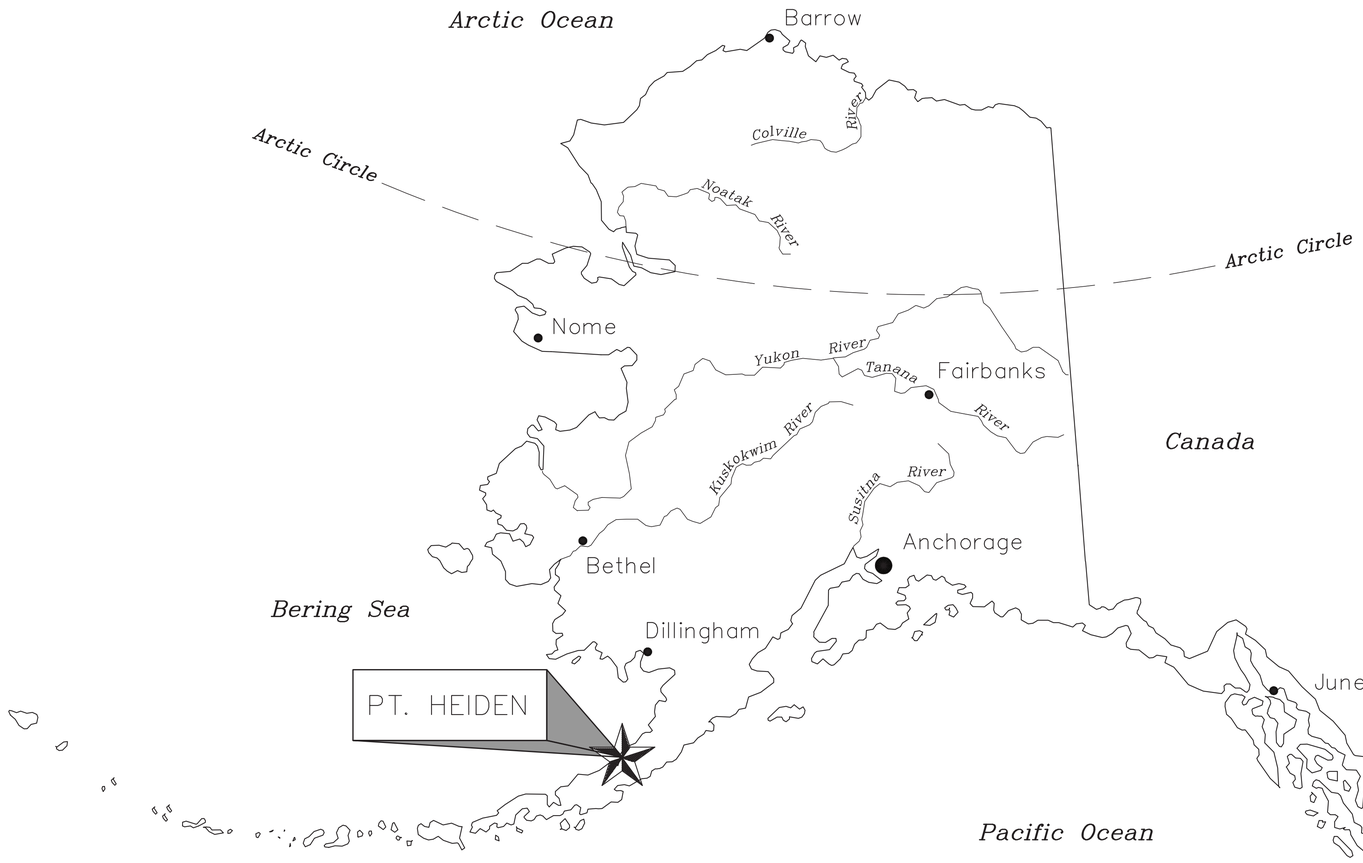
PORT HEIDEN DISTRIBUTION UPGRADE PROJECT



SCHEDULE OF DRAWINGS	
E0.0	COVER SHEET & SCHEDULE OF DRAWINGS,
E0.1	DISTRIBUTION OVERALL AREA AND WORK PHASE PLAN, LEGENDS & ABBREVIATIONS
E0.2	SCHEDULES & NOTES
E0.3	DETAILS
E0.4	DETAILS
E1.1	PHASE 1 OVERALL DEMOLITION PLAN
E1.2	PHASE 1 OVERALL NEW WORK PLAN
E1.3	PHASE 1 OVERALL ONE-LINE DIAGRAM
E1.4	PHASE 1 AREA 1-A ENLARGED PLAN
E1.5	PHASE 1 AREA 1-B ENLARGED PLAN
E1.6	PHASE 1 AREA 1-C ENLARGED PLAN
E1.7	PHASE 1 AREA 1-D ENLARGED PLAN
E1.8	PHASE 1 AREA 1-E ENLARGED PLAN
E1.9	PHASE 1 AREA 1-F ENLARGED PLAN
E1.10	PHASE 1 POWER PLANT AREA SHUNT REACTOR MODIFICATIONS
E1.11	PHASE 1 TRAPPER HILL EXTENSION UPGRADE
E2.1	PHASE 2 OVERALL DEMOLITION PLAN
E2.2	PHASE 2 OVERALL NEW WORK PLAN
E2.3	PHASE 2 OVERALL ONE-LINE DIAGRAM
E2.4	PHASE 2 AREA 2-A & 2-B ENLARGED PLANS
E2.5	PHASE 2 AREA 2-C & 2-D ENLARGED PLANS
E2.6	PHASE 2 AREA 2-E ENLARGED PLAN
E2.7	PHASE 2 AREA 2-F ENLARGED PLAN
E3.1	PHASE 3 OVERALL DEMOLITION PLAN
E3.2	PHASE 3 OVERALL NEW WORK PLAN
E3.3	PHASE 3 ONE-LINE DIAGRAM
E3.4	PHASE 3 AREA 3-A ENLARGED PLAN
E3.5	PHASE 3 AREA 3-B ENLARGED PLAN
E3.6	PHASE 3 AREA 3-C ENLARGED PLAN
E3.7	PHASE 3 AREA 3-D ENLARGED PLAN
E3.8	PHASE 3 AREA 3-E ENLARGED PLAN
E3.9	PHASE 3 AREA 3-F ENLARGED PLAN
E3.10	PHASE 3 AREA 3-G ENLARGED PLAN
E3.11	PHASE 3 AREA 3-H ENLARGED PLAN
E3.12	PHASE 3 AREA 3-I ENLARGED PLAN
E4.1	PHASE 4 OVERALL DEMOLITION & NEW WORK PLANS
E4.2	PHASE 4 OVERALL ONE-LINE DIAGRAM
E4.3	PHASE 4 AREA 4-A ENLARGED PLAN
E5	PHASE 5 OVERALL DEMOLITION, NEW WORK PLANS & ONE-LINE DIAGRAM
E6	PHASE 6 NEW WORK PLAN & ONE-LINE DIAGRAM

NOTE: THE DESIGN IS DIVIDED INTO 6 SEPARATE PHASES TO ALLOW CONSTRUCTION TO OCCUR BASED ON AVAILABLE FUNDING. THE DRAWING NUMBERS CORRESPOND TO THE PROJECT PHASE WITH THE E0 DRAWINGS BEING COMMON TO ALL PHASES.

NOTES:
1) FUNDING HAS BEEN PROVIDED FOR PHASES 1 AND 2 ONLY. DRAWINGS FOR PHASES 3-6 ARE NOT INCLUDED IN THIS PROJECT
2) PROVIDE ALL WORK SHOWN ON THE FOLLOWING DRAWINGS UNDER BASE BID UNLESS SPECIFICALLY NOTED AS ADDITIVE ALTERNATES ON THE SHEETS THAT FOLLOW.

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

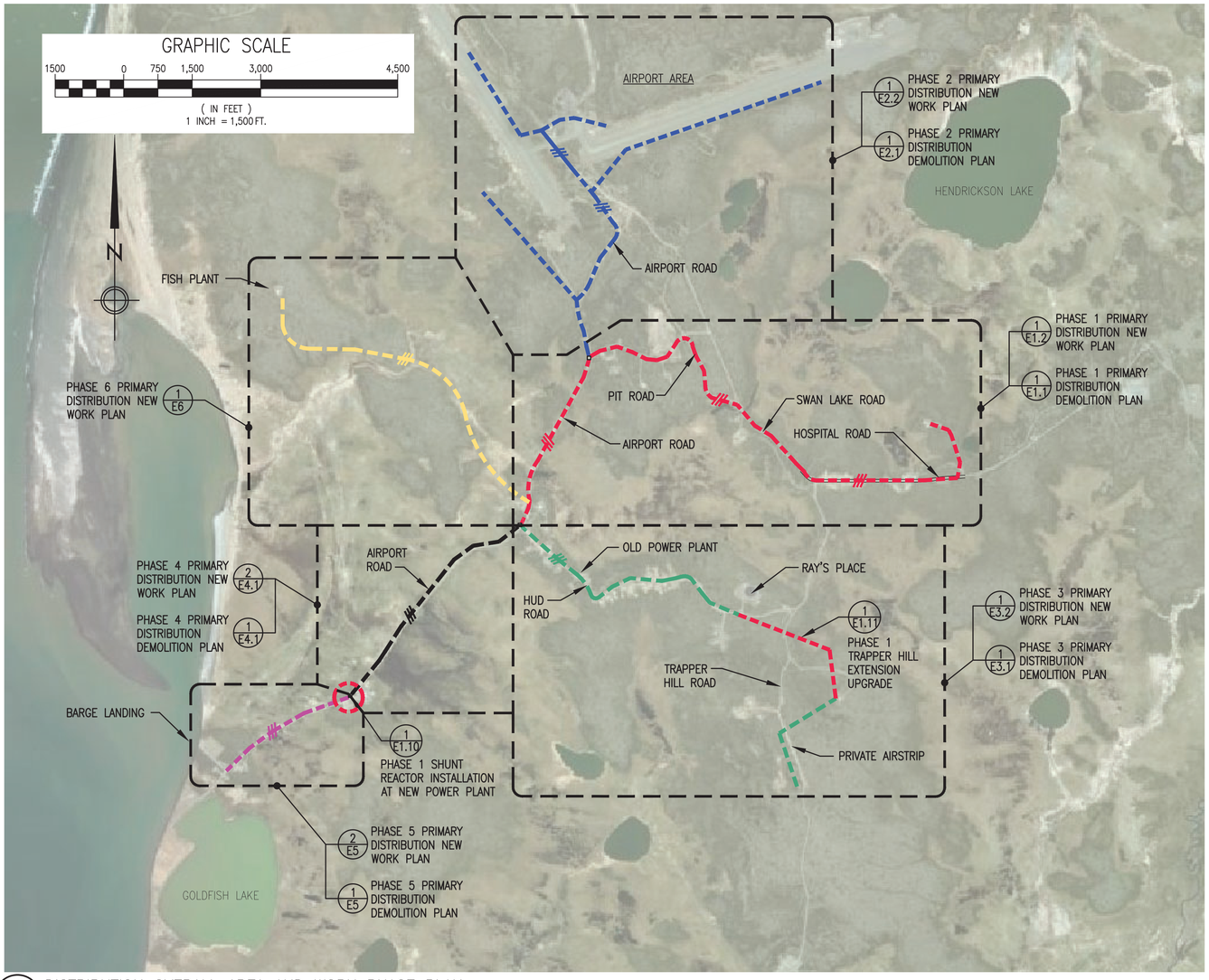
ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE PROJECT

TITLE: COVER SHEET & SCHEDULE OF DRAWINGS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E0 | SHEET: E0.0 OF 6
PROJECT NUMBER:



1 E0.0 DISTRIBUTION OVERALL AREA AND WORK PHASE PLAN
1"=1,500'

PLAN SYMBOL LEGEND

# TR–X^a–X^b	NEW PADMOUNT TRANSFORMER, ID AND KVA INDICATED
# XFMR #	EXISTING PADMOUNT TRANSFORMER, ID AND KVA INDICATED
SC–X^a–X^b	NEW PRIMARY SECTIONALIZING CABINET, THREE–PHASE OR SINGLE–PHASE AS INDICATED ON ONE–LINE DIAGRAMS
SC#	EXISITNG PRIMARY SECTIONALIZING CABINET
## R–X^a–X^b	600VAC PADMOUNT REACTOR, KVAR INDICATED
PED–X^a–X^b	SECONDARY SERVICE POWER PEDESTAL
## R	7.2 KV PADMOUNT REACTOR. KVA SIZE NOTED.

NEW EQUIPMENT NUMBERING SYSTEM:

X^a – VICINITY: AN = AIRPORT ROAD NORTH
AS = AIRPORT ROAD SOUTH
P = PIT ROAD BRANCH
H = HUD ROAD BRANCH
DOT = AIRPORT PROPERTY
S = SCHOOL PROPERTY
PP = NEW POWER PLANT AREA
FP = FISH PROCESSING PLANT AREA

X^b – SEQUENTIAL EQUIPMENT NUMBER IDENTIFIER: 1,2,3...

	GROUND
	STREET LIGHT
	EXISTING UNDERGROUND PRIMARY CONDUCTOR TO BE REMOVED FROM SERVICE
- - - - - - - -	BURIED 15 KV PRIMARY JCN CIC
—— — —— — ——	BURIED 600V UD CIC
– – // – – –	THREE PHASE POWER

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
AIC	AMPERES INTERRUPTING CURRENT
ARC	ALUMINUM RIGID CONDUIT
AWG	AMERICAN WIRE GAGE
BCU	BARE COPPER
C	CONDUIT
CIC	CABLE IN CONDUIT
CKT	CIRCUIT
CT	CURRENT TRANSFORMER
CU	COPPER
DIA	DIAMETER
DN	DOWN
EA	EACH
EL	ELEVATION
FT	FEET
G, GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
HDPE	HIGH DENSITY POLYETHYLENE
HPS	HIGH PRESSURE SODIUM
HZ	HERTZ
JCN	JACKETED CONCENTRIC NEUTRAL
KVA	KILOVOLT–AMPERES
LTF	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LTG	LIGHTING
MCM	THOUSAND CIRCULAR MILS
M	METER
MAX	MAXIMUM
MIN	MINIMUM
N	NEUTRAL
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRIC
P	POLE
PED	SECONDARY SERVICE PEDESTAL
PDS	PRIMARY DISTRIBUTION SWITCHGEAR
PH	PHASE
PVC	POLYVINYL CHLORIDE
R	SHUNT REACTOR
SC	SECTIONALIZING CABINET
SCC	SHORT–CIRCUIT CURRENT
TR	TRANSFORMER
TYP	TYPICAL
UD	UNDERGROUND DISTRIBUTION
V	VOLTS
VAC	VOLTS–ALTERNATING CURRENT
WP	WEATHERPROOF
W	WITH
XLP	CROSS LINKED POLYETHYLENE

WORK PHASE COLOR SCEDULE

- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4
- PHASE 5
- PHASE 6

ONE–LINE SYMBOL LEGEND

≫	200 AMP 15 KV LOAD BREAK ELBOW INSTALLED ON LOAD BREAK BUSHING INSERT
≻	200 AMP 15 KV LOAD BREAK ELBOW BUSHING INSERT
SC–X^a–X^b #ø	FIBERGLASS SECTIONALIZING CABINET WITH 200 AMP, 15 KV RATED LOAD BREAK JUNCTIONS, THREE–PHASE OR SINGLE–PHASE AS INDICATED. INSTALL ON FIBERGLASS GROUND SLEEVE AS SPECIFIED. UNLESS OTHERWISE NOTED, INSTALL A MINUMUM OF 15 FEET BACK FROM TRAVELED WAY.
TR–X^a–X^b	PAD MOUNTED, OIL–FILLED TRANSFORMER WITH LOOP FEED LOAD BREAK INSERTS. KVA RATING, PRIMARY VOLTAGE, SECONDARY VOLTAGE, AND PHASE AS INDICATED ON THE SCHEDULE. INSTALL ON FIBERGLASS GROUND SLEEVE AS SPECIFIED. UNLESS OTHERWISE NOTED, INSTALL A MINUMUM OF 15 FEET BACK FROM TRAVELED WAY.

PHASE 3-6 WORK NOT INCLUDED IN THIS PROJECT AND SHOWN HERE FOR REFERENCE ONLY.

