A	0	S	PREPARED SPACE	--	--	14
15	2	50	JOB SHACK	E	0	B	0	S	" "	--	--	16
17			" "	E	0	C	0	S	" "	--	--	18
MAIN: 100 AMPS MLO				PHASE A:		0 VA	0.0 A	CONNECTED:		0 VA	NOTES	
TYPE: 208Y/120 V 3 PH, 4 W.				PHASE B:		0 VA	0.0 A	AMPS:		0.0 A		
AIC: 10,000 RMS SYMM. AMPS				PHASE C:		0 VA	0.0 A	VOLTAGE:		208 V		
N.E.C. FEEDER CALCULATIONS:				(VA)	(A)	LOAD TYPE:						
LIGHTING				0 VA	0.0 A	L = LIGHTING (LOAD X 125%)						
RECEPTACLES				0 VA	0.0 A	R = RECEPTACLES (NEC 220.44)						
EQUIPMENT (CONTINUOUS)				0 VA	0.0 A	C = EQUIPMENT (CONTINUOUS) X 125%						
EQUIPMENT (NON-CONTINUOUS)				0 VA	0.0 A	E = EQUIPMENT (NON-CONTINUOUS) X 100%						
MOTORS				0 VA	0.0 A	M = MOTORS (LOAD + 25% OF LARGEST MOTOR)						
TOTAL DEMAND LOAD				0 VA	0.0 A	F = FEEDERS						
MOUNTING SURFACE				SPECIAL REQUIREMENTS:		S = SPARE OR SPACE		LOCATION OUTSIDE				

(D) PANEL '1'												
CKT NO.	P	TRIP	LOAD SERVED	LOAD TYPE	LOAD (VA)	BUS	LOAD (VA)	LOAD TYPE	LOAD SERVED	TRIP	P	CKT NO.
1	1	20	(D) DOLU HEAT	E	0	A	0	E	N-60	20	1	2
3	1	20	BLANK	E	0	B	0	E	(R) PHOTO CONT.	20	1	4
5	1	15	BLANK	E	0	C	0	E	HI ALARM	20	1	6
7	1	20	BLANK	E	0	A	0	E	(R) N-11 PUMP HOUSE	50	3	8
9	1	20	(R) FIRE PANEL (W/LOCK)	E	0	B	0	E	" "			10
11	1	20	BLANK	E	0	C	0	E	" "			12
13	2	20	(R) POLE LIGHTS N-10, N-11	E	0	A	0	E	(D) MAIN BREAKER	70	3	14
15			" "	E	0	B	0	E	" "			16
17	1	20	N11 FAN	E	0	C	0	E	" "			18
19	1	20	HEAT TAPE VALVE	E	0	A	0	E	(R) ENCLOSURE HEAT (GFI)	20	1	20
21	1	20	HEAT TAPE VALVE	E	0	B	0	E	BLANK	20	1	22
23	1	20	(D) SCULLY LIGHT (GFI)	L	0	C	0	E	(D) THERMOSTAT	20	1	24
MAIN: 70 AMPS MCB				PHASE A:	0 VA	0.0 A	CONNECTED:		0 VA	NOTES		
TYPE: 208Y/120 V 3 PH, 4 W.				PHASE B:	0 VA	0.0 A	AMPS:		0.0 A			
AIC: 10,000 RMS SYMM. AMPS				PHASE C:	0 VA	0.0 A	VOLTAGE:		208 V			
N.E.C. FEEDER CALCULATIONS:				(VA)	(A)	LOAD TYPE:						
LIGHTING				0 VA	0.0 A	L = LIGHTING (LOAD X 125%)						
RECEPTACLES				0 VA	0.0 A	R = RECEPTACLES (NEC 220.44)						
EQUIPMENT (CONTINUOUS)				0 VA	0.0 A	C = EQUIPMENT (CONTINUOUS) X 125%						
EQUIPMENT (NON-CONTINUOUS)				0 VA	0.0 A	E = EQUIPMENT (NON-CONTINUOUS) X 100%						
MOTORS				0 VA	0.0 A	M = MOTORS (LOAD + 25% OF LARGEST MOTOR)						
TOTAL DEMAND LOAD				0 VA	0.0 A	F = FEEDERS						
MOUNTING SURFACE				SPECIAL REQUIREMENTS:						LOCATION OUTSIDE		
				S = SPARE OR SPACE								

(N) PANEL 'A'												
CKT NO.	P	TRIP	LOAD SERVED	LOAD TYPE	LOAD (VA)	BUS	LOAD (VA)	LOAD TYPE	LOAD SERVED	TRIP	P	CKT NO.
1	2	20	(R) HEAT TAPE FS-1,FS-2,FS-3 (GFPE)	C	120	A	0	E	(R) IMMERSION HEATER (30mA GFI)	20	2	2
3			" "	C	120	B	0	E	FS-1			4
5	1	20	ENCLOSURE LTS	E	50	C	0	E	(R) IMMERSION HEATER (30mA GFI)	20	2	6
7	2	20	ENCLOSURE HEATER	E	1,000	A	0	E	FS-2			8
9			" "	S	1,000	B	0	E	(R) IMMERSION HEATER (30mA GFI)	20	2	10
11	1	20	KING FISHER ALARM PANEL W/LOCK	C	200	C	0	E	FS-3			12
13	1	20	(R) LEAK DETECTION CONTROLLER	E	200	A	180	S	REC - EQUIPMENT ENCLOSURE	20	1	14
15	1	20	CONTROL PANEL	E	200	B	10	L	(R) PHOTO CONT.	20	1	16
17	3	50	(R) N-11 PUMP HOUSE	E	0	C	1,200	L	(R) POLE LIGHTS N-10, N-11	20	2	18
19			" "	E	0	A	1,200	L	" "			20
21			" "	E	0	B	7,130	M	(R) PUMP G-5 (20 HP)	100	3	22
23	1	20	SPARE	S	0	C	7,130	M	" "			24
25	1	20	REC - EQUIPMENT ENCLOSURE	S	180	A	7,130	M	" "			26
27	1	20	SPARE	S	0	B	0	S	SPARE	20	1	28
29	1	20	SPARE	S	0	C	0	S	SPARE	20	1	30
MAIN: 100 AMPS MCB				PHASE A:	9,830 VA		81.9 A		CONNECTED:	26,870 VA	NOTES	
TYPE: 208Y/120 V 3 PH, 4 W.				PHASE B:	8,460 VA		70.4 A		AMPS:	74.6 A		
AIC: 10,000 RMS SYMM. AMPS				PHASE C:	8,580 VA		71.4 A		VOLTAGE:	208 V		
N.E.C. FEEDER CALCULATIONS:				(VA)	(A)	LOAD TYPE:						
LIGHTING				3,013 VA	8.4 A	L = LIGHTING (LOAD X 125%)						
RECEPTACLES				0 VA	0.0 A	R = RECEPTACLES (NEC 220.44)						
EQUIPMENT (CONTINUOUS)				550 VA	1.5 A	C = EQUIPMENT (CONTINUOUS) X 125%						
EQUIPMENT (NON-CONTINUOUS)				1,450 VA	4.0 A	E = EQUIPMENT (NON-CONTINUOUS) X 100%						
MOTORS				26,738 VA	74.2 A	M = MOTORS (LOAD + 25% OF LARGEST MOTOR)						
TOTAL DEMAND LOAD				31,750 VA	88.1 A	F = FEEDERS						
MOUNTING SURFACE		SPECIAL REQUIREMENTS:				S = SPARE OR SPACE				LOCATION EQ ENC		

PANEL SCHEDULE NOTES

1. PANELBOARDS AND CIRCUITS AS INDICATED FOR DEMOLITION INCLUDE A (D) DESIGNATION:

1.1. CIRCUITS WITH AN (D) INDICATION WILL BE DEMOLISHED WITHOUT NEW CIRCUIT IN REPLACEMENT PANELBOARDS.  
1.2. CIRCUITS WITH AN (R) INDICATION WILL BE TRANSITIONED OVER TO NEW PANELBOARD.
2. PANELBOARDS AND CIRCUITS AS INDICATED AS RE-ROUTED OR REVISED CIRCUIT ARE INDICATED WITH A (R) DESIGNATION:

2.1. CIRCUITS WITH AN (R) INDICATION ARE EXISTING CIRCUITS WHICH ARE RE-ROUTED AND/OR REVISED AND FED FROM NEW PANELBOARD. CONTRACTOR TO PROVIDE CIRCUIT CONDUCTORS, CONDUITS, WIREWAY, FITTINGS, PULL BOXES, SUPPORTS AND ALL OTHER EQUIPMENT NECESSARY TO ROUTE THESE RELOCATED CIRCUITS FROM NEW PANELBOARD TO LOCATION WHERE EXISTING CIRCUITS EXIST. ALL TERMINATIONS TO BE EITHER VIA MECHANICALLY CLAMPED CIRCUIT SPLICES OR BY USE OF TERMINAL BLOCKS. CONNECTIONS TO SPLICE ANY CONDUCTORS WITH WIRE NUTS ARE NOT ACCEPTABLE.
3. PANELBOARDS AND CIRCUITS INDICATED WITH AN (N) OR WITH NO OTHER SPECIFIC IDENTIFIER PRECEDING THE IDENTIFIER ARE CONSIDERED NEW EQUIPMENT AND/OR CIRCUITS.