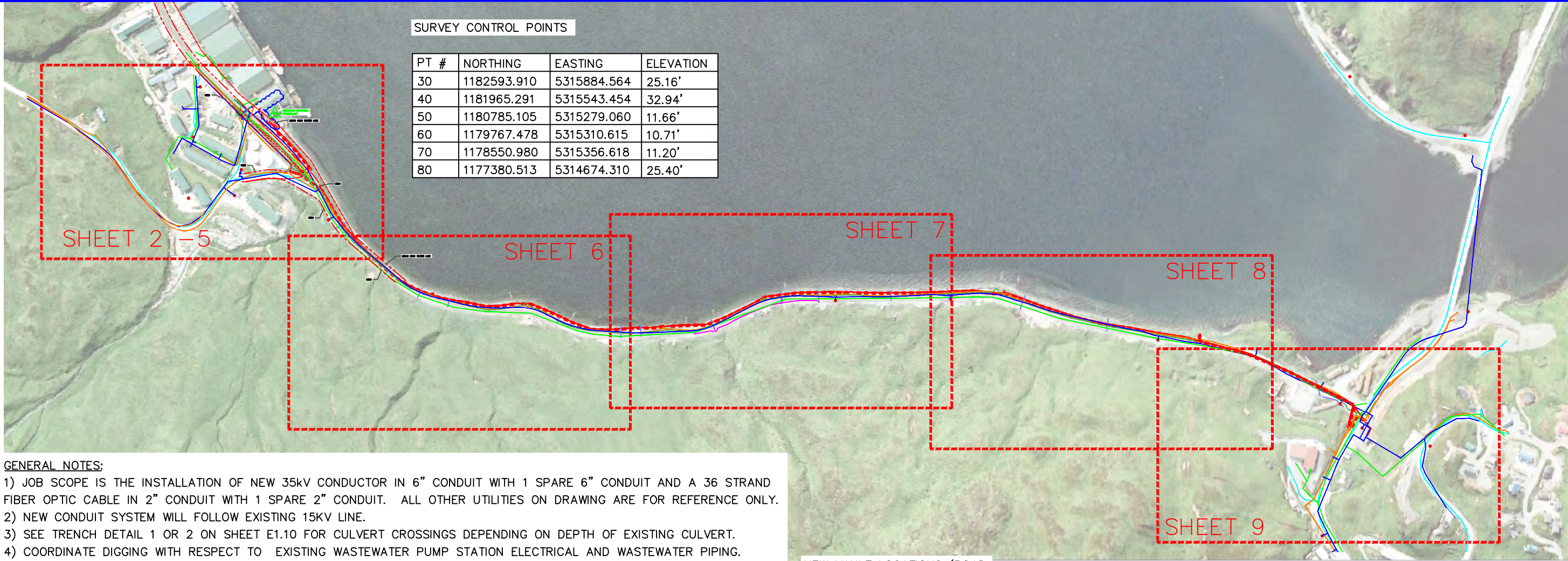


CITY OF UNALASKA
WESTWARD/CITY INTERTIE PROJECT
#16-0011

[illegible][illegible]