REVISED DRAWING ISSUED MARCH 2022

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
2	REVISED ROUTE FOR TRAPPER HILL EXTENSION	3/14/22	CWV
1	UPDATED BID DOCUMENTS	9/10/21	CWV

ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: DISTIBUTION OVERALL AREA AND WORK PHASE PLAN, LEGEND & ABBREVIATIONS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E0 | SHEET: E0.1 OF 6
PROJECT NUMBER:

GENERAL DEMOLITION NOTES

1. COORDINATE ALL DEMOLITION WITH NEW WORK TO MINIMIZE OUTAGES.
2. THE EXACT LOCATION OF EXISTING UNDERGROUND PRIMARY AND SECONDARY CONDUCTORS IS UNKNOWN. LOCATE ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION. ANY EXISTING SECONDARY CONDUCTOR REMAINING IN SERVICE THAT IS DAMAGED DURING EXCAVATION SHALL BE REPAIRED USING A CAST RESIN SPLICE WITH COMPRESSION CONNECTOR SUITABLE FOR ALUMINUM CONDUCTORS AND SPECIFICALLY SIZED FOR THE CONDUCTOR. ANY EXISTING PRIMARY CONDUCTOR REMAINING IN SERVICE THAT IS DAMAGED SHALL BE REPAIRED IF NECESSARY TO MAINTAIN ELECTRICAL SERVICE TO THE AFFECTED CUSTOMERS. PRIMARY SPLICES SHALL BE HEAT SHRINK TYPE MEDIUM VOLTAGE SPLICE KITS SUITABLE FOR JACKETED CONCENTRIC NEUTRAL CABLE. SPLICES SHALL USE A LONG BARREL COMPRESSION TYPE SPLICE WITH APPROPRIATE RATCHET TYPE COMPRESSION TOOL. ANY NEW PRIMARY OR SECONDARY CONDUCTOR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN ITS ENTIRETY.
3. UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EXISTING PRIMARY SECTIONALIZING CABINETS, TRANSFORMERS, SECONDARY PEDESTALS, METER BASES, AND ALL OTHER EXISTING DISTRIBUTION EQUIPMENT SHALL BE TAKEN OUT OF SERVICE AND REMOVED IN THEIR ENTIRETY AS NOTED ON PLANS AND STAKING SHEETS. AT EXISTING SECTIONALIZING CABINETS AND TRANSFORMERS, REMOVE ALL ALL GROUND SLEEVES, GROUND PADS, MARKING POLES, OR PIPES.
4. WHEN EXISTING DISTRIBUTION EQUIPMENT IS REMOVED, ANY HOLE OR VOID LEFT AS A RESULT SHALL BE FILLED AND COMPACTED TO MATCH THE SURROUNDING AREA.
5. ALL EXISTING PRIMARY AND SECONDARY CONDUCTORS SHALL BE TAKEN OUT OF SERVICE UNLESS SPECIFICALLY INDICATED OTHERWISE. ALL EXISTING CONDUCTORS TAKEN OUT OF SERVICE SHALL BE REMOVED FROM THE PRIMARY SECTIONALIZING CABINET, TRANSFORMER OR SECONDARY SERVICE PEDESTAL TO A POINT BELOW GRADE AND ABANDONED. ALL BELOW GRADE ABANDONED CONDUCTORS SHALL BE FULLY DE-ENERGIZED. ALL ABOVE GRADE CONDUCTORS SHALL BE REMOVED IN THEIR ENTIRETY.
6. ALL EXISTING STREET LIGHTS SHALL BE TAKEN OUT OF SERVICE AND REMOVED IN THEIR ENTIRETY. ADJACENT MARKER POLES SHALL BE REMOVED. REMOVE CONDUCTORS BACK TO THE SOURCE IN THEIR ENTIRETY.
7. ALL TRANSFORMERS, PRIMARY SECTIONALIZING CABINETS, AND SECONDARY PEDESTALS TAKEN OUT OF SERVICE SHALL BE MOVED TO A LOCAL STORAGE DESTINATION DESIGNATED BY THE ELECTRIC UTILITY AND TURNED OVER TO THE UTILITY. ITEMS SHALL BE PLACED IN A NEAT AND ORDERLY MANNER AS DIRECTED BY THE UTILITY.
8. ALL OTHER EQUIPMENT, CONDUCTORS, AND MATERIALS TAKEN OUT OF SERVICE SHALL BE TAKEN FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL STATE AND FEDERAL REGULATIONS.

GENERAL NEW WORK NOTES

1. ALL INSTALLATION SHALL MEET THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE (NESC), ANSI C2, INCLUDING ANY STATE OF ALASKA AMENDMENTS. RUS BULLETIN 1728F-806 (RD-GD-2018-93), SPECIFICATIONS AND DRAWINGS FOR UNDERGROUND ELECTRIC DISTRIBUTION SHALL BE FOLLOWED UNLESS SPECIFICALLY MODIFIED BY THESE DRAWINGS OR SPECIFICATIONS. ALL MATERIAL SHALL BE RUS APPROVED. OBTAIN COPIES OF THE RUS BULLETINS AND MAINTAIN COPIES OF THE BULLETINS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES.
2. THE DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY SHOW ALL FEATURES OF THE REQUIRED WORK. PROVIDE ALL EQUIPMENT AND MATERIALS REQUIRED FOR A COMPLETE SYSTEM. VERIFY EXISTING FIELD CONDITIONS PRIOR TO STARTING CONSTRUCTION. IMMEDIATELY CONTACT THE ALASKA ENERGY AUTHORITY FOR CLARIFICATION OF QUESTIONABLE ITEMS OR APPARENT CONFLICTS.
3. THE DRAWINGS, STAKING SHEETS, AND SPECIFICATIONS ARE COMPLEMENTARY. WHAT IS SHOWN ON ONE IS BINDING WHETHER SHOWN OR SPECIFIED IN THE OTHER OR NOT. FAILURE TO CHECK THE DRAWINGS, STAKING SHEETS, AND SPECIFICATIONS WILL NOT BE GROUNDS FOR A CHANGE ORDER IF ADDITIONAL EQUIPMENT OR MATERIAL, OR REWORK OF THE SYSTEM IS REQUIRED. THE ALASKA ENERGY AUTHORITY SHALL BE RESPONSIBLE FOR ALL REVIEW AND FINAL ACCEPTANCE OF WORK. DEFECTS OR DEFICIENCIES SHALL BE CORRECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS, STAKING SHEETS, AND SPECIFICATIONS.
4. MAINTAIN A SET OF DRAWINGS ON SITE AT ALL TIMES THAT CLEARLY SHOW ALL AS-BUILT INFORMATION OR ANY DEVIATIONS FROM THE CONTRACT DRAWINGS OR STAKING SHEETS. PROVIDE ONE SET OF THE AS-BUILT DRAWINGS TO THE ALASKA ENERGY AUTHORITY AS SPECIFIED.
5. EXISTING POWER UTILITY AND TELEPHONE UTILITY LOCATIONS HAVE NOT BEEN FIELD VERIFIED AND ARE NOT SHOWN ON NEW WORK PLANS. CONTRACTOR SHALL CONTACT GCI FOR EXISTING TELEPHONE UTILITY LOCATES, AND THE CITY OF PORT HEIDEN FOR POWER LOCATES. THE CONTRACTOR SHALL BEAR ALL RESPONSIBILITY FOR IDENTIFYING AND LOCATING ALL UTILITIES INCLUDING, BUT NOT LIMITED TO, ELECTRIC POWER, TELEPHONE, CABLE TELEVISION, FUEL, WATER, AND SEWER, THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO LOCATE EXISTING UTILITIES.
6. SEE ONE-LINE DIAGRAMS FOR CABLE TYPES. ALL PRIMARY CONDUCTOR SHALL BE INSTALLED IN CONTINUOUS RUNS WITHOUT BURIED SPLICES. ALL NEW CONTRACTOR FURNISHED PRIMARY CABLE SHALL BE MINIMUM 2,500' LENGTH. THE EXISTING OWNER FURNISHED CABLE IS IN 2,500' LONG SPOOLS. SEE NOTES ON THE DRAWINGS AND SPECIFICATION 01 64 20 FOR ADDITIONAL DETAILS.
7. ALL NEW PRIMARY CONDUCTOR, SECTIONALIZING CABINETS, AND TRANSFORMERS SHALL BE INSTALLED WITHIN EXISTING ROAD RIGHT-OF-WAYS AND/OR UTILITY EASEMENTS. SEE SPECIFICATION 01 71 23.16.
8. ALL NEW SECTIONALIZING CABINETS AND TRANSFORMERS SHALL BE LOCATED A MINIMUM OF 15' FROM DRIVEN EDGE OF ROAD SURFACE, SEE DETAILS. NOTE THAT DISTRIBUTION EQUIPMENT IS SHOWN ON THE DRAWINGS IN APPROXIMATE LOCATION. COORDINATE FINAL LOCATIONS WITH THE ELECTRIC UTILITY PRIOR TO FINAL PLACEMENT.
9. NEW PRIMARY CONDUCTORS SHALL BE LOCATED WITHIN THE ROAD SURFACE EXCEPT WHERE ROUTED OVER TO EQUIPMENT OR WHERE SPECIFICALLY INDICATED OTHERWISE, SEE DETAILS. TO THE MAXIMUM EXTENT POSSIBLE INSTALL NEW CONDUCTORS ON OPPOSITE SIDE OF ROAD FROM EXISTING CONDUCTORS.
10. REPAIR ALL ROADS AND DRIVES AFTER CABLE IS INSTALLED. PLACE FILL IN MAX. 8" LIFTS AND COMPACT TO 95% OF MAXIMUM DENSITY. TOP 16" OF ROAD/DRIVE FILL TO BE SANDY GRAVEL WITHOUT CLAY OR ORGANICS THAT IS SUITABLE FOR ROAD CONSTRUCTION. BLEND TOP OF FILL WITH ADJACENT SURFACES AND SLOPE FOR PROPER DRAINAGE.
11. WHERE IT IS NECESSARY TO CROSS EXISTING IN-SERVICE POWER CABLE, IF EXISTING CABLE IS BURIED MINIMUM 5' DEEP, CROSS NEW POWER CABLE ABOVE (4' MIN BURY DEPTH PLUS 1' CLEAR). IF EXISTING CABLE IS BURIED LESS THAN 5' BELOW GRADE, TRENCH AND INSTALL NEW CABLES BELOW EXISTING.
12. CLEARLY LABEL EACH CIRCUIT COMING INTO THE SECTIONALIZING CABINET TO ENSURE THAT THE CIRCUITS OR PHASES WILL NOT BE CROSSED. SEE SPECIFICATIONS.
13. ONLY PRIMARY CONDUCTORS AND EQUIPMENT ARE SHOWN ON AREA PLANS FOR CLARITY. SEE ENLARGED PLANS FOR COMPLETE PRIMARY AND SECONDARY INSTALLATION.
14. SECONDARY FEEDER CONDUCTORS ARE SHOWN DIAGRAMMATIC AND DO NOT INDICATE ACTUAL BURIED ROUTING. FIELD ROUTE AS REQUIRED TO MINIMIZE TRENCHING AND AVOID OTHER UTILITIES AND OBSTACLES. BURY SECONDARY CONDUCTORS IN SAME TRENCH AS PRIMARY CONDUCTORS WHEREVER POSSIBLE TO ELIMINATE UNNECESSARY TRENCHING.
15. UNLESS OTHERWISE INDICATED, ALL SERVICES ARE EXISTING. KEEP EXISTING SERVICES ENERGIZED UNTIL IMMEDIATELY PRIOR TO CHANGE OVER TO NEW SYSTEM.
16. ALL EXISTING BUILDING METER BASES AND SERVICES SHALL BE REPLACED WITH NEW UNLESS OTHERWISE INDICATED.
17. ALL EXISTING TYPE M1 SINGLE PHASE AMPY PREPAY METERS SHALL BE REINSTALLED IN NEW METER BASES.
18. ALL TYPE M2, M3. AND M4 METERS SHOWN SHALL BE NEW AND INSTALLED IN NEW METER BASES.
19. CONTACT THE UTILITY TO CONFIRM THAT SERVICE TO EACH BUILDING IS REQUIRED PRIOR TO REPLACEMENT. WHERE DIRECTED BY THE UTILITY, REMOVE EXISTING SERVICE EQUIPMENT FROM BUILDING AND ABANDON EXISTING SERVICE CONDUCTORS BELOW GRADE AT BUILDINGS SCHEDULED TO BE DEMOLISHED OR ABANDONED.
20. IN EACH LIGHT POLE JUNCTION BOX, IDENTIFY THE CIRCUIT WITH THE TRANSFORMER OR SECONDARY PEDESTAL WHICH PROVIDES THE POWER SUPPLY.

TRANSFORMER SCHEDULE

TRANSFORMER NUMBER		CAPACITY	PRIMARY VOLTAGE	PH	SECONDARY VOLTAGE	PH
PHASE 1 TRANSFORMERS						
TR-AN-2	NEW	25kVA	7.2kV	1Ø	240/120V	1Ø
TR-AN-6	NEW	25kVA	7.2kV	1Ø	240/120V	1Ø
TR-P-1A	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-P-1B	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-P-4	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-P-5	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-P-7A	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-P-7B	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-P-9	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
PHASE 2 TRANSFORMERS						
TR-DOT-2	NEW	25kVA	7.2kV	1Ø	240/120V	1Ø
TR-DOT-4	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-DOT-6	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-DOT-7	NEW	25kVA	12.47kV DELTA	1Ø	240/120V	1Ø
TR-DOT-8	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-DOT-9	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-DOT-10	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
PHASE 3 TRANSFORMERS						
TR-H-1	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-2A	EXIST (2019)	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-2B	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-3A	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-3B	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-4A	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-4B	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-5A	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-5B	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-6	NEW	25kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-8A	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-8B	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-9	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
TR-H-10	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
PHASE 4 TRANSFORMERS						
TR-S-1	NEW	45kVA	12.47/7.2kV	3Ø	208/120V	3Ø
TR-AS-3	NEW	25kVA	7.2kV	1Ø	240/120V	1Ø
TR-PP-1A	EXIST (2019)	225kVA	12.47/7.2kV	3Ø	480/277V	3Ø
TR-PP-1B	EXIST (2019)	45kVA	12.47/7.2kV	3Ø	208/120V	3Ø
TR-PP-2	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
PHASE 5 TRANSFORMERS						
TR-AS-5	NEW	15kVA	7.2kV	1Ø	240/120V	1Ø
PHASE 6 TRANSFORMERS						
TR-FP-3	NEW	45kVA	12.47/7.2kV	3Ø	208/120V	3Ø

METER SCHEDULE

SYMBOL	SERVICE DESCRIPTION	METER & BASE SPECIFICATION
(M1)	240/120V SINGLE PHASE SERVICE FROM SINGLE PHASE TRANSFORMER	240V/120 SINGLE PHASE, THREE-WIRE, 100 AMP 4-JAW NEMA 3R METER BASE, UNDERGROUND SERVICE, 100 AMP 2-POLE MAIN CIRCUIT BREAKER. REINSTALL EXISTING AMPY METER, AS INDICATED ON THE DRAWINGS. METER BASE SHALL BE EITHER 304L OR 316 STAINLESS STEEL.
(M2)	240/120V SINGLE PHASE SERVICE FROM SINGLE PHASE TRANSFORMER	240V/120 SINGLE PHASE, THREE-WIRE, 100 AMP 4-JAW NEMA 3R METER BASE, UNDERGROUND SERVICE, 100 AMP 2-POLE MAIN CIRCUIT BREAKER. REINSTALL EXISTING FORM 2S METER AS INDICATED ON PLANS. METER BASE SHALL BE EITHER 304L OR 316 STAINLESS STEEL.
(M3)	240/120V SINGLE PHASE SERVICE FROM SINGLE PHASE TRANSFORMER	240V/120 SINGLE PHASE, THREE-WIRE, 200 AMP 4-JAW NEMA 3R METER BASE, UNDERGROUND SERVICE, 2-125 AMP 2-POLE MAIN CIRCUIT BREAKERS. INSTALL NEW FORM 2S, 200A METER. METER BASE SHALL BE EITHER 304L OR 316 STAINLESS STEEL.
(M4)	240/120V SINGLE PHASE SERVICE FROM SINGLE PHASE TRANSFORMER	240V/120 SINGLE PHASE, THREE-WIRE, 200 AMP 4-JAW NEMA 3R METER BASE, UNDERGROUND SERVICE, 1-125 AMP 2-POLE MAIN CIRCUIT BREAKER. INSTALL NEW FORM 2S, 200A METER. METER BASE SHALL BE EITHER 304L OR 316 STAINLESS STEEL.

PROVIDE ALL PHASE 1 TRANSFORMERS PLUS TR-DOT-2 UNDER BASE BID.

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PROVIDE TRANSFORMER TR-H-8B UNDER ADDITIVE ALTERNATE #2.

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PROVIDE TRANSFORMERS TR-DOT-4 AND TR-DOT-6 UNDER ADDITIVE ALTERNATE #4.

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PROVIDE TRANSFORMERS TR-DOT-7, TR-DOT-8, TR-DOT-9, AND TR-DOT-10 UNDER ADDITIVE ALTERNATE #5.

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PROVIDE THREE (3) SPARE TRANSFORMERS EQUIVALENT TO TR-H-8B UNDER ADDITIVE ALTERNATE #6.

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ALL OTHER PHASE 3-6 TRANSFORMERS NOT INCLUDED IN THIS PROJECT AND SHOWN HERE FOR REFERENCE ONLY.

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: SCHEDULES & NOTES

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E0 | SHEET: E0.2 OF 6
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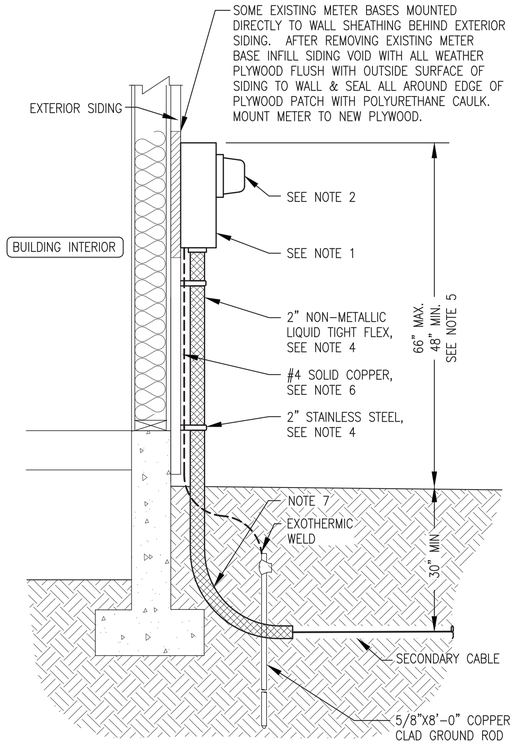
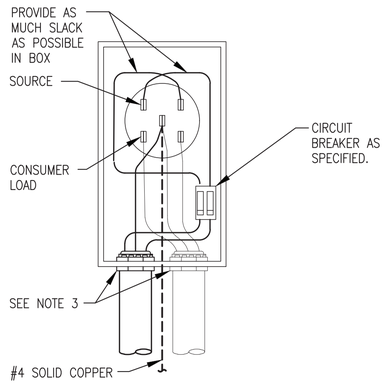


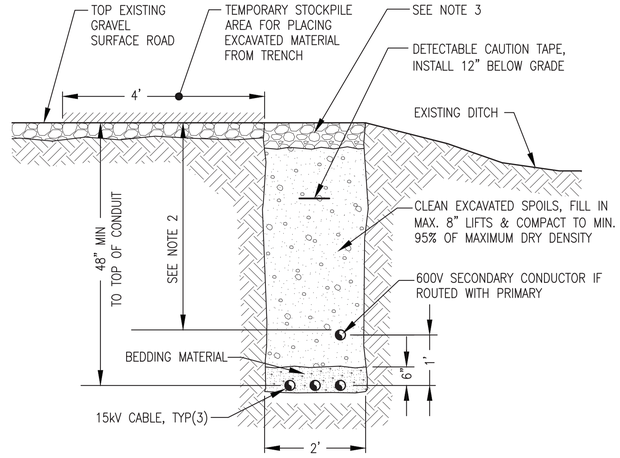


METER BASE DETAIL

NOTES:

1. FORM 2S WITH NO DISCONNECT SHOWN. PROVIDE CIRCUIT BREAKERS WHERE SPECIFIED. INSTALL METER BASE AS INDICATED ON PLAN DRAWINGS.
2. INSTALL NEW METER AS INDICATED ON THE PLAN DRAWINGS.
3. INSTALL WATER TIGHT HUB ON ALL CONDUIT CONNECTIONS TO THE METER BASE. TERMINATE LIQUID TIGHT NON-METALLIC FLEXIBLE CONDUIT WITH A GASKETED STRAIGHT FLEX CONNECTOR. APPLY GENEROUS AMOUNT OF PETROLATUM PASTE PRIMER WITH RAG OR GLOVE AROUND ALL NEW CONDUIT ENTRANCE KNOCKOUTS PRIOR TO INSTALLING CONDUIT HUB/FITTING.
4. INSTALL 2-HOLE STAINLESS STEEL CONDUIT STRAP. INSTALL STRAPS WITH STAINLESS STEEL BOLTS. ON WOOD SIDING USE LAG BOLTS. ON BRICK OR MASONRY STRUCTURES USE PLASTIC INSERTS.
5. MAXIMUM HEIGHT SHOWN. ACTUAL HEIGHT SHALL BE AS REQUIRED FOR THE SPECIFIC INSTALLATION.
6. ATTACH TO STRUCTURE WITH PVC STRAPS.
7. CURVE LIQUID TIGHT FLEXIBLE CONDUIT UP. KEEP RADIUS BELOW GRADE. DO NOT BEND CONDUIT LESS THAN A 12" RADIUS.
8. METER AMPACITY SHALL BE AS INDICATED.
9. RUS CONSTRUCTION UNITS MAY NOT BE COMPLETE. SEE STAKING SHEET FOR COMPLETE UNIT NUMBERS.

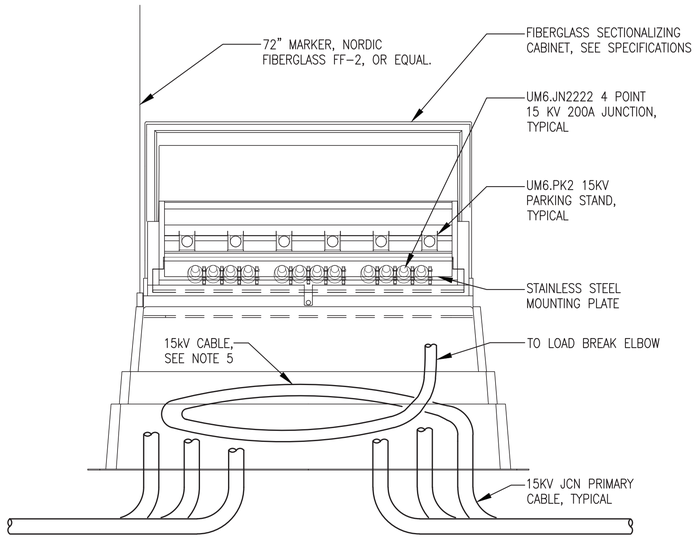
1 E0.3 RUS UNIT UQ1.1Ba METER INSTALLATION
NO SCALE



NOTES:

1. MAINTAIN MINIMUM 12 INCHES OF SEPARATION BETWEEN 600V AND 15 KV CABLE AT ALL TIMES. SEPARATION CAN BE VERTICAL OR HORIZONTAL.
2. 600V CABLE SHALL HAVE A MINIMUM OF 36" COVER AT ALL LOCATIONS.
3. WHERE CABLES CROSS ROAD PROVIDE MIN 8" THICK LAYER OF ROAD SURFACE MATERIAL (GRAVEL) AT TOP, COMPACT THOROUGHLY, MOUND 2"±, AND BLEND INTO ADJACENT ROAD SURFACE.

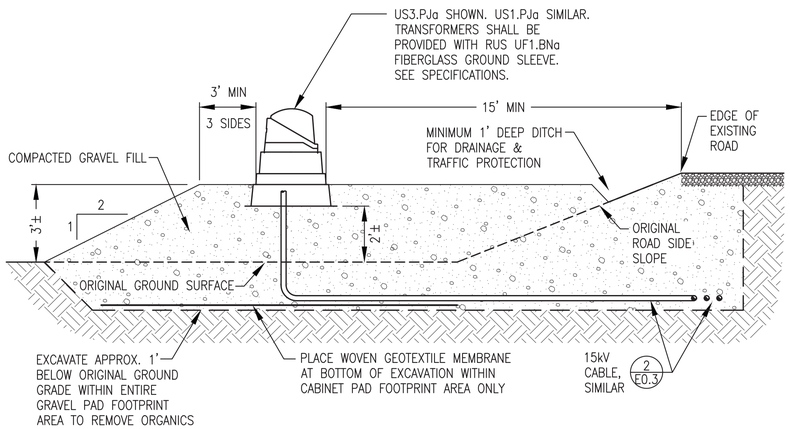
2 E0.3 CABLE INSTALLATION
NO SCALE



NOTES:

1. INSTALL GROUNDING LUG, HUBBELL/FARGO CC-207P ON EACH MOUNTING BOARD AND CONNECT TO GROUND.
2. SEE RUS US3.PJ FOR ADDITIONAL GROUNDING NOTES.
3. INSTALL DRAIN WIRE ON EACH UM6.C2.
4. ENSURE THAT ALL METAL COMPONENTS ARE GROUNDED.
5. PROVIDE SLACK IN THE CABLE TO THE MAXIMUM EXTENT PRACTICABLE. IF POSSIBLE, PROVIDE ONE FULL LOOP AROUND THE BASE OF THE GROUND SLEEVE OR SECTIONALIZING CABINET. SEE SPECIFICATIONS.
6. INSTALL EQUIPMENT NAME ON OUTSIDE OF CABINET. SEE SPECIFICATIONS.
7. RUS CONSTRUCTION UNITS MAY NOT BE COMPLETE. SEE STAKING SHEET FOR COMPLETE UNIT NUMBERS.

3 E0.3 TYPICAL RUS US3.PJa PRIMARY SECTIONALIZING CABINET INSTALLATION
NO SCALE
(THREE-PHASE SHOWN, SINGLE-PHASE SIMILAR)



TYPICAL ROAD-SIDE INSTALLATION

4 E0.3 TYPICAL TRANSFORMER/SECTIONALIZING CABINET INSTALLATION
NO SCALE

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

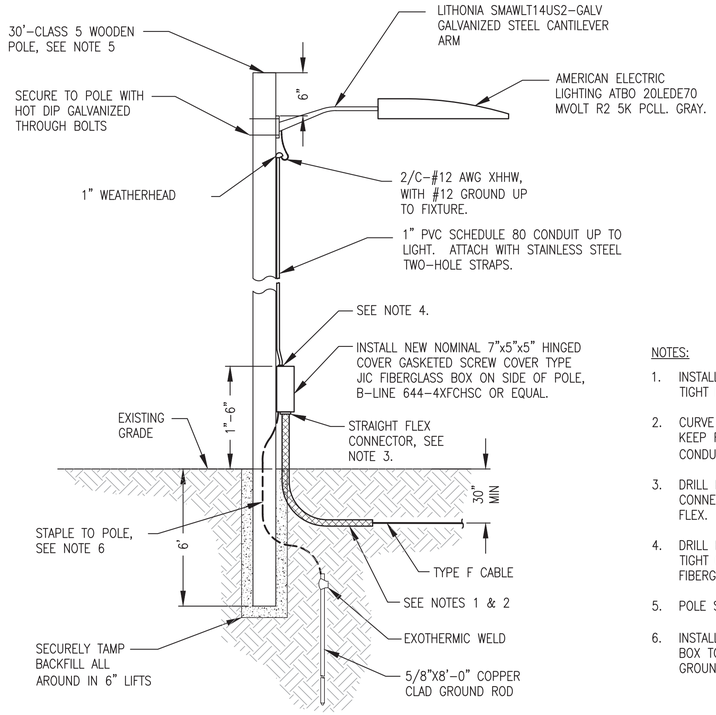
ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

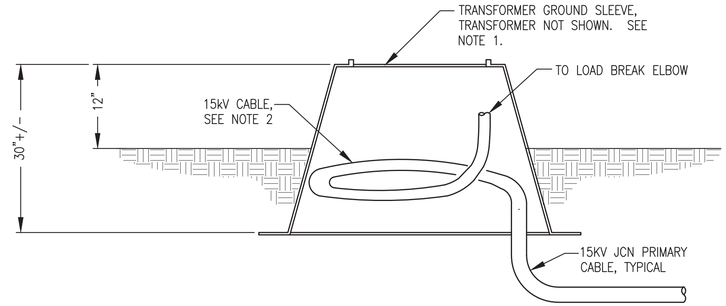
DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E0 | SHEET: E0.3 OF 6
PROJECT NUMBER:



NOTES:

1. INSTALL CABLE IN 1–1/4" NON–METALLIC LIQUID TIGHT FLEX.
2. CURVE LIQUID TIGHT FLEXIBLE CONDUIT UP. KEEP RADIUS BELOW GRADE. DO NOT BEND CONDUIT LESS THAN A 12" RADIUS.
3. DRILL FIBERGLASS BOX AND INSTALL STRAIGHT CONNECTOR FOR NON–METALLIC LIQUID TIGHT FLEX.
4. DRILL FIBERGLASS BOX AND INSTALL WATER TIGHT CONNECTION FOR TRANSITION FROM FIBERGLASS BOX TO PVC CONDUIT.
5. POLE SHALL BE INSTALLED PLUMB.
6. INSTALL #6AWG BARE COPPER WIRE FROM JIC BOX TO GROUND ROD. CONNECT LIGHT FIXTURE GROUND TO GROUND CONDUCTOR IN BOX.

1 / E0.4 TYPICAL STREET LIGHT INSTALLATION
NO SCALE



NOTES:

1. THREE–PHASE OR SINGLE–PHASE AS INDICATED ON THE DRAWINGS AND STAKING SHEETS.
2. PROVIDE SLACK IN THE CABLE TO THE MAXIMUM EXTENT PRACTICABLE. IF POSSIBLE, PROVIDE ONE FULL LOOP AROUND THE BASE OF THE GROUND SLEEVE. SEE SPECIFICATIONS.
3. INSTALL DRAIN WIRE TO EACH UM6.EL2 AND UM6.C2.
4. SEE RUS CONSTRUCTION UNITS UH1.1 FOR ADDITIONAL REQUIREMENTS.
5. RUS CONSTRUCTION UNITS MAY NOT BE COMPLETE. SEE STAKING SHEET FOR COMPLETE UNIT NUMBERS.

2 / E0.4 TYPICAL RUS UFI.BNa TRANSFORMER GROUND SLEEVE INSTALLATION
NO SCALE

REVISED DRAWING ISSUED SEPTEMBER 2021

PROVIDE ALL STREET LIGHTS UNDER ADDITIVE ALTERNATE #3

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

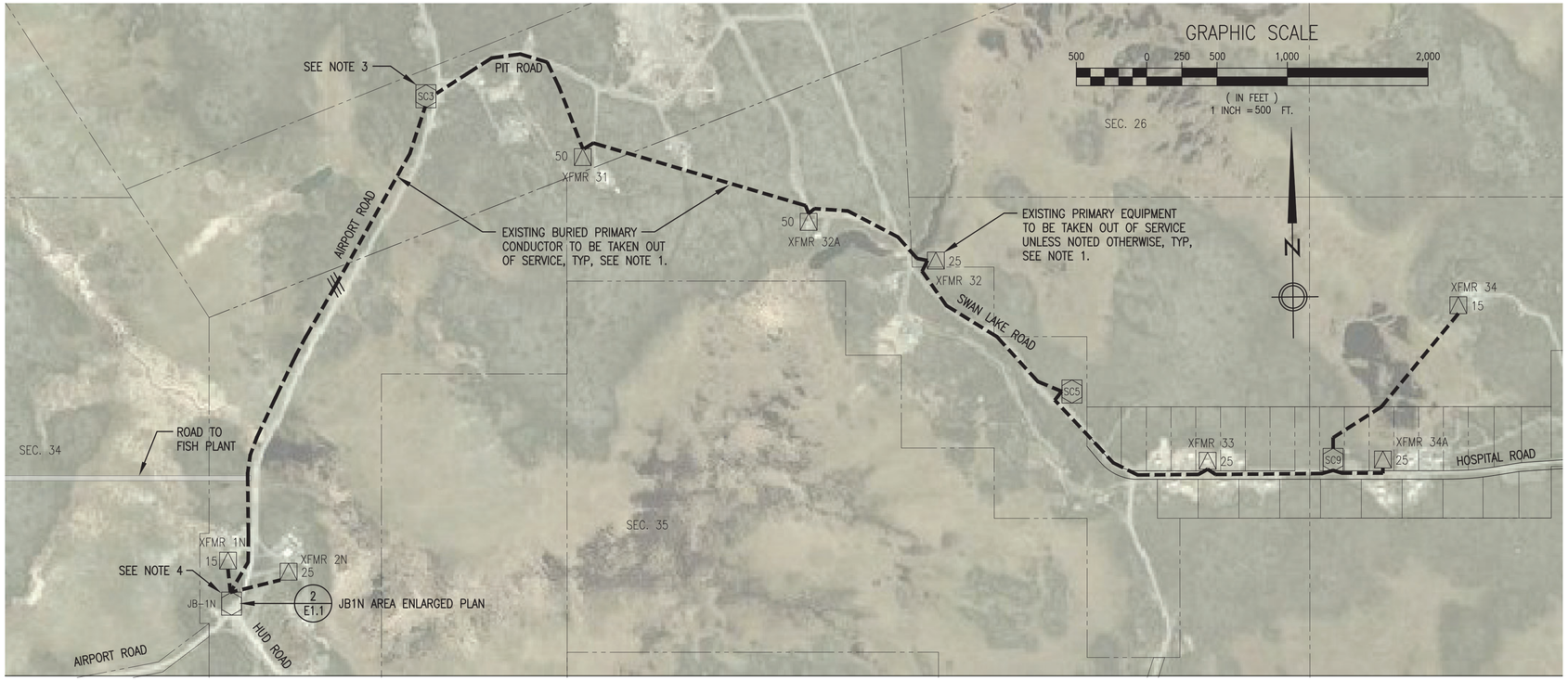
ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

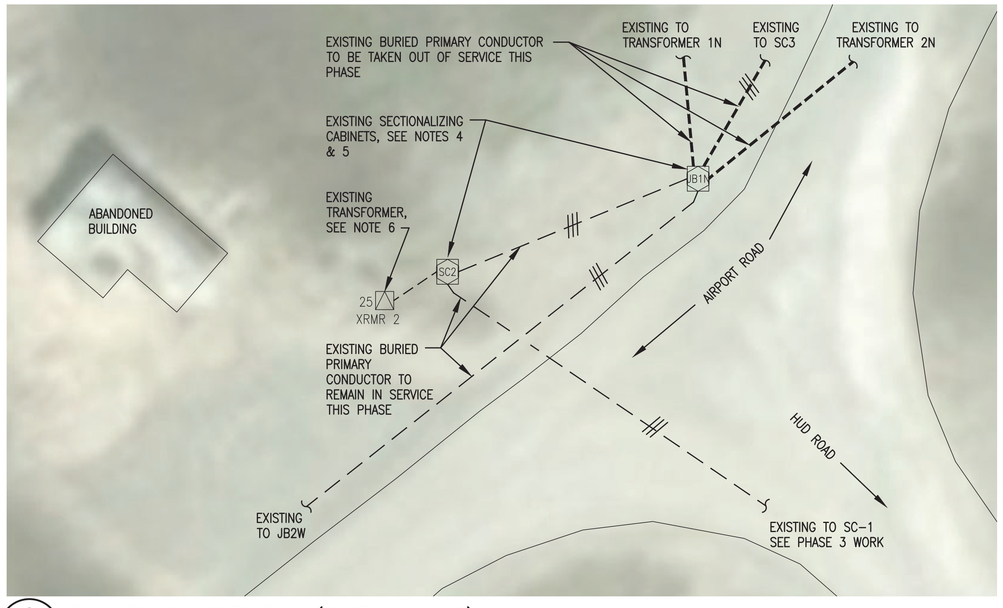
DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E0 | SHEET: E0.4 OF 6
PROJECT NUMBER:



NOTES:

1. PHASE 1 WORK AREA ONLY SHOWS EXISTING PRIMARY DISTRIBUTION FOR CLARITY. ALL EXISTING PHASE 1 AREA PRIMARY AND SECONDARY DISTRIBUTION EQUIPMENT SHALL BE TAKEN OUT OF SERVICE AND REMOVED IN THEIR ENTIRETY UNLESS SPECIFICALLY INDICATED OTHERWISE. ALL EXISTING PHASE 1 AREA PRIMARY AND SECONDARY CONDUCTOR SHALL BE TAKEN OUT OF SERVICE AND REMOVED ABOVE GRADE UNLESS SPECIFICALLY INDICATED OTHERWISE. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR ALL GENERAL DEMOLITION REQUIREMENTS.
2. THE APPROXIMATE QUANTITY OF EXISTING DISTRIBUTION EQUIPMENT TO BE REMOVED FROM SERVICE IN PHASE 1 AREA INCLUDES, BUT IS NOT LIMITED TO:
   - 11 EACH SINGLE PHASE PAD MOUNT SERVICE TRANSFORMERS
   - 25 EACH SINGLE PHASE SERVICE CONNECTIONS WITH METER BASES
   - 8 EACH SECONDARY PEDESTALS
   - 11 EACH PRIMARY SECTIONALIZING CABINETS
   - 3 EACH STREET LIGHTS
3. EXISTING SECTIONALIZING CABINET SC3 TO REMAIN IN SERVICE UNTIL COMPLETION OF PHASE 2 WORK. PROVIDE JUMPER TO NEW PRIMARY DISTRIBUTION AS INDICATED IN PHASE 1 NEW WORK PLAN.
4. EXISTING SECTIONALIZING CABINET JB1N TO REMAIN IN SERVICE UNTIL COMPLETION OF PHASE 3 WORK.
5. EXISTING SECTIONALIZING CABINET SC-2 TO REMAIN IN SERVICE THIS PHASE WORK.
6. TAKE EXISTING TRANSFORMER OUT OF SERVICE AND REMOVE IN ITS ENTIRETY. REMOVE PRIMARY CABLE TO SC2 IN ITS ENTIRETY.

1 E1.1 PHASE 1 PRIMARY DISTRIBUTION DEMOLITION PLAN & NOTES
1"=500'



2 E1.1 JB1N AREA ENLARGED PLAN (EXISTING LAYOUT)
1"=15'

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

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1	UPDATED BID DOCUMENTS	9/10/21	CWV

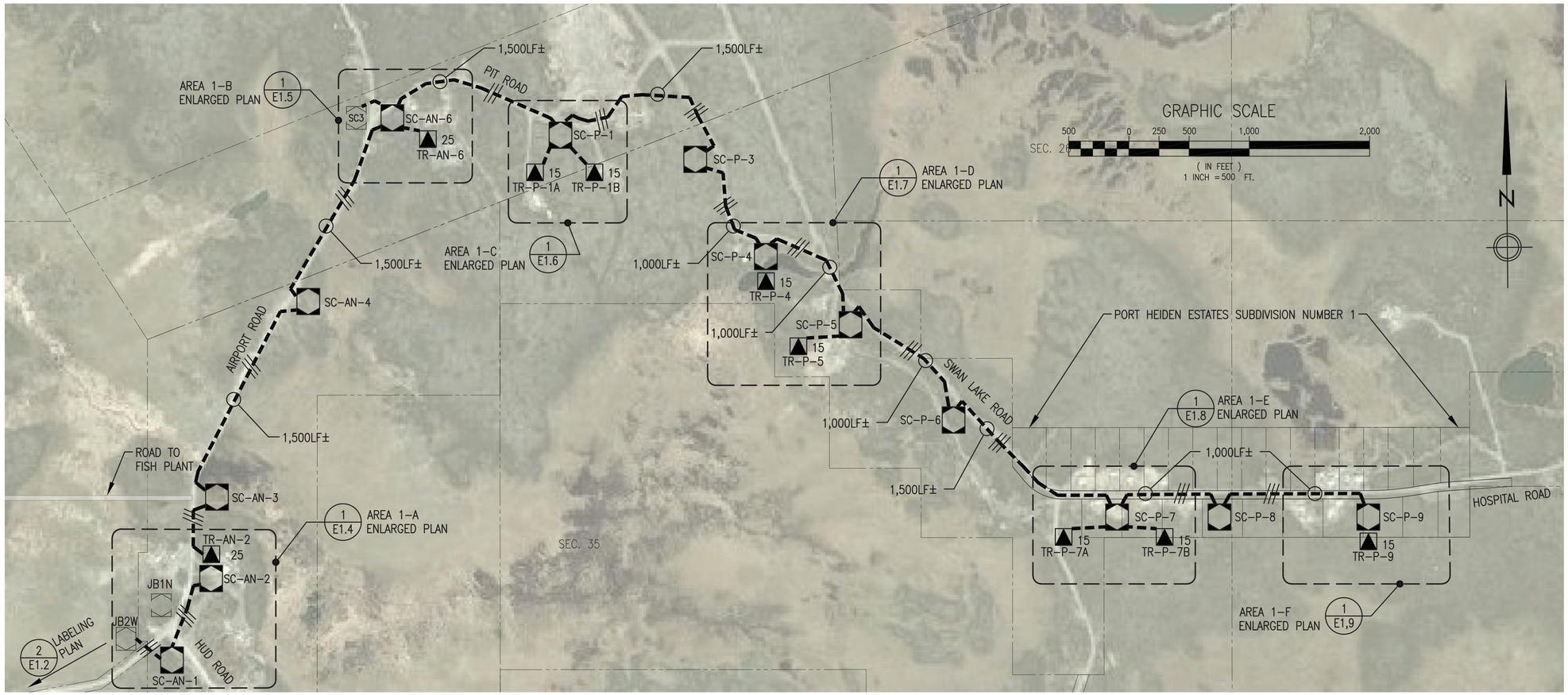
ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

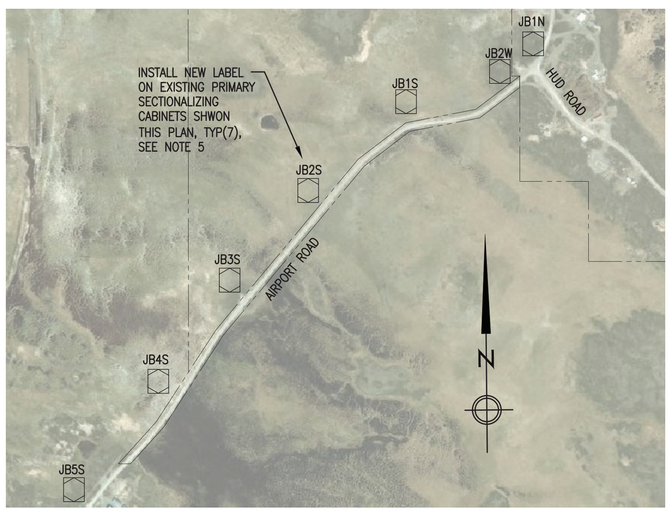
TITLE: PHASE 1 AREA OVERALL DEMOLITION PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E1 | SHEET: E1.1 OF 6
PROJECT NUMBER:



1 E1.2 PHASE 1 PRIMARY DISTRIBUTION NEW WORK PLAN & NOTES
1"=500'



2 E1.2 EXISTING PRIMARY SECTIONALIZING CABINET LABELING PLAN
NO SCALE

NOTES:

1. SEE ONE-LINE DIAGRAM SHEET E1.3 FOR DISTRIBUTION CABLE TYPES.
2. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.
3. EXISTING EQUIPMENT TO REMAIN IN TEMPORARY OR PERMANENT SERVICE SHOWN IN LIGHT-DASHED LINES. SEE ONE-LINE DIAGRAM AND ENLARGED PLANS FOR DETAILS.
4. FOR CLARITY THE OVERALL NEW WORK PLAN ONLY SHOWS PRIMARY DISTRIBUTION. SEE ENLARGED AREA PLANS FOR ALL SECONDARY DISTRIBUTION AND ADDITIONAL DETAILS.
5. PROVIDE IDENTIFICATION NUMBERS ON THE OUTSIDE OF 7 EACH EXISTING SECTIONALIZING CABINETS ALONG AIRPORT ROAD BETWEEN HUD ROAD AND NEW POWER PLANT AREA, LOCATION AND NUMBER AS INDICATED ON LABELING PLAN. PROVIDE IDENTIFICATION LABELS AS SPECIFIED. THE EXISTING NUMBERS ARE LOCATED ON THE INSIDE OF THE CABINETS. VERIFY NEW NUMBERS MATCH EXISTING. PROVIDE NEW PADLOCKS TO MATCH ALL NEW WORK.

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SEPTEMBER
2021

STATE OF ALASKA
49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 1 AREA
OVERALL NEW WORK PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

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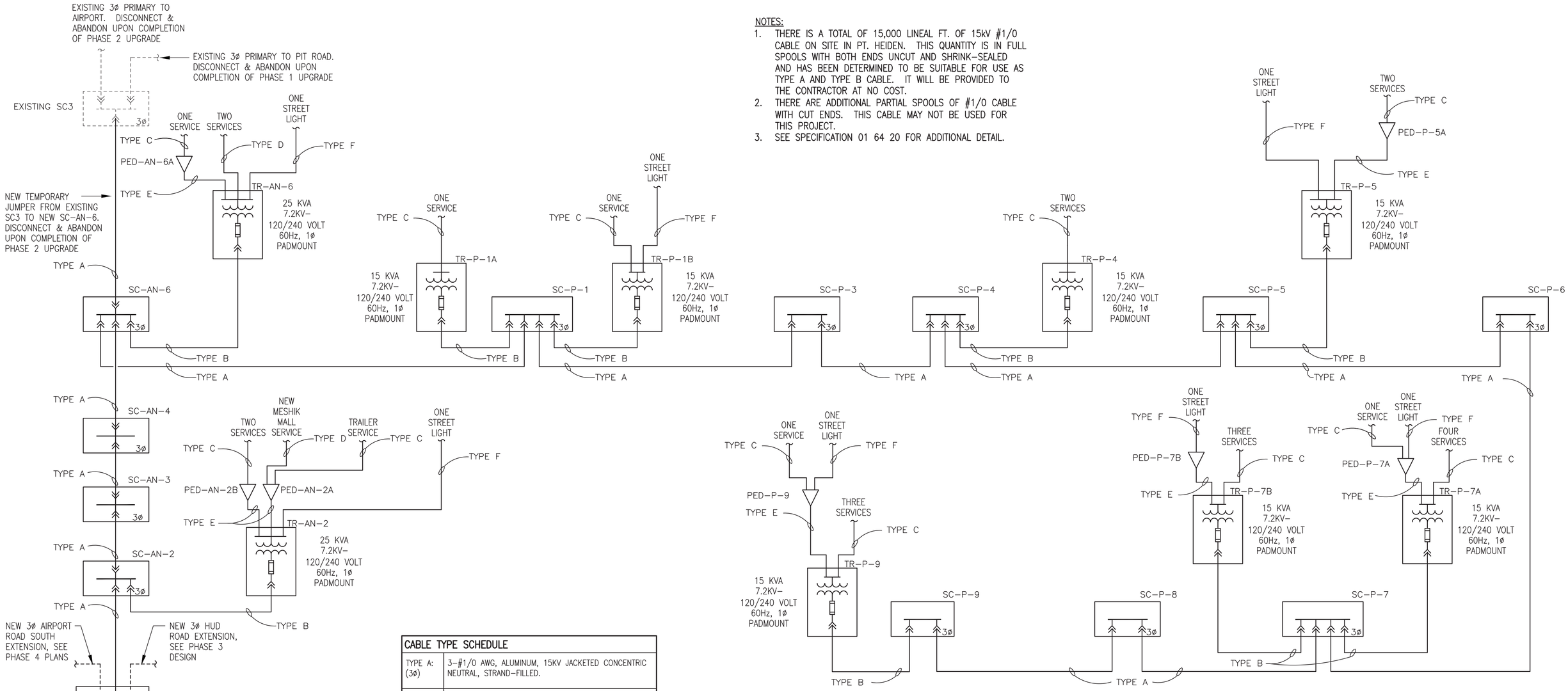
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E1 | SHEET: E1.2 OF 6
PROJECT NUMBER:



NOTES:

1. THERE IS A TOTAL OF 15,000 LINEAL FT. OF 15kV #1/0 CABLE ON SITE IN PT. HEIDEN. THIS QUANTITY IS IN FULL SPOOLS WITH BOTH ENDS UNCUT AND SHRINK–SEALED AND HAS BEEN DETERMINED TO BE SUITABLE FOR USE AS TYPE A AND TYPE B CABLE. IT WILL BE PROVIDED TO THE CONTRACTOR AT NO COST.
2. THERE ARE ADDITIONAL PARTIAL SPOOLS OF #1/0 CABLE WITH CUT ENDS. THIS CABLE MAY NOT BE USED FOR THIS PROJECT.
3. SEE SPECIFICATION 01 64 20 FOR ADDITIONAL DETAIL.

CABLE TYPE SCHEDULE	
TYPE A: (3ø)	3–#1/0 AWG, ALUMINUM, 15KV JACKETED CONCENTRIC NEUTRAL, STRAND–FILLED.
TYPE B: (1ø)	1–#1/0 AWG, ALUMINUM, 15KV JACKETED CONCENTRIC NEUTRAL, STRAND–FILLED
TYPE B2: (1ø)	1–#2 AWG, ALUMINUM, 15KV JACKETED CONCENTRIC NEUTRAL, STRAND–FILLED
TYPE C:	#2 AWG, TRI–PLEX, ALUMINUM, 600 VOLT XLP, UNDERGROUND DISTRIBUTION
TYPE D:	#1/0 AWG, TRI–PLEX, ALUMINUM, 600 VOLT XLP, UNDERGROUND DISTRIBUTION
TYPE E:	#2/0 AWG, TRI–PLEX, ALUMINUM, 600 VOLT XLP, UNDERGROUND DISTRIBUTION
TYPE F:	#8 AWG, DUPLEX, COPPER, 600 VOLT XLP, UNDERGROUND DISTRIBUTION

PROVIDE ALL STREET LIGHTS UNDER ADDITIVE ALTERNATE #3

REVISED DRAWING ISSUED SEPTEMBER 2021

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ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 1 ONE LINE DIAGRAM

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FILE NAME: PTHD DIST E1 | SHEET: E1.3 OF 6
PROJECT NUMBER:

1 / E1.4 AREA 1-A
1"=50'

AREA 1-A GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE-LINE DIAGRAMS FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 1-A SPECIFIC NOTES:

1. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.
2. LOCATE NEW SECONDARY PEDESTAL IN ACCESSIBLE, TRAFFIC-FREE AREA. COORDINATE LOCATION WITH PROPERTY OWNERS AND UTILITY.
3. THE EXISTING STORE METER BASE IS WALL-MOUNTED DIRECTLY BEHIND A COMMUNICATIONS ANTENNA MAST AND IS NOT ACCESSIBLE FOR METER READING OR DISCONNECT. PROVIDE JUNCTION BOX, CONDUIT AND CONDUCTORS AS REQUIRED. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN ACCESSIBLE LOCATION. COORDINATE WITH STORE OWNER FOR FINAL METER BASE LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. PROVIDE TWO SERVICES FROM METER BASE INTO STORE.
4. A SECOND METER BASE IS WALL-MOUNTED TO THE STORE THIS AREA. THIS METER BASE SERVES THE TRAILER HOUSE BEHIND THE STORE THROUGH BURIED CONDUCTORS. LOCATE NEW METER BASE IN SAME LOCATION AND RECONNECT TO EXISTING BURIED CONDUCTORS OR COORDINATE WITH STORE OWNER FOR RELOCATION OF TRAILER HOUSE METER BASE. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3.
5. EXISTING SECTIONALIZING CABINET JB2W TO REMAIN IN SERVICE. SEE PHASE 4 WORK FOR ADDITIVE INFORMATION.

PROVIDE STREET LIGHT AND SECONDARY FROM TRANSFORMER UNDER ADDITIVE ALTERNATE #3

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

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ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 1 AREA 1-A ENLARGED PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

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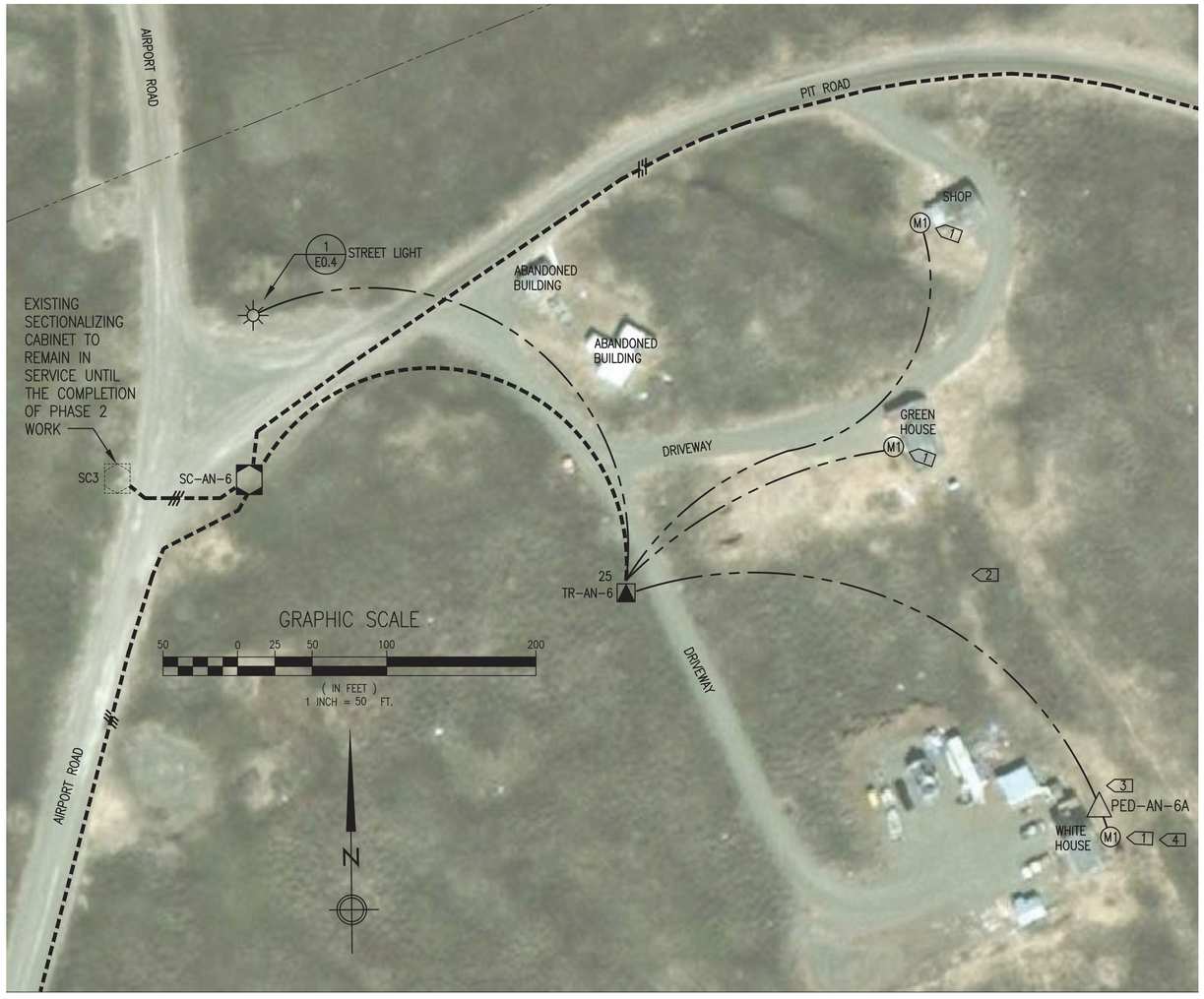
FILE NAME: PTHD DIST E1 | SHEET: E1.4 OF 6
PROJECT NUMBER:



1 / E1.5 AREA 1-B
1"=50'

AREA 1-B GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE-LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 1-B SPECIFIC NOTES:

1. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.
2. REMOVE ALL ABOVE GRADE RUN SECONDARY CABLE THIS AREA.
3. REMOVE EXISTING SECONDARY PEDESTAL THIS AREA.
4. REMOVE ALL SECONDARY CABLE BETWEEN WHITE HOUSE AND LIGHT BLUE HOUSE IN AREA 1-C, SEE AREA PLAN 1/E1.6.

PROVIDE STREET LIGHT AND SECONDARY FROM TRANSFORMER UNDER ADDITIVE ALTERNATE #3

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

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PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 1 AREA 1-B ENLARGED PLAN

Gray Stassel Engineering, Inc.
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DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E1 | SHEET: E1.5 OF 6
PROJECT NUMBER:

1/E1.6 AREA 1-C
1"=50'

AREA 1-C GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE-LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 1-C SPECIFIC NOTES:

1. COORDINATE WITH PROPERTY OWNER FOR PREFERRED LOCATION OF NEW METER BASE. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.
2. EXISTING METER BASE LOCATION. OWNER TO RELOCATE PANELBOARD TO FRONT OF HOUSE TO MATCH NEW METER BASE LOCATION.
3. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.
4. REMOVE ALL SECONDARY CABLE BETWEEN LIGHT BLUE HOUSE AND WHITE HOUSE IN AREA 1-B, SEE AREA PLAN 1/E1.5.

PROVIDE STREET LIGHT AND SECONDARY FROM TRANSFORMER UNDER ADDITIVE ALTERNATE #3

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER CLOIS W. VERSYP EE 7802

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PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 1 AREA 1-C ENLARGED PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

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FILE NAME: PTHD DIST E1 | SHEET: E1.6 OF 6
PROJECT NUMBER:

1 E1.7 AREA 1-D
1"=50'

AREA 1-D GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE-LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 1-D SPECIFIC NOTES:

1. EXISTING CULVERT MAY BE SHALLOW BURIED ACROSS ROAD THIS AREA. INSTALL PRIMARY CIC AS DEEP AS POSSIBLE. INSTALL PRIMARY CIC IN THREE EACH 4" GRC, ONE CONDUIT FOR EACH PHASE.
2. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.
3. REMOVE EXISTING STREET LIGHT THIS AREA

PROVIDE STREET LIGHT AND SECONDARY FROM TRANSFORMER UNDER ADDITIVE ALTERNATE #3

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

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ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 1 AREA 1-D ENLARGED PLAN

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P.O. 111405, Anchorage, AK 99511 (907)349-0100

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FILE NAME: PTHD DIST E1
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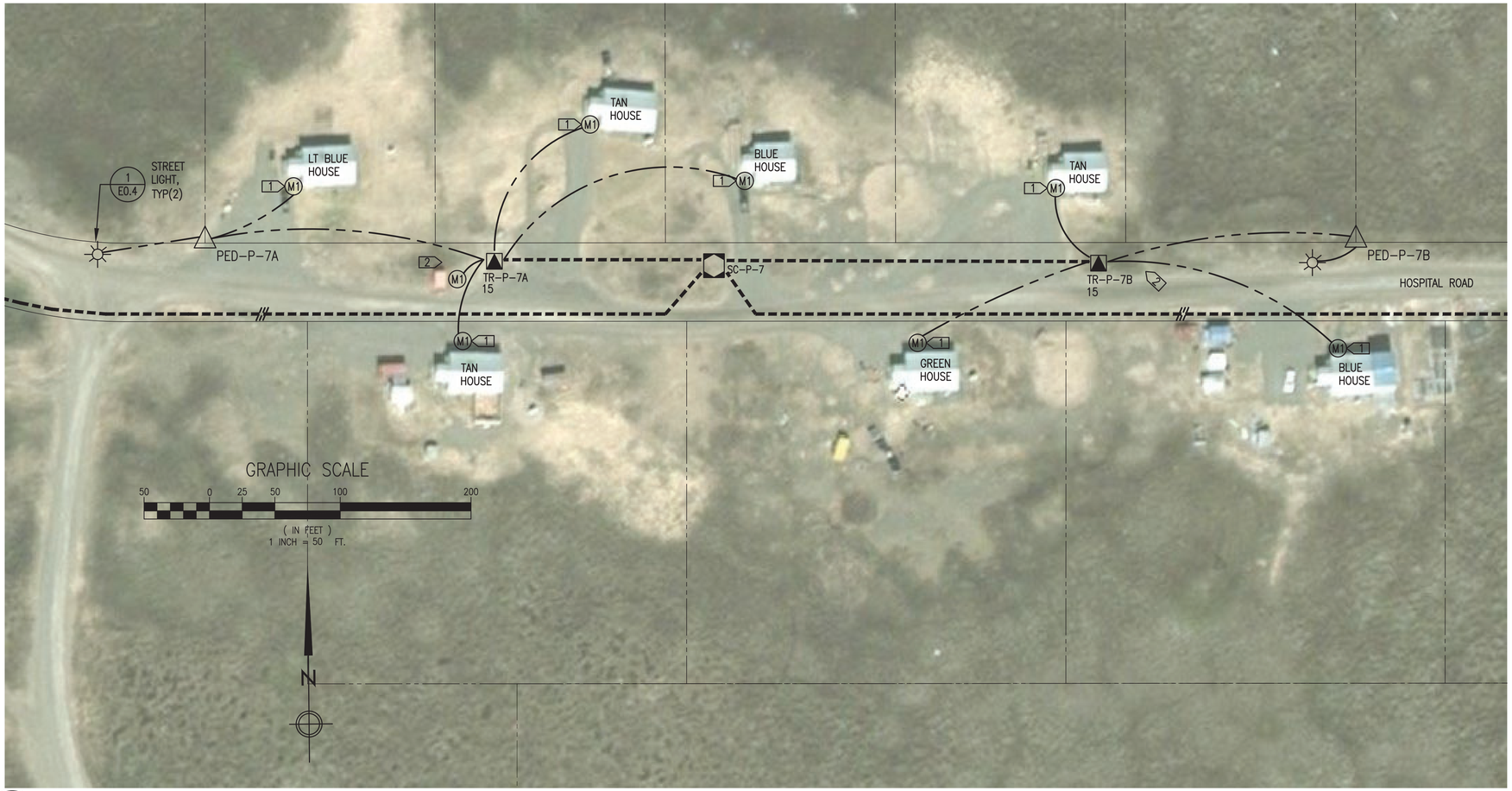
SHEET: E1.7 OF 6



1 E1.8 AREA 1–E
1"=50'

AREA 1–E GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE–LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 1–E SPECIFIC NOTES:

1. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.
2. EXISTING LIGHT POLE AND SECONDARY PEDESTAL TO BE REMOVED.

PROVIDE STREET LIGHTS AND SECONDARY FROM PEDESTALS UNDER ADDITIVE ALTERNATE #3

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

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PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 1 AREA 1–E ENLARGED PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

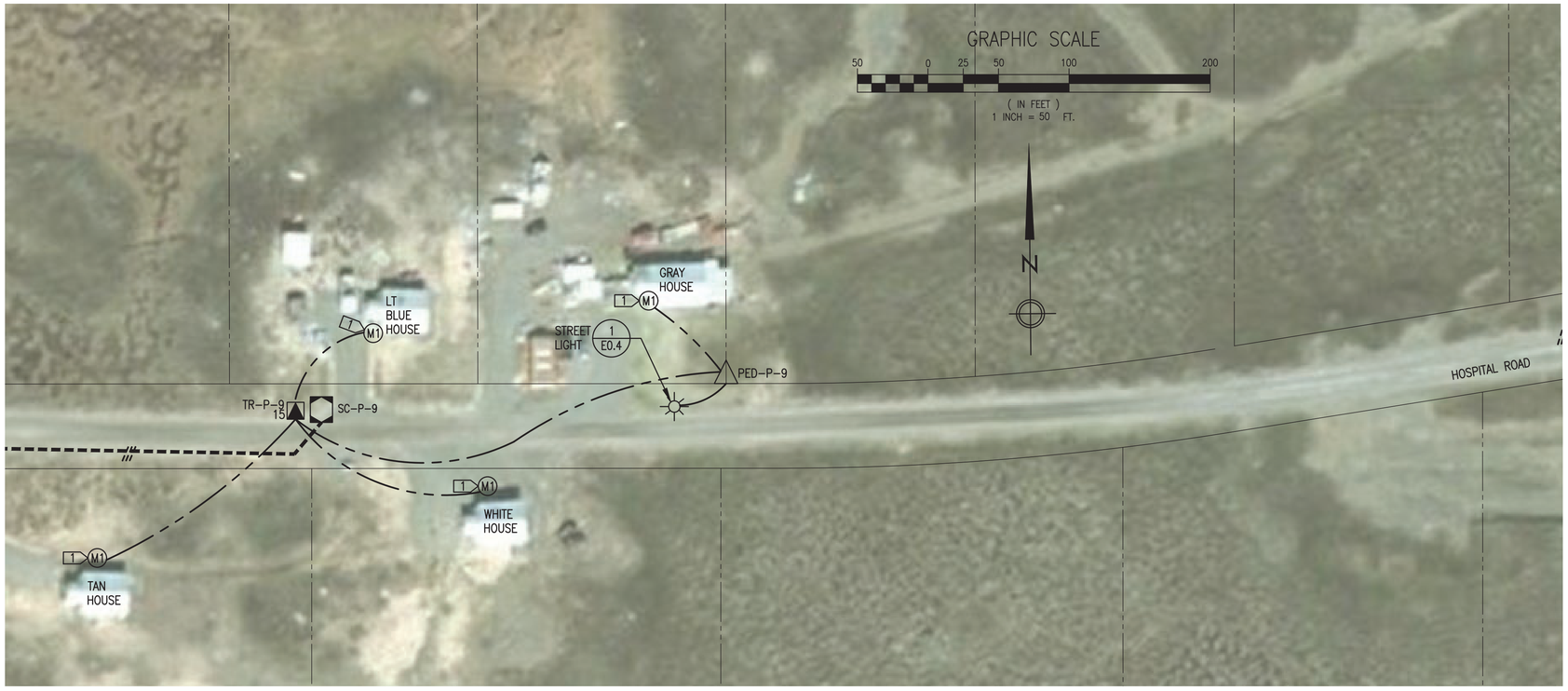
DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E1 | SHEET: E1.8 OF 6
PROJECT NUMBER:

AREA 1–F GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE–LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 1–F SPECIFIC NOTES:

1. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.



1 / E1.9 AREA 1–F
1"=50'

PROVIDE STREET LIGHT AND SECONDARY FROM PEDESTAL UNDER ADDITIVE ALTERNATE #3

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

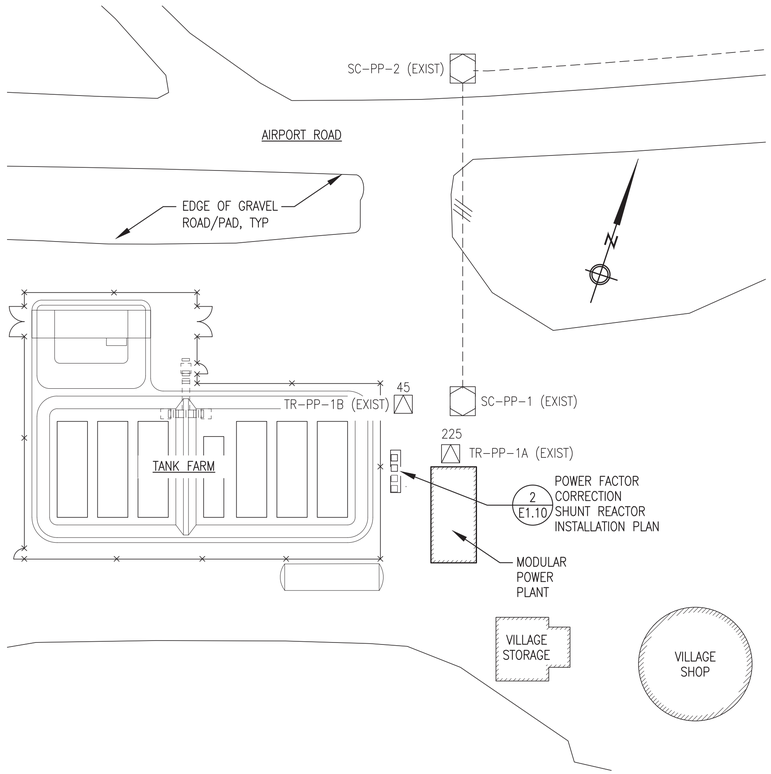
ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

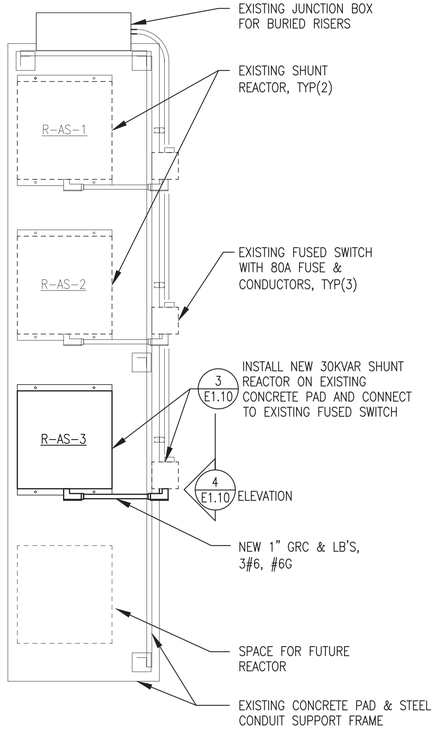
TITLE: PHASE 1 AREA 1–F ENLARGED PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

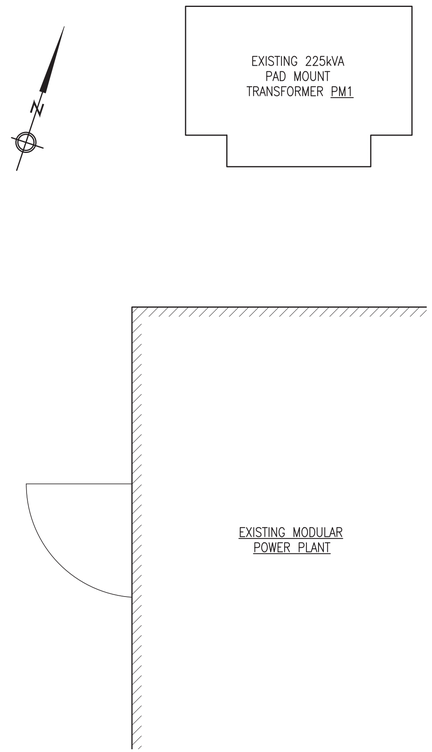
DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E1 | SHEET: E1.9 OF 6
PROJECT NUMBER:



1 E1.10 POWER PLANT AREA VICINITY PLAN
1"=30'

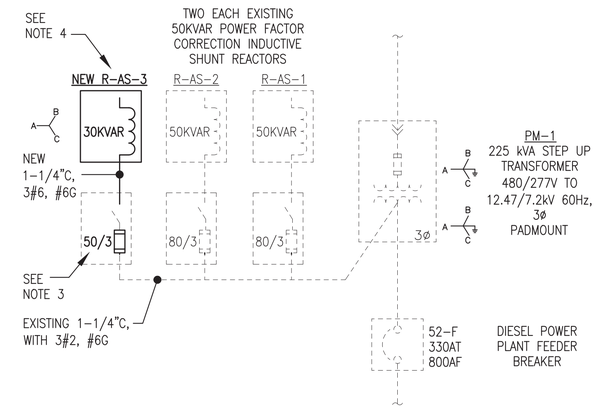


2 E1.10 ENLARGED SHUNT REACTOR INSTALLATION PLAN
1/2"=1'-0"

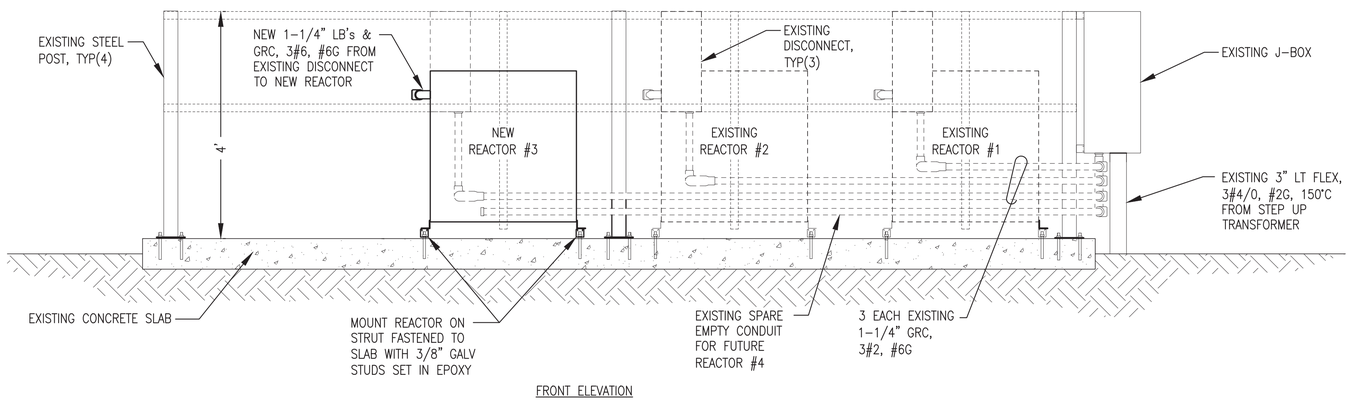


NOTES:

1. ALL EXISTING EQUIPMENT & CONDUCTORS THIS DIAGRAM SHOWN WITH LIGHT-DASHED LINES. ALL NEW WORK SHOWN WITH DARK-SOLID LINES.
2. ALL EXISTING WORK THIS DIAGRAM IS FROM 2019 POWER PLANT PROJECT. NO CHANGES EXCEPT FOR ADDING ONE ADDITIONAL SHUNT REACTOR AS SHOWN.
3. IN THE EXISTING DISCONNECT SWITCH FOR THE NEW REACTOR, REMOVE EXISTING 80A FUSES AND REPLACE WITH 3 EACH 50A 600V TYPE R FUSES.
4. NEW 480V 30 KVAR SHUNT REACTOR, SEE SPECIFICATIONS. INSTALL AS INDICATED AND CONNECT UNGROUNDED WYE.



3 E1.10 SHUNT REACTOR INSTALLATION ONE-LINE DIAGRAM
NO SCALE



FRONT ELEVATION

4 E1.10 SHUNT REACTOR ELEVATION
1"=1'-0"

PROVIDE ALL WORK THIS SHEET UNDER ADDITIVE ALTERNATE #1

NEW DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 1 POWER FACTOR CORRECTION SHUNT REACTOR INSTALLATION PLAN & DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

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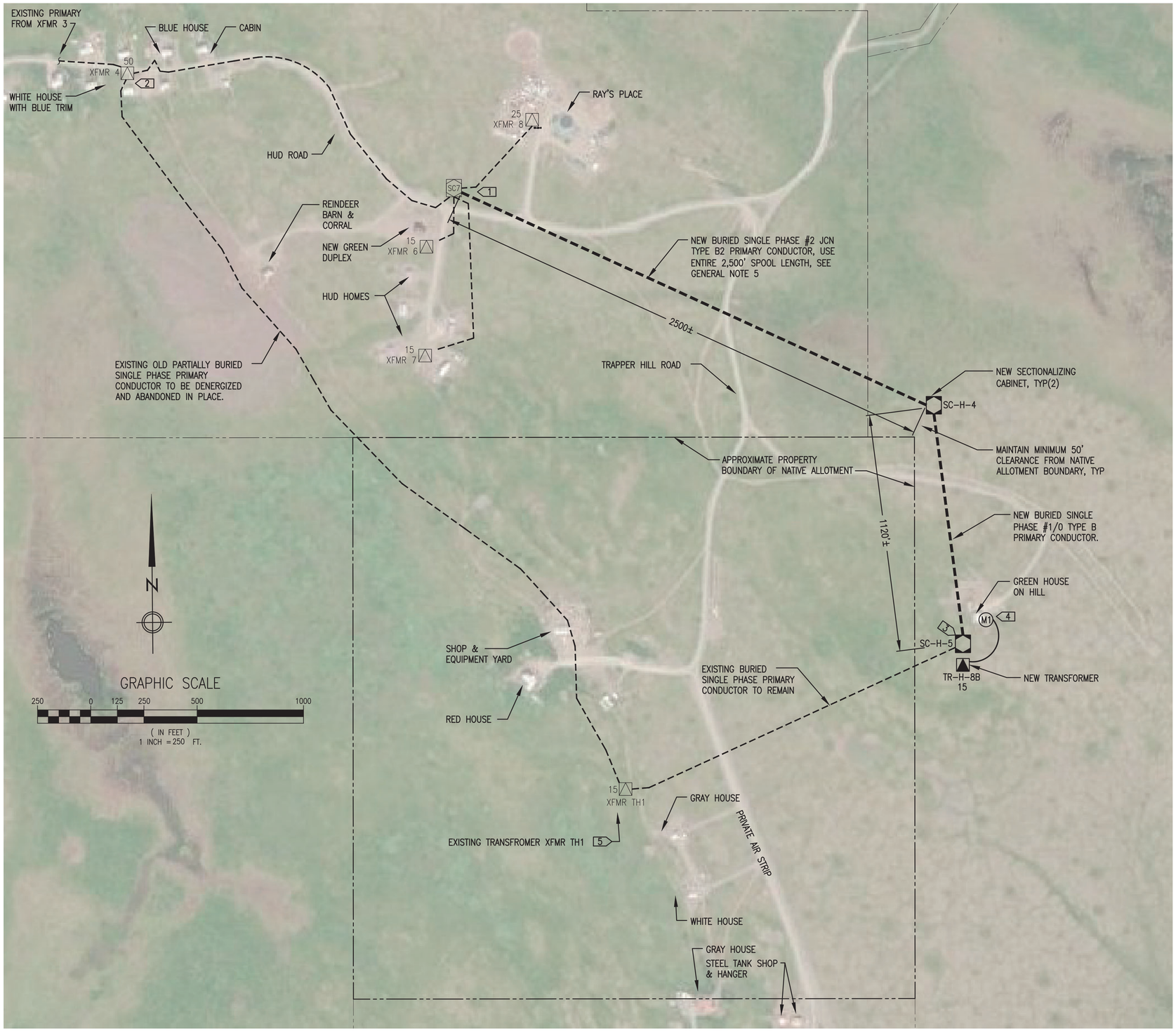
DESIGNED BY: BCG/CWV	DATE: 9/10/21
FILE NAME: PTHD DIST E1	SHEET: E1.10 OF 6
PROJECT NUMBER:	



1 / E1.11 TRAPPER HILL PRIMARY CABLE UPGRADE PLAN
1"=250'

AREA 1-A GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE SHEET E1.3 FOR FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.
4. EXISTING ITEMS TO BE ABANDONED OR DEMOLISHED SHOWN HATCHED.
5. THERE IS A SINGLE 2,500 LONG SPOOL OF 15kV #2 CABLE WITH SEALED END CAPS ON SITE IN PT. HEIDEN. THIS HAS BEEN DETERMINED TO BE SUITABLE FOR USE AS TYPE B2 CABLE. IT WILL BE PROVIDED TO THE CONTRACTOR AT NO COST. SEE SPECIFICATION 01 64 20 FOR ADDITIONAL DETAIL.

AREA 1-A SPECIFIC NOTES:

1. CONNECT NEW SINGLE PHASE PRIMARY CONDUCTOR TO EXISTING PRIMARY SECTIONALIZING CABINET SC7.
2. AFTER COMPLETION OF NEW SINGLE PHASE EXTENSION, DISCONNECT OLD PRIMARY CABLE AT XFMR-4 AND DEMOLISH VISIBLE EXISTING ABOVE GRADE PRIMARY CABLE INSIDE TRANSFORMER ENCLOSURE. ALL EXISTING SECONDARY TO REMAIN.
3. LOCATE NEW SINGLE PHASE PRIMARY SECTIONALIZING CABINET SC-H-5 IN VICINITY OF THE GREEN HOUSE AND DIRECTLY ABOVE THE EXISTING #2 JCN BURIED PRIMARY CABLE. CAREFULLY HAND EXCAVATE AND ROUTE EXISTING CONDUCTOR INTO NEW SECTIONALIZING CABINET. COORDINATE LOCATION WITH PROPERTY OWNERS AND UTILITY. SEE STAKING SHEET FOR PRIMARY CONNECTIONS.
4. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.
5. EXISTING TRANSFORMER XFMR TH1 TO REMAIN IN SERVICE UNDER PHASE 1. DISCONNECT OLD PRIMARY AND DEMOLISH VISIBLE EXISTING ABOVE GRADE PRIMARY CABLE INSIDE TRANSFORMER ENCLOSURE. ALL EXISTING SECONDARY TO REMAIN.

PROVIDE ALL WORK THIS SHEET
UNDER ADDITIVE ALTERNATE #2

REVISED
DRAWING ISSUED
MARCH 2022

REV.	DESCRIPTION	DATE	BY
2	REVISED ROUTE FOR TRAPPER HILL EXTENSION	3/14/22	CWV
1	UPDATED BID DOCUMENTS	9/10/21	CWV

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 1
TRAPPER HILL FEEDER PRIMARY CABLE UPGRADE

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

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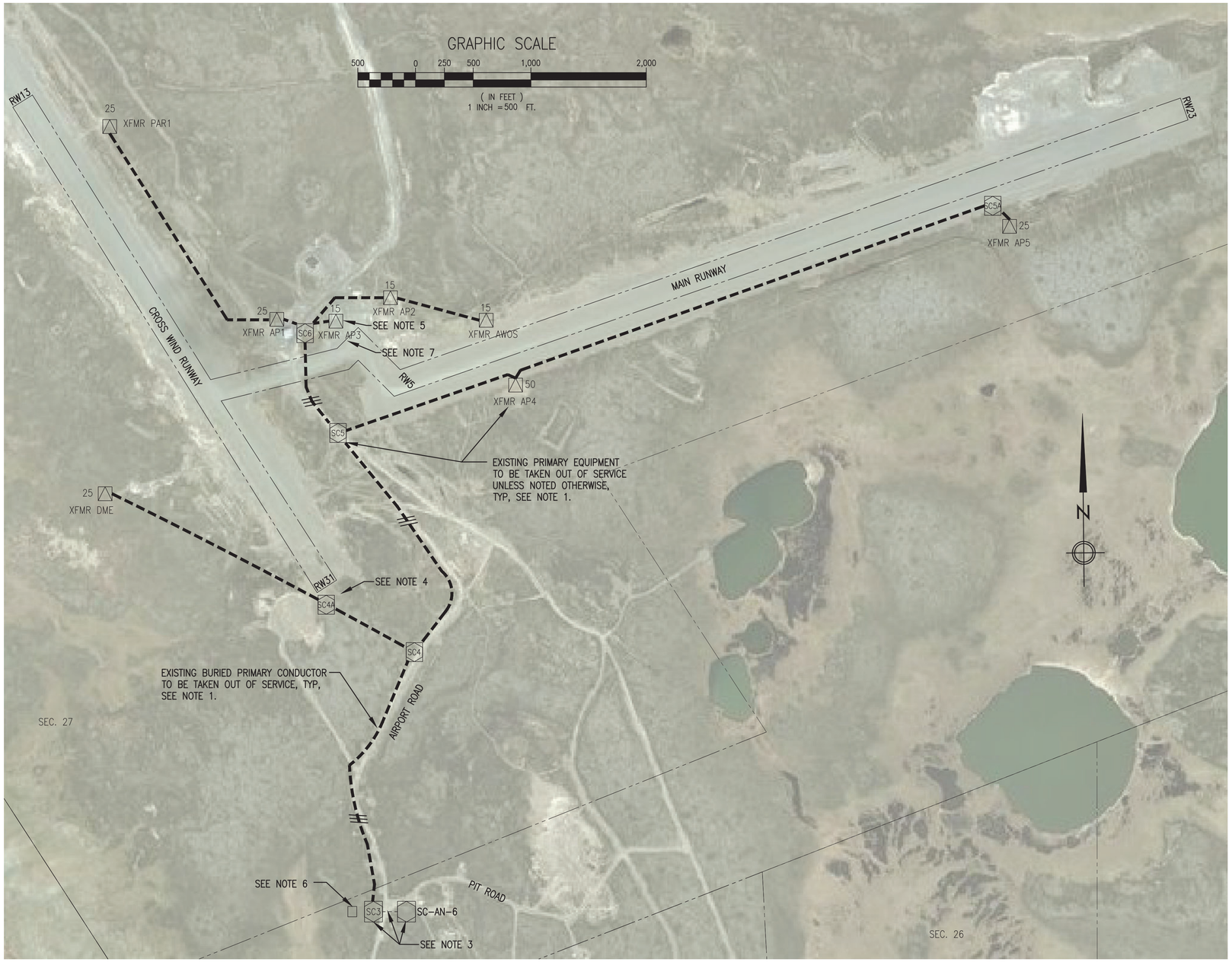
PROJECT NUMBER:



1 E2.1 PHASE 2 PRIMARY DISTRIBUTION DEMOLITION PLAN & NOTES
1"=500'

NOTES:

1. PHASE 2 WORK AREA ONLY SHOWS EXISTING PRIMARY DISTRIBUTION FOR CLARITY. ALL EXISTING PHASE 2 AREA PRIMARY AND SECONDARY DISTRIBUTION EQUIPMENT SHALL BE TAKEN OUT OF SERVICE AND REMOVED IN THEIR ENTIRETY UNLESS SPECIFICALLY INDICATED OTHERWISE. ALL EXISTING PHASE 2 AREA PRIMARY AND SECONDARY CONDUCTOR SHALL BE TAKEN OUT OF SERVICE AND REMOVED ABOVE GRADE UNLESS SPECIFICALLY INDICATED OTHERWISE. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR ALL GENERAL DEMOLITION REQUIREMENTS.
2. THE APPROXIMATE QUANTITY OF EXISTING DISTRIBUTION EQUIPMENT TO BE REMOVED FROM SERVICE IN PHASE 2 AREA INCLUDES BUT IS NOT LIMITED TO:
   - 8 EACH SINGLE PHASE PAD MOUNT SERVICE TRANSFORMERS
   - 10 EACH SINGLE PHASE SERVICE CONNECTIONS WITH METER BASES
   - 6 EACH PRIMARY SECTIONALIZING CABINETS
3. EXISTING SECTIONALIZING CABINET SC3 WITH JUMPER TO SECTIONALIZING CABINET SC-AN-6 TO REMAIN IN SERVICE UNTIL COMPLETION OF PHASE 2 WORK. AFTER COMPLETION OF PHASE 2 WORK REMOVE JUMPER CONNECTION AND SC3 IN THEIR ENTIRETY. EXISTING SECTIONALIZING CABINET SC-AN-6 INSTALLED UNDER PHASE 1 TO REMAIN.
4. REMOVE EXISTING FIBERGLASS GROUND SLEEVE LOCATED NEAR SC4A IN ITS ENTIRETY.
5. TRANSFORMER AP3 CONSISTS OF A POLE-MOUNT TRANSFORMER INSIDE A FIBERGLASS ENCLOSURE. REMOVE THE ENCLOSURE AND TRANSFORMER IN THEIR ENTIRETY.
6. REMOVE EXISTING GROUND BOX ADJACENT TO SC3 IN ITS ENTIRETY.
7. REMOVE EXISTING SECONDARY PEDESTAL AND EXPOSED CONDUCTORS ON NORTH SIDE OF FUEL DISPENSING AREA NEAR CONCRETE APRON IN THEIR ENTIRETY.

SEE SHEET E2.2 FOR LOCATION OF NEW PRIMARY SECTIONALIZING CABINET SC-DOT-3 (BETWEEN EXISTING SC-4 AND SC-5).

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UNDER BASE BID DEMOLISH EVERYTHING SOUTH OF SC-DOT-3. PROTECT EXISTING PRIMARY SERVING THE NORTHWEST AND EAST AREAS FOR RECONNECTION TO SC-DOT-3.

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UNDER ADDITIVE ALTERNATE #4 DEMOLISH EVERYTHING EAST OF SC-DOT-3. EXISTING PRIMARY SERVING THE NORTHWEST AREA TO REMAIN CONNECTED TO SC-DOT-3

.

UNDER ADDITIVE ALTERNATE #5 DEMOLISH EVERYTHING NORTHWEST OF SC-DOT-3.

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

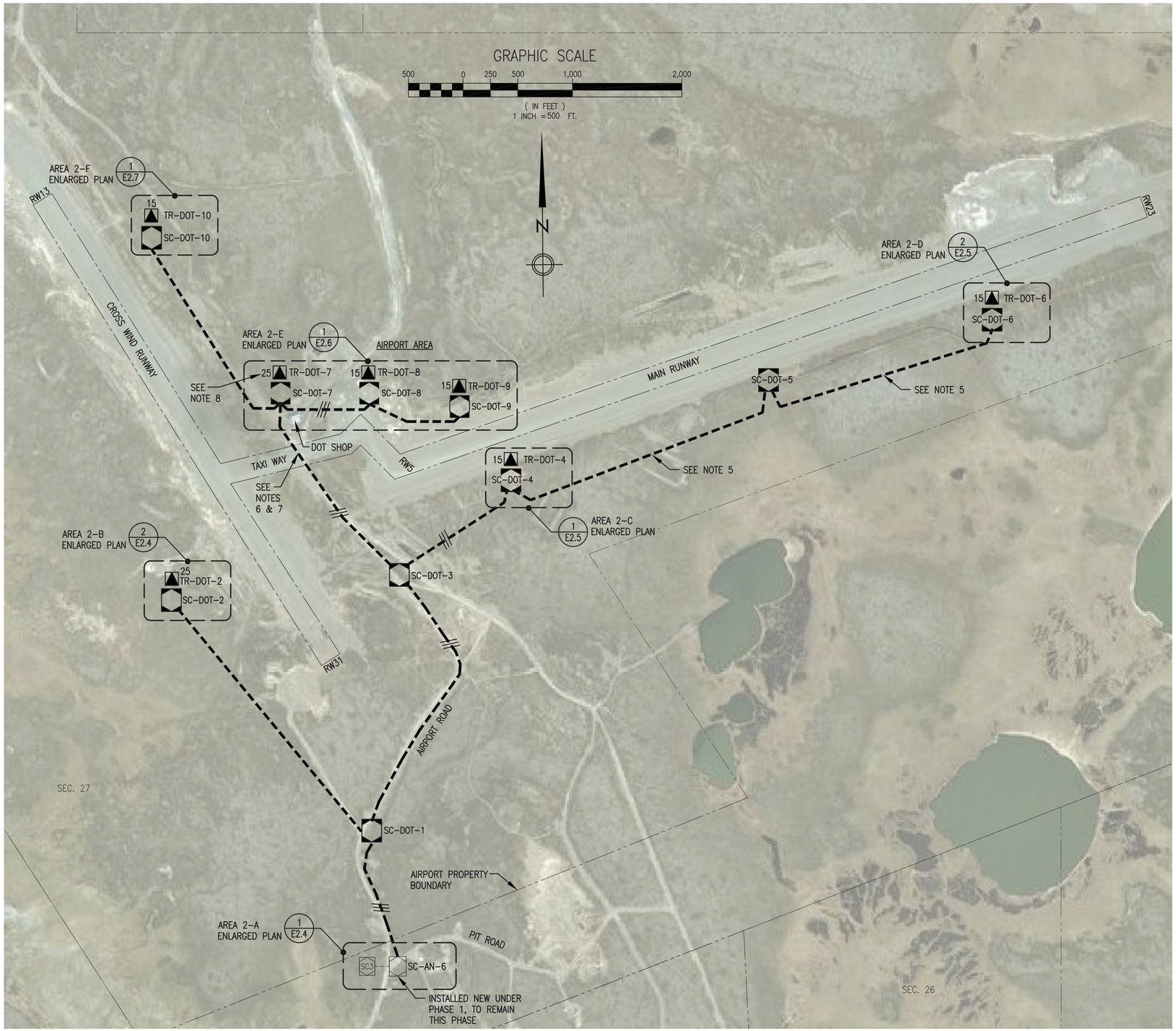
ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 2 AREA OVERALL DEMOLITION PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E2 | SHEET: E2.1 OF 6
PROJECT NUMBER:



1 E2.2 PHASE 2 PRIMARY DISTRIBUTION NEW WORK PLAN & NOTES
1"=500'

AIRPORT AREA GENERAL NOTES:

1. LOCATE ALL EXISTING CIRCUITS AND CABLES FROM FAA CONTROL EQUIPMENT FOR THE VASI, PAPI, AWOS, AND DME TO THE EQUIPMENT.
2. ALL WORK AT THE AIRPORT SHALL BE COORDINATED WITH THE DOT AIRPORT MANAGER. SCHEDULE ALL OUTAGES A MINIMUM OF 48 HOURS PRIOR TO THE PLANNED OUTAGE.
3. ALL POWER OUTAGES TO THE DOT AIRPORT SHOP AND ALL FAA NAVIGATIONAL AIDS; DME, AWOS, PAPI, AND VASI EQUIPMENT SHALL BE COORDINATED WITH THE FAA. DO ALL PREPARATORY WORK NECESSARY TO KEEP OUTAGES TO A MINIMUM.

NOTES:

1. SEE ONE-LINE DIAGRAMS SHEET E2.3 FOR DISTRIBUTION CABLE TYPES.
2. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.
3. EXISTING EQUIPMENT TO REMAIN IN TEMPORARY OR PERMANENT SERVICE SHOWN IN LIGHT-DASHED LINES. SEE ONE-LINE DIAGRAM AND ENLARGED PLANS FOR DETAILS.
4. FOR CLARITY THE OVERALL NEW WORK PLAN ONLY SHOWS PRIMARY DISTRIBUTION. SEE ENLARGED AREA PLANS FOR ALL SECONDARY DISTRIBUTION AND ADDITIONAL DETAILS.
5. CONTRACTOR SHALL COORDINATE NEW PRIMARY CONDUCTOR WITH THE EXISTING FAA NAV AID EQUIPMENT SECONDARY CONDUCTORS. LOCATE PRIMARY SO NO NEW PRIMARY CROSSES ANY EXISTING FAA CONDUCTORS.
6. CONTRACTOR MAY OPEN CUT THE TAXIWAY FOR THE NEW PRIMARY CABLE. PRIOR TO THE OPEN CUT, THE CONTRACTOR SHALL NOTIFY THE ALASKA DEPARTMENT OF TRANSPORTATION (DOT), AVIATION AND AIRPORTS DIVISION, OF THE INTENDED CONSTRUCTION PLAN. CONTRACTOR SHALL NOTAM THE TAXIWAY AND CROSSWIND RUNWAY AND SHALL PROVIDE AN FAA FORM 7460-1 WITH A CONSTRUCTION SAFETY PHASING PLAN. CONTRACTOR SHALL PROVIDE THE DOT TIMELINE FOR THE CLOSURE OF THE TAXIWAY AND SHALL MEET ALL OTHER REQUIREMENTS OF THE FAA AND DOT PRIOR TO CLOSING THE TAXIWAY.
7. CAREFULLY EXCAVATE AND SET ASIDE TAXIWAY SURFACE MATERIAL FOR REPLACEMENT. INSTALL 3 EACH 4" SCHEDULE 80 PVC CONDUIT UNDER TAXIWAY. BURY 4' BELOW SURFACE OF TAXIWAY. EXTEND CONDUIT MINIMUM 10' BEYOND SHOULDER OF TAXIWAY BOTH ENDS. BACKFILL TRENCH IN 8" MAXIMUM LIFTS AND COMPACT EACH LIFT TO 95% MINIMUM. CAP WITH SALVAGED TAXIWAY SURFACE MATERIAL, MOUND APPROXIMATELY 1", AND BLEND INTO ADJACENT TAXIWAY EACH SIDE.
8. TR-DOT-7 IS 12.47kV DELTA TRANSFORMER FOR IMPROVING PHASE BALANCE ON INTERMITTENT LOAD. CONNECT TO THE TWO PHASES WITH THE LEAST LOAD.

UNDER BASE BID PROVIDE ALL WORK FROM SC-AN-6 TO AND INCLUDING SC-DOT-3. RECONNECT EXISTING PRIMARY SERVING THE NORTHWEST AND THE EAST AREAS TO SC-DOT-3.

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UNDER ADDITIVE ALTERNATE #4 PROVIDE ALL WORK FROM SC-DOT-3 TO AND INCLUDING ENLARGED AREAS 2-C AND 2-D.

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UNDER ADDITIVE ALTERNATE #5 PROVIDE ALL WORK FROM SC-DOT-3 TO AND INCLUDING ENLARGED AREAS 2-E AND 2-F.

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

ALASKA ENERGY AUTHORITY

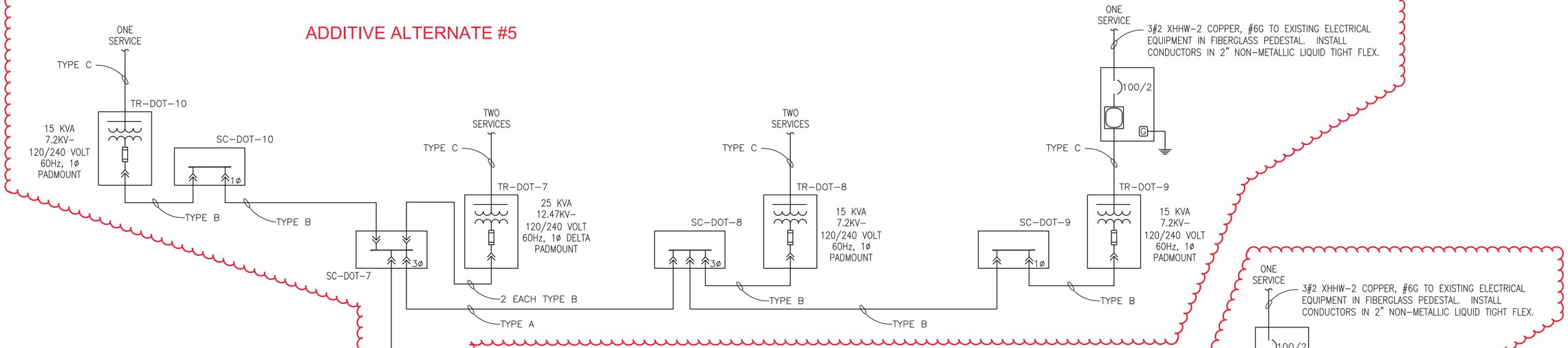
PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 2 AREA OVERALL NEW WORK PLAN

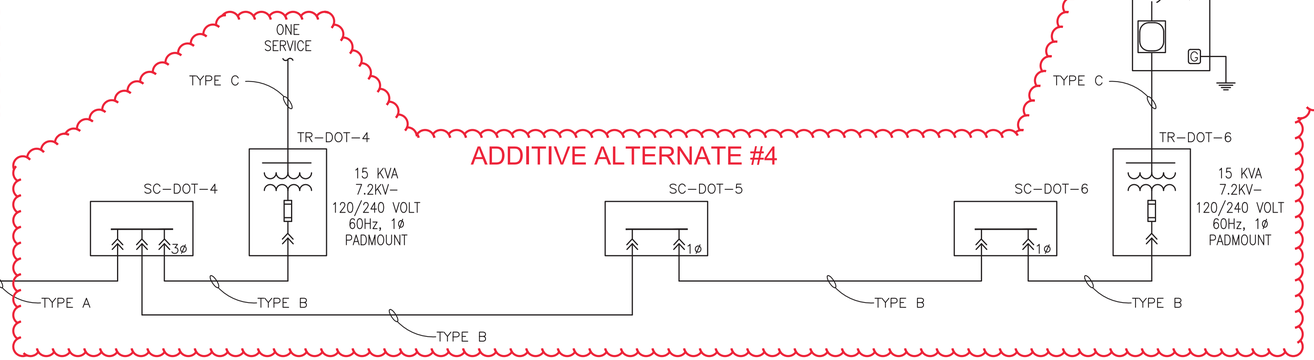
Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E2 | SHEET: E2.2 OF 6
PROJECT NUMBER:

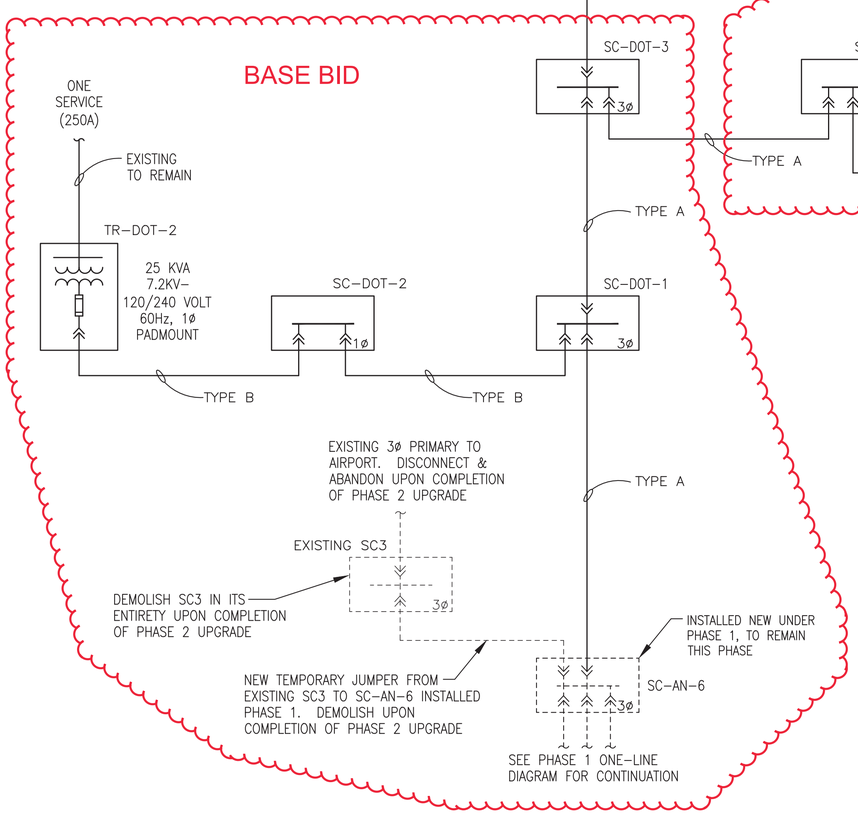
ADDITIVE ALTERNATE #5



ADDITIVE ALTERNATE #4



BASE BID



CABLE TYPE SCHEDULE	
TYPE A: (3ø)	3–#1/0 AWG, ALUMINUM, 15KV JACKETED CONCENTRIC NEUTRAL, STRAND–FILLED.
TYPE B: (1ø)	1–#1/0 AWG, ALUMINUM, 15KV JACKETED CONCENTRIC NEUTRAL, STRAND–FILLED
TYPE B2: (1ø)	1–#2 AWG, ALUMINUM, 15KV JACKETED CONCENTRIC NEUTRAL, STRAND–FILLED
TYPE C:	#2 AWG, TRI–PLEX, ALUMINUM, 600 VOLT XLP, UNDERGROUND DISTRIBUTION
TYPE D:	#1/0 AWG, TRI–PLEX, ALUMINUM, 600 VOLT XLP, UNDERGROUND DISTRIBUTION
TYPE E:	#2/0 AWG, TRI–PLEX, ALUMINUM, 600 VOLT XLP, UNDERGROUND DISTRIBUTION
TYPE F:	#8 AWG, DUPLEX, COPPER, 600 VOLT XLP, UNDERGROUND DISTRIBUTION

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

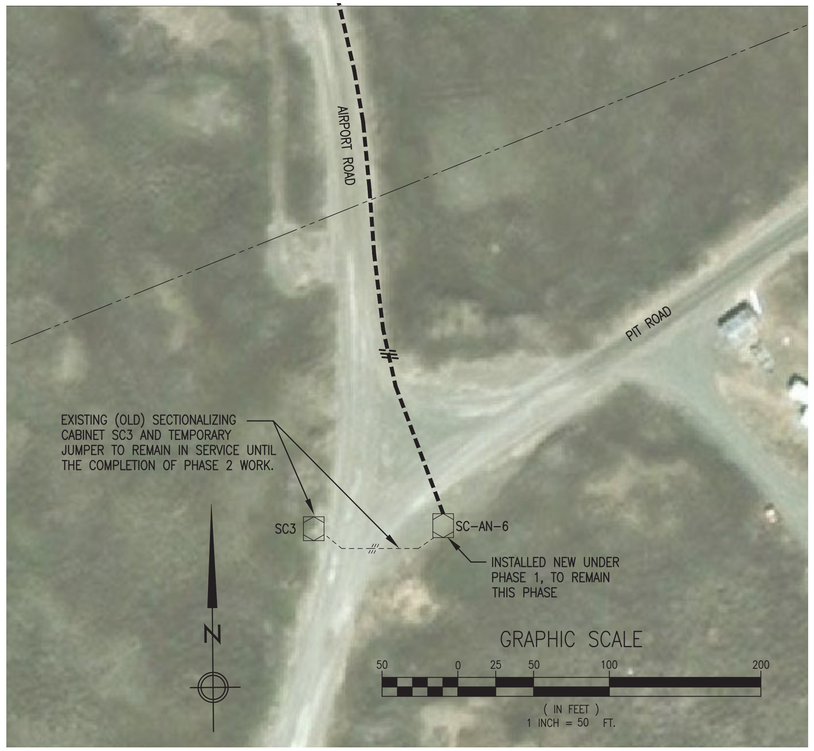
ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 2 ONE LINE DIAGRAM

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E2 | SHEET: E2.3 OF 6
PROJECT NUMBER:



AREA 2–A GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE–LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 2–B GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE–LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 1–C SPECIFIC NOTES:

1. EXISTING 250A METER BASE AND SECONDARY SERVICE CONDUCTORS TO REMAIN.
2. INSTALL NEW TRANSFORMER AND GROUND SLEEVE ADJACENT TO EXISTING TRANSFORMER. RECONNECT SECONDARY SERVICE CONDUCTORS.

1 / E2.4 AREA 2–A
1"=50'

2 / E2.4 AREA 2–B
1"=50'

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

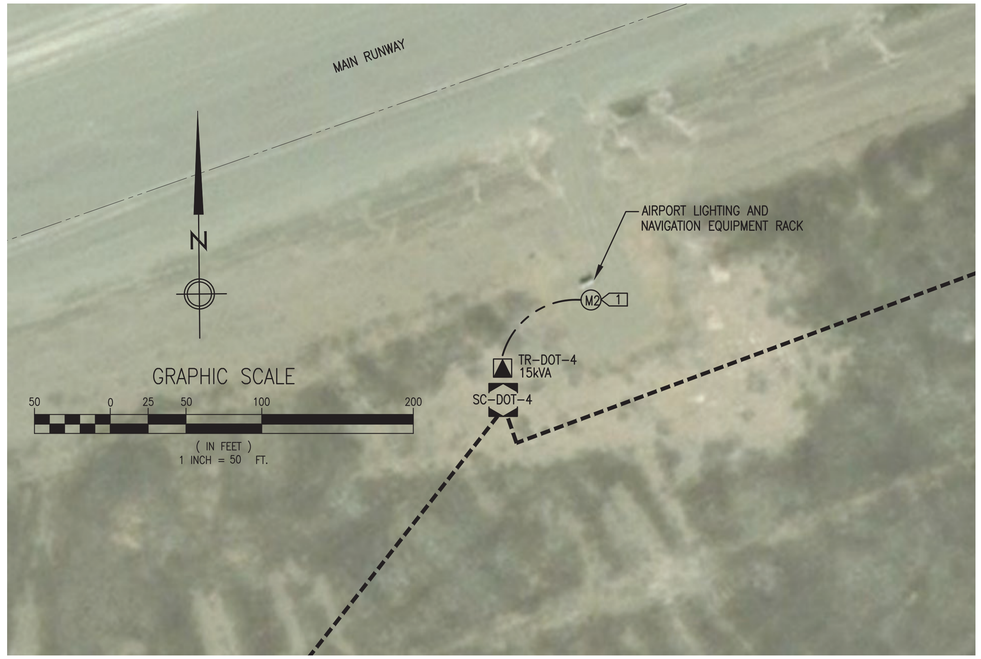
ALASKA ENERGY AUTHORITY

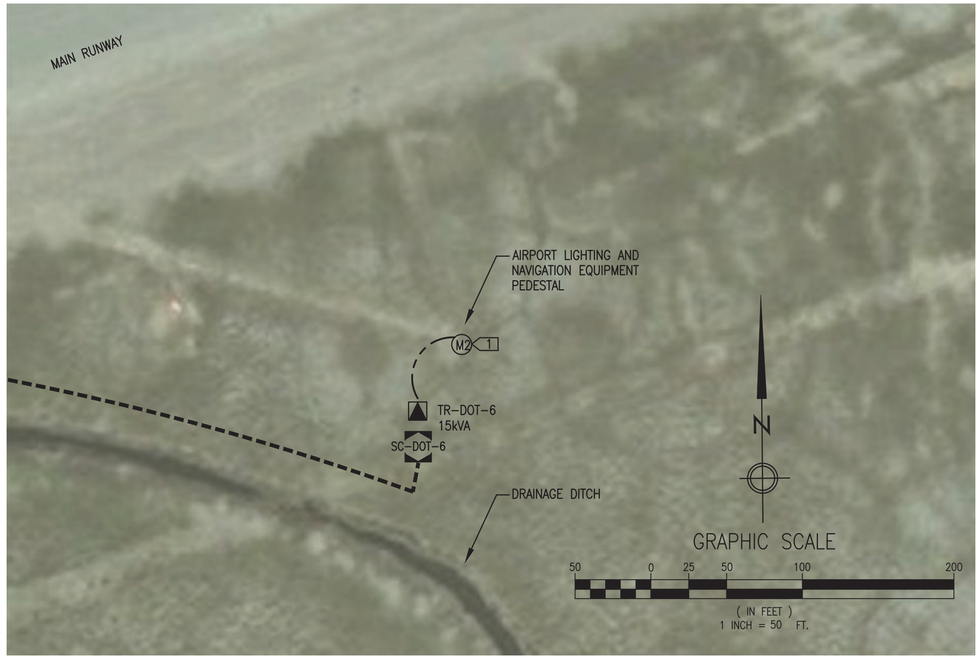
PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 2 AREA 2–A AND AREA 2–B ENLARGED PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/29/20
FILE NAME: PTHD DIST E2 | SHEET: E2.4 OF 6
PROJECT NUMBER:





AREA 2-C GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE-LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 2-C SPECIFIC NOTES:

1. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3, SIMILAR EXCEPT INSTALL ON EXISTING TIMBER RACK. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.

1/E2.5 AREA 2-C
1"=50'

AREA 2-D GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE-LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 2-D SPECIFIC NOTES:

1. SET NEW 6"x6"x8'-0" TREATED TIMBER POST ADJACENT TO EXISTING FIBERGLASS ENCLOSURE AND BURY 3'-6" DEEP. REMOVE EXISTING METER BASE FROM FIBERGLASS ENCLOSURE AND INSTALL NEW METER BASE ON POST. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3, SIMILAR. REINSTALL EXISTING UTILITY METER IN NEW METER BASE. ROUTE NEW CONDUIT AND CONDUCTORS TO EXISTING ELECTRICAL EQUIPMENT IN FIBERGLASS ENCLOSURE.

2/E2.5 AREA 2-D
1"=50'

REVISED
DRAWING ISSUED
SEPTEMBER
2021

PROVIDE ALL
WORK THIS SHEET
UNDER ADDITIVE
ALTERNATE #4

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 2 AREA 2-C & AREA 2-D ENLARGED PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE:
FILE NAME: PTHD DIST E2 | SHEET: E2.5 OF 6
PROJECT NUMBER: 2/29/20

AREA 2-E GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE-LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.
4. BURIED DOT AREA LIGHTING, NAVIGATION, TELEPHONE AND UTILITY CONDUCTORS HAVE NOT BEEN FIELD VERIFIED THIS PROJECT AND ARE NOT SHOWN ON THIS PLAN. ALWAYS CONTACT THE LOCAL DOT OFFICE, THE CITY PUBLIC WORKS OFFICE AND/OR GCI FOR UTILITY LOCATES TO CONFIRM EXISTING BURIED CONDUCTOR LOCATIONS AS REQUIRED.

AREA 2-E SPECIFIC NOTES:

1. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.
2. CONNECT TO EXISTING METER BASE (INSTALLED NEW 2020).
3. SET NEW 6"x6"x8'-0" TREATED TIMBER POST ADJACENT TO EXISTING FIBERGLASS ENCLOSURE AND BURY 3'-6" DEEP. REMOVE EXISTING METER BASE FROM FIBERGLASS ENCLOSURE AND INSTALL NEW METER BASE ON POST. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3, SIMILAR. REINSTALL EXISTING UTILITY METER IN NEW METER BASE. ROUTE NEW CONDUIT AND CONDUCTORS TO EXISTING ELECTRICAL EQUIPMENT IN FIBERGLASS ENCLOSURE.
4. SC-DOT-7 IS 12.47kV DELTA TRANSFORMER FOR IMPROVING PHASE BALANCE ON INTERMITTENT LOAD. CONNECT SINGLE PHASE TO THE TWO PRIMARY PHASES WITH THE LOWEST NORMAL LOAD.
5. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3, SIMILAR. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.
6. RISE UP ABOVE GRADE AT CORNER OF SHOP IN 2" NON-METALLIC LIQUID TIGHT FLEX. ROUTE 2" GRC ACROSS WALL ABOVE DOOR THEN DROP DOWN TO NEW METER.

1/E2.6 AREA 2-E
1"=50'

PROVIDE ALL WORK THIS SHEET UNDER ADDITIVE ALTERNATE #5

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH
CLOIS W. VERSYP
EE 7802
REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	BY
1	UPDATED BID DOCUMENTS	9/10/21	CWV

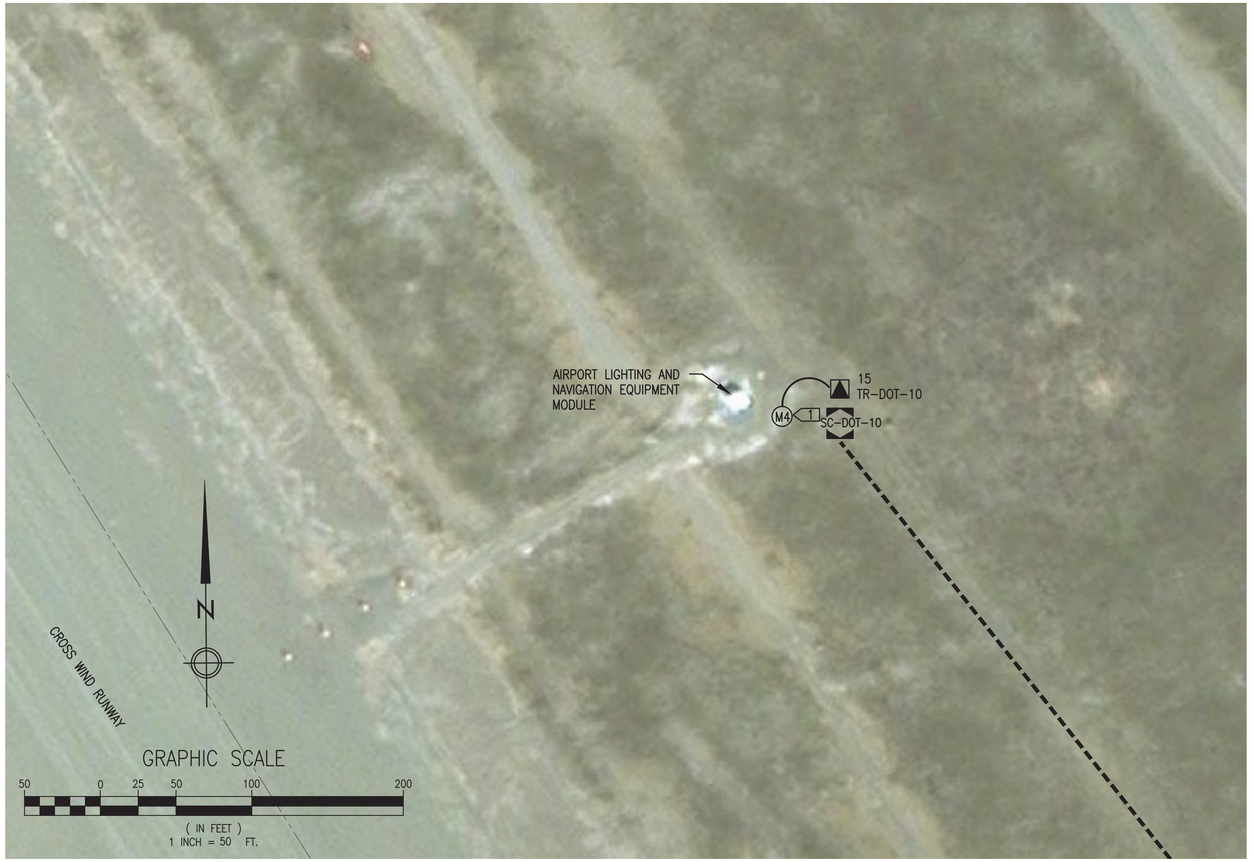
ALASKA ENERGY AUTHORITY

PROJECT: PORT HEIDEN DISTIBUTION UPGRADE

TITLE: PHASE 2 AREA 2-E ENLARGED PLAN

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: BCG/CWV | DATE: 2/2920
FILE NAME: PTHD DIST E2 | SHEET: E2.6 OF 6
PROJECT NUMBER:



AREA 2-E GENERAL NOTES:

1. ALL EQUIPMENT AND CONDUCTOR SHOWN THIS PLAN NEW UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. SEE ONE-LINE DIAGRAM FOR CABLE TYPES.
3. SEE SPECIFICATIONS AND SHEET E0.2 NOTES FOR GENERAL REQUIREMENTS.

AREA 2-E SPECIFIC NOTES:

1. REMOVE EXISTING METER BASE AND INSTALL NEW METER BASE IN SAME LOCATION. SEE TYPICAL METER INSTALLATION DETAIL 1/E0.3, SIMILAR EXCEPT INSTALL ON EXISTING TIMBER RACK. REINSTALL EXISTING UTILITY METER IN NEW METER BASE.

1 / E2.7 AREA 2-F
1"=50'

PROVIDE ALL WORK THIS SHEET UNDER ADDITIVE ALTERNATE #5

REVISED DRAWING ISSUED SEPTEMBER 2021

STATE OF ALASKA 49TH CLOIS W. VERSYP EE 7802 REGISTERED PROFESSIONAL ENGINEER

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