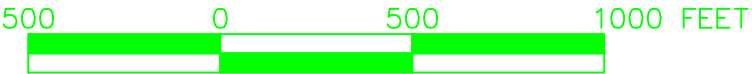
- GENERAL NOTES:
- 1) JOB SCOPE IS THE INSTALLATION OF NEW 35KV CONDUCTOR IN 6" CONDUIT WITH 1 SPARE 6" CONDUIT AND A 36 STRAND FIBER OPTIC CABLE IN 2" CONDUIT WITH 1 SPARE 2" CONDUIT. ALL OTHER UTILITIES ON DRAWING ARE FOR REFERENCE ONLY.
 - 2) NEW CONDUIT SYSTEM WILL FOLLOW EXISTING 15KV LINE.
 - 3) SEE TRENCH DETAIL 1 OR 2 ON SHEET E1.10 FOR CULVERT CROSSINGS DEPENDING ON DEPTH OF EXISTING CULVERT.
 - 4) COORDINATE DIGGING WITH RESPECT TO EXISTING WASTEWATER PUMP STATION ELECTRICAL AND WASTEWATER PIPING.
 - 5) CONTRACTOR IS REQUIRED TO LOCATE ALL EXISTING 12KV FEEDERS PRIOR TO DIGGING AND DEMOLITION TO IDENTIFY FINAL ROUTES AND DEPTHS AS REQUIRED. NOTIFY CITY AND WESTWARD PRIOR TO CONSTRUCTION AS WESTWARD WILL NEED TO GO ON THEIR OWN POWER AND PROVIDE POWER TO OTHER DOWNSTREAM CUSTOMERS; THIS WILL ALLOW FOR DE-ENERGIZATION AND ISOLATION OF THE 12KV FEEDER FOR DEMOLITION.
 - 6) ALLOWANCE FOR BURIAL DEPTHS LESS THAN 48" WILL ONLY BE ALLOWED PER APPROVAL BY THE PROJECT ENGINEER ON A CASE-BY-CASE BASIS.
 - 7) INSTALL NEW 35kv POWER AND FIBER OPTIC CONDUITS IN THE SAME LINEAR ROUTE AS THE EXISTING 12 KV FEEDER. EXISTING CONDUIT DEPTHS VARY GREATLY. NEW CONDUIT SHOULD BE INSTALLED AT DEPTHS DESCRIBED IN TRENCH DETAIL ON SHEET E3.02.
 - 8) PROVIDE SLACK LOOP FOR 35kv (40') AND FIBER (50') IN ALL NEW VAULTS PER STAKING SHEETS.
 - 9) CONTRACTOR IS REQUIRED TO HAVE A PROFESSIONALLY LICENSED SURVEYOR ON HAND TO ENSURE NO INSTALLATION OF UTILITIES FALLS OUTSIDE OF THE RIGHT OF WAY.
 - 10) LOCATIONS OF UTILITIES ARE APPROXIMATE AND NOT REPRESENTATIVE OF ACTUAL FINAL LOCATION. PRIVATE UTILITY AND PUBLIC UTILITY LOCATES MUST BE COMPLETED PRIOR TO CONSTRUCTION, INCLUDING AREA AROUND TANK FARM.
 - 11) THE DISTINCTION BETWEEN "REMOVE" AND "REMOVE AND SALVAGE" ON THESE DRAWINGS IS AS FOLLOWS:
"REMOVE" = DETACH ITEM FROM EXISTING CONSTRUCTION AND LEGALLY DISPOSE OF THEM OFF-SITE UNLESS INDICATED TO BE REMOVED AND SALVAGED OR REMOVED AND REINSTALLED.
"REMOVE AND SALVAGE" = CAREFULLY DETACH FROM EXISTING CONSTRUCTION, IN A MANNER TO PREVENT DAMAGE, AND DELIVER TO OWNER READY FOR REUSE.
 - 12) VAULT LOCATIONS ARE PROPOSED ONLY. CONTRACTOR SHALL STAKE RIGHT OF WAY BOUNDARY AND THEN COORDINATE VAULT LOCATIONS WITH UTILITY. LOCATIONS SHALL BE WITHIN THE LEVEL SHOULDER INSIDE OF RIGHT OF WAY AS CLOSE TO EMBANKMENT AS PRACTICAL.
 - 13) FOR INFORMATION AND COORDINATES DONE ON THE 15 TEST PITS LOCATED ON THESE DRAWINGS REFER TO THE DECEMBER 16TH, 2016 REPORT "CAPTAINS BAY ELECTRICAL INTERTIE-TEST PITS" DONE BY ROBERT LUND, P.E. CITY OF UNALASKA DPW.

NEW VAULT LOCATIONS (ROAD SIDE FRONT EDGE OF VAULT)

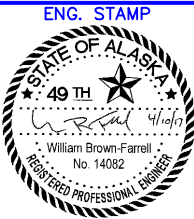
VAULT #	NORTHING	EASTING
C-1	FIELD STAKE	FIELD STAKE
C-2	1,181,779.63'	5,315,498.81'
C-3	1,180,832.07'	5,315,289.81'
C-4	1,180,090.67'	5,315,293.71'
C-5	1,179,194.88'	5,315,464.24'
C-6	1,178,480.35'	5,315,349.49'
C-7	1,178,074.08'	5,315,300.31'
C-8	1,177,681.45'	5,315,016.27'

CULVERT INVERT ELEVATIONS

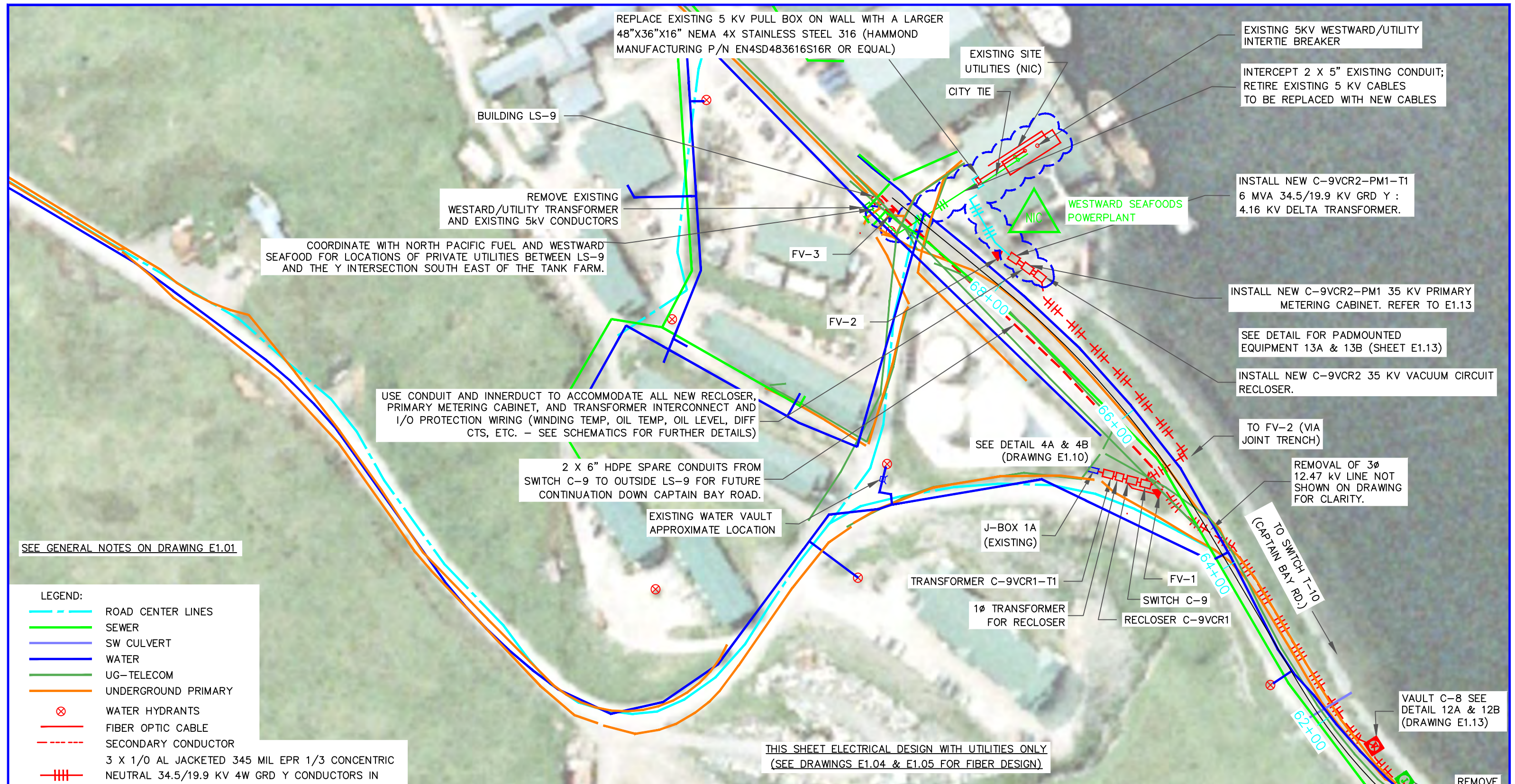
CULVERT # (STA.)	WEST INV. EL.	EAST INV. EL.	ROAD CL. EL.	CULV. DIAMETER
12+35	12.4'	13.2'	19.72'	24"
23+03	4.3'	7.5'	12.21'	12"
27+31	5.8'	8.2'	11.84'	18"
30+92	5.9'	8.0'	12.59'	18"
33+69	7.3'	9.2'	11.98'	18"
37+21	?	8.7'	11.92'	12"
38+95	6.6'	?	11.11'	18"
42+53	?	7.0'	10.38'	18"
46+06	6.1'	?	11.58'	12"
47+03	5.2'	7.3'	11.28'	12"
50+15	?	9.0'	11.44'	12"
55+55	?	?	11.78'	?"
57+03	3.7'	6.8'	11.86'	18"
58+89	5.5'	?	11.49'	12"
62+11	3.7'	8.7'	13.34'	36"



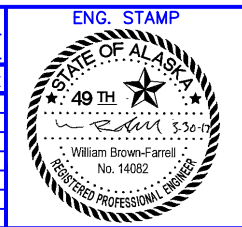
PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/04-10-17	WBF/04-10-2017	



DRAWING NAME: DUTCH HARBOR WESTWARD/CITY INTERTIE SITE PLAN	
REF DWG(S): 16-0011_captain_bay_road_line_extension.dwg	
DRAWING NO.:	E1.01
SHEET 2 of 30	



PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS				
W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/03-30-17	WBF/03-30-2017	



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FAX: (907) 522-1182

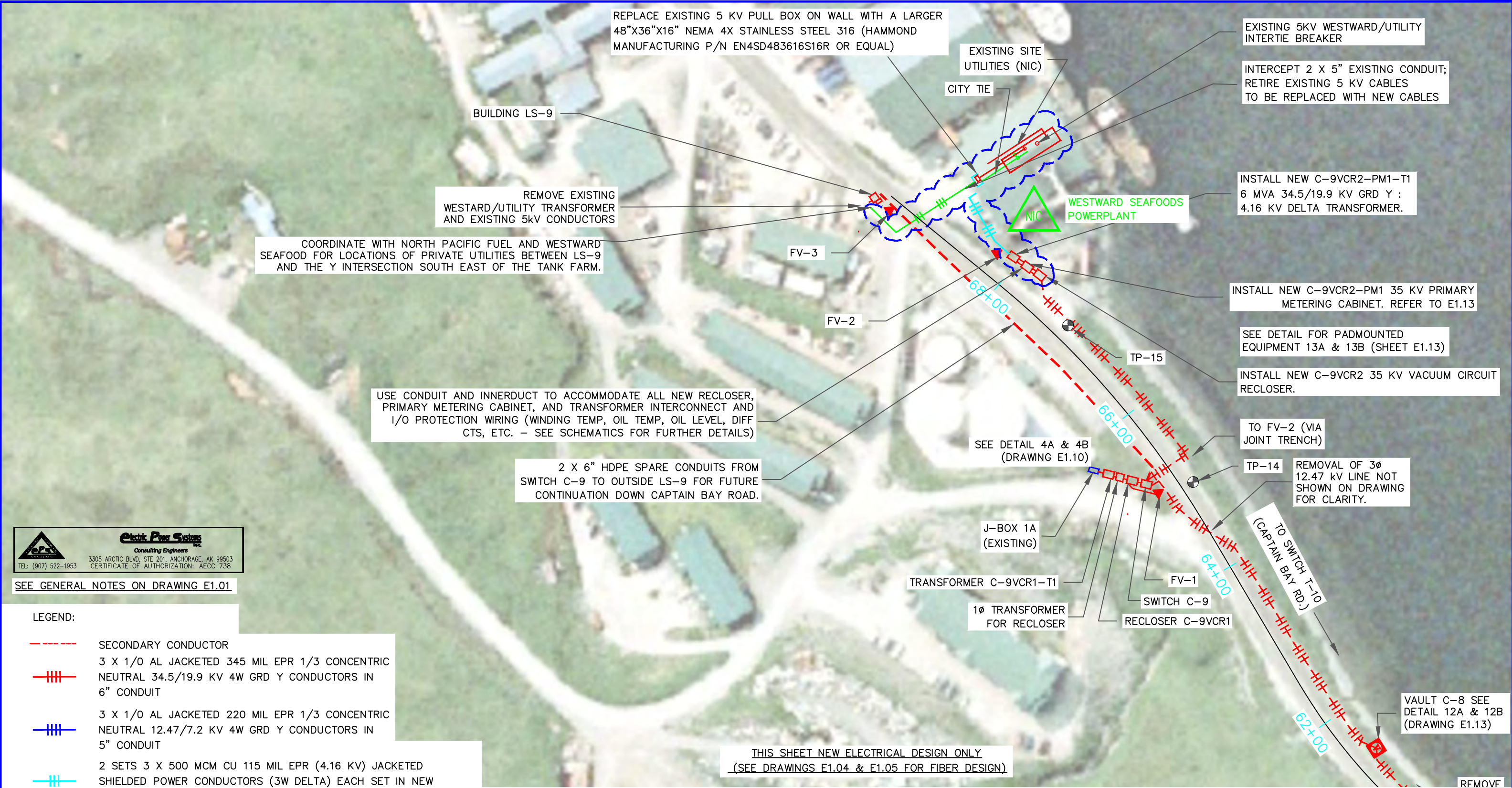
DRAWING NAME: **DUTCH HARBOR WESTWARD/CITY INTERTIE WESTWARD FACILITY SITE PLAN UNDERGROUND UTILITIES WITH NEW ELEC. ONLY**

16-0011_captain_bay_road_line_extension.dwg

REF DWG(S):

DRAWING NO.: **E1.02**

SHEET **3** OF **30**










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CERTIFICATE OF AUTHORIZATION: AECC 738

SEE GENERAL NOTES ON DRAWING E1.01

LEGEND:

-  SECONDARY CONDUCTOR
-  3 X 1/0 AL JACKETED 345 MIL EPR 1/3 CONCENTRIC NEUTRAL 34.5/19.9 KV 4W GRD Y CONDUCTORS IN 6" CONDUIT
-  3 X 1/0 AL JACKETED 220 MIL EPR 1/3 CONCENTRIC NEUTRAL 12.47/7.2 KV 4W GRD Y CONDUCTORS IN 5" CONDUIT
-  2 SETS 3 X 500 MCM CU 115 MIL EPR (4.16 KV) JACKETED SHIELDED POWER CONDUCTORS (3W DELTA) EACH SET IN NEW 5" CONDUIT WITH 1/0 XHHW-2 GROUND
-  2 SETS 3 X 500 MCM CU 115 MIL EPR (4.16 KV) JACKETED SHIELDED POWER CONDUCTORS (3W DELTA) EACH SET IN EXISTING 5" CONDUIT WITH 1/0 XHHW-2 GROUND

 TEST PIT LOCATION



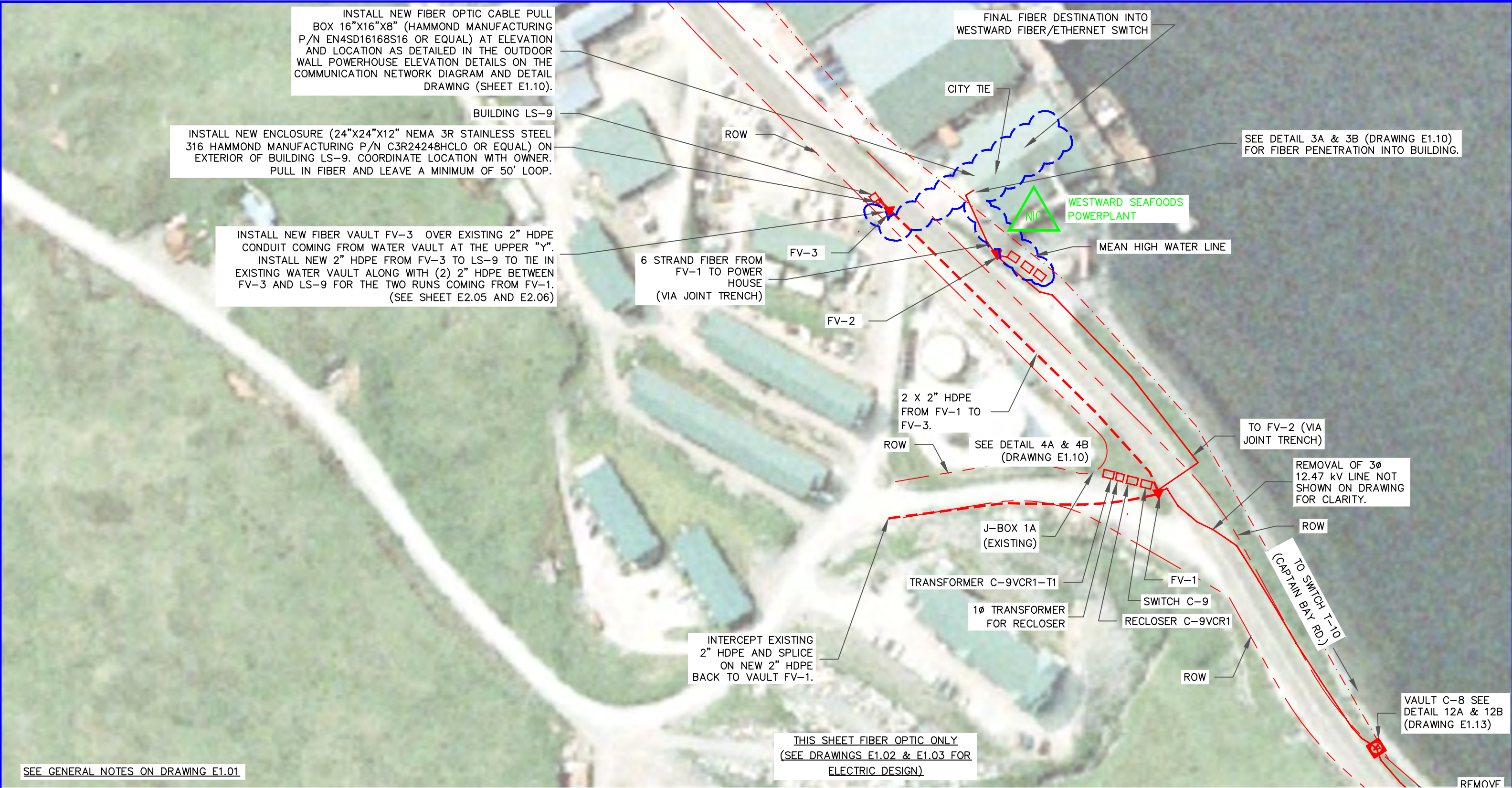
PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/03-30-17	WBF/03-30-2017	





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DRAWING NAME: DUTCH HARBOR WESTWARD/CITY INTERTIE WESTWARD FACILITY SITE PLAN UNDERGROUND ELECTRIC POWER ONLY - NEW	
REF DWG(S): 16-0011_captain_bay_road_line_extension.dwg	
DRAWING NO.:	E1.03
SHEET 4 OF 30	



LEGEND:

- FIBER OPTIC CABLE
- FIBER OPTIC CONDUIT-NEW
- FIBER OPTIC CONDUIT-EXISTING

100 0 100 200 FEET

PROJECT: **WESTWARD 35 kV INTERTIE DESIGN-BUILD**

DESIGNER/PROJECT ENGINEER: **WILLIAM FARRELL/EARL GEORGE - EPS** W.O. #: **16-0011**

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/04-10-17	WBF/04-10-2017	

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STATE OF ALASKA

49 TH

William Brown-Farrell

No. 14082

REGISTERED PROFESSIONAL ENGINEER

Electric Power Systems

Consulting Engineers

TEL: (907) 522-1953

FAX: (907) 522-1182

DRAWING NAME:

DUTCH HARBOR

WESTWARD/CITY INTERTIE

WESTWARD FACILITY SITE PLAN

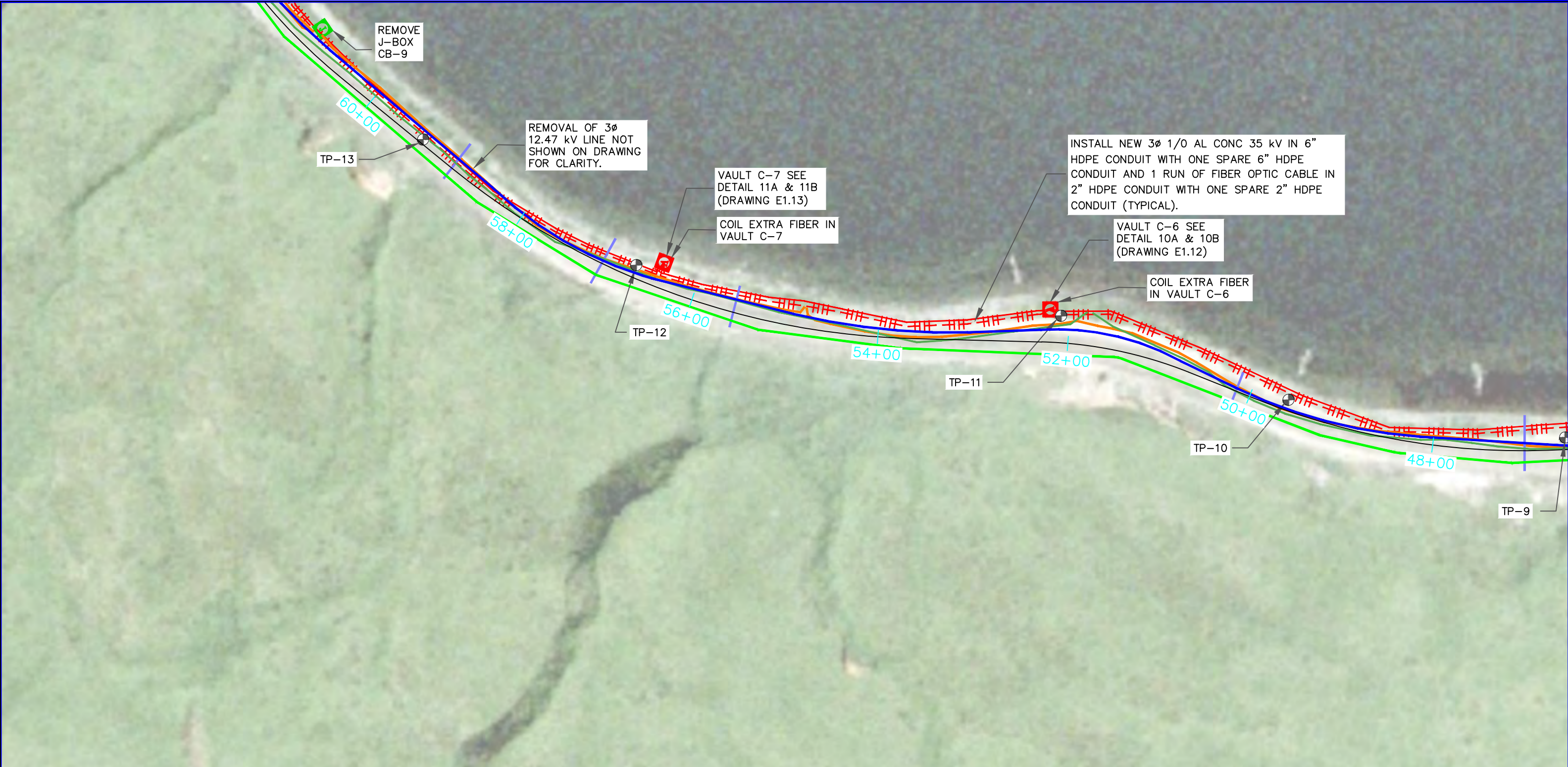
UNDERGROUND FIBER ONLY - NEW

16-0011_captain_bay_road_line_extension.dwg

REF DWG(S):

DRAWING NO.: **E1.05**

SHEET 6 OF 30





SEE GENERAL NOTES ON DRAWING E1.01




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 ROAD CENTER LINES


 SEWER


 SW CULVERT


LEGEND:


 WATER

 UNDERGROUND PRIMARY

 UG- TELECOM

 3Ø 1/0 AL CONC 34.5/19.9KV

 FIBEROPTIC CABLE


 TEST PIT LOCATION

100

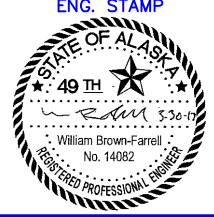
0

100


200

FEET

PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS				
W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/03-30-17	WBF/03-30-2017	



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DRAWING NAME:

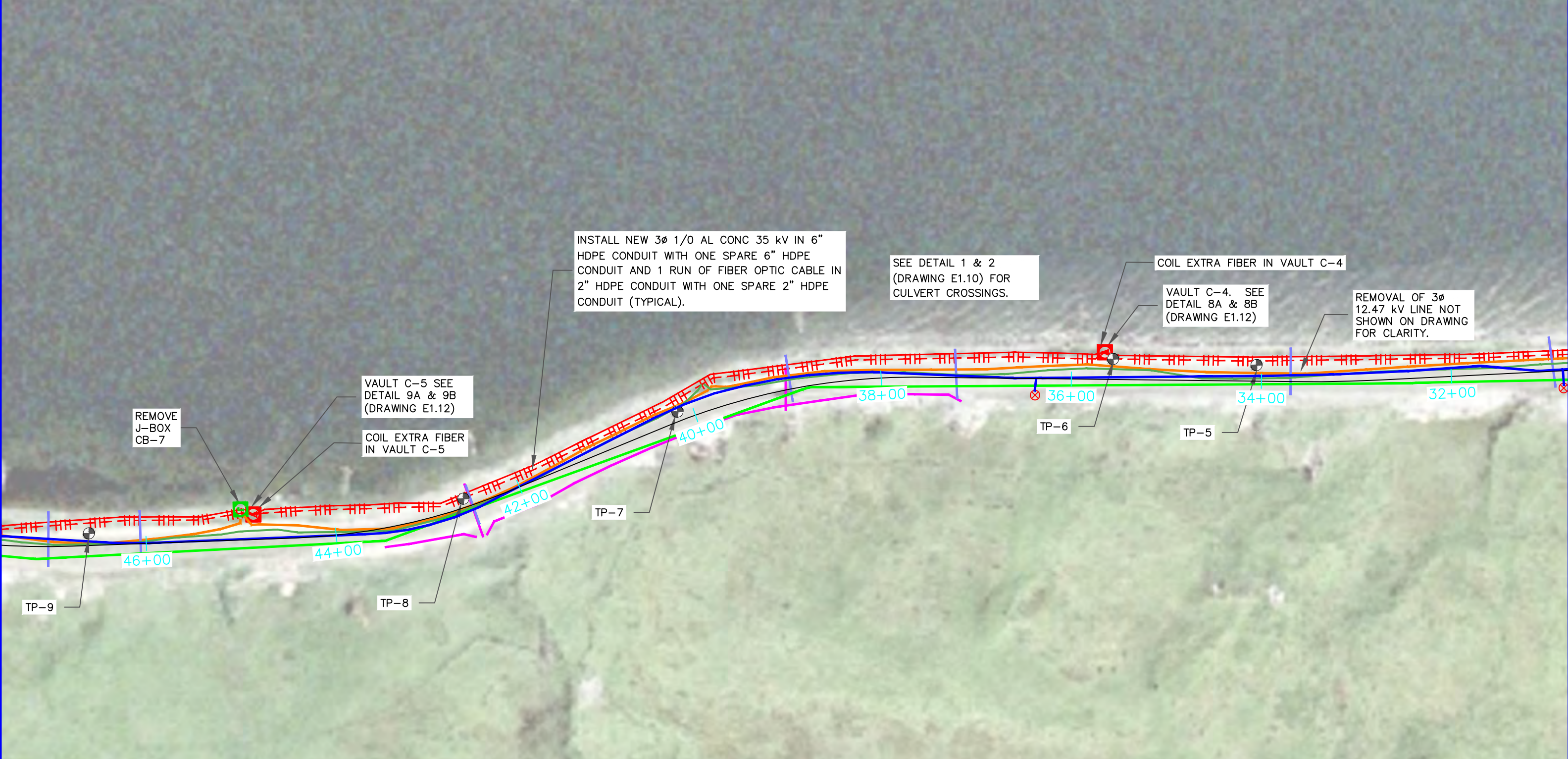
**DUTCH HARBOR
WESTWARD/CITY INTERTIE
CAPTAIN'S BAY ROAD
SITE PLAN**

16-0011_captain_bay_road_line_extension.dwg

REF DWG(S):

DRAWING NO.: **E1.06**

SHEET **7** OF **30**



SEE GENERAL NOTES ON DRAWING E1.01



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CERTIFICATE OF AUTHORIZATION: AECC 738

--- ROAD CENTER LINES

--- SEWER

--- SW CONVEYANCE SYSTEM

--- SW CULVERT

--- WATER

--- UNDERGROUND PRIMARY

--- UG-TELECOM

--- 3Ø #1/0 AL CONC 34.5/19.9KV

--- FIBEROPTIC CABLE


⊙ TEST PIT LOCATION


100 0 100 200 FEET



PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS				
W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/03-30-17	WBF/03-30-2017	

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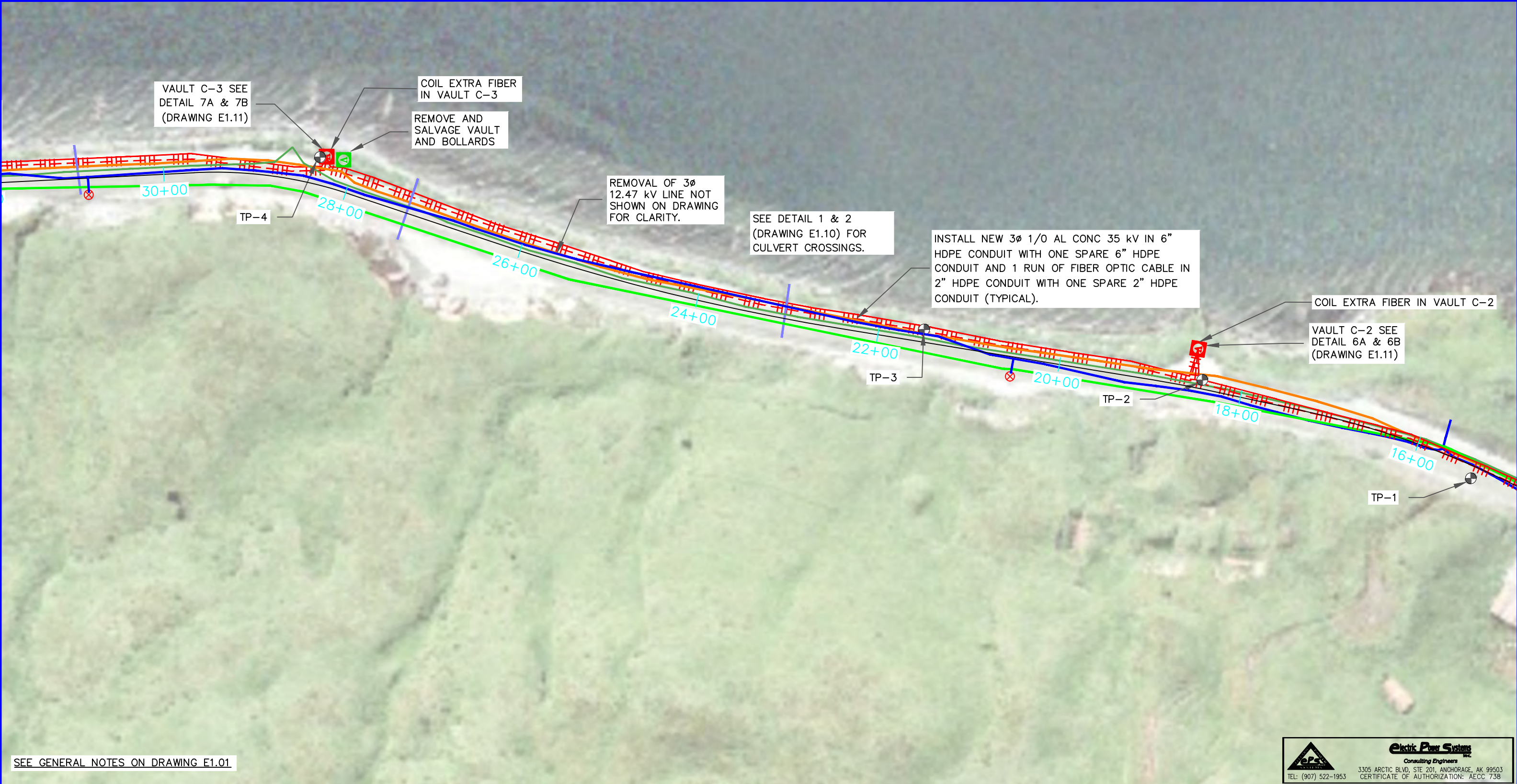
**DUTCH HARBOR
WESTWARD/CITY INTERTIE
CAPTAIN'S BAY ROAD
SITE PLAN**

16-0011_captain_bay_road_line_extension.dwg

REF DWG(S):

DRAWING NO.: **E1.07**

SHEET **8** OF **30**



SEE GENERAL NOTES ON DRAWING E1.01



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CERTIFICATE OF AUTHORIZATION: AECC 738

 ROAD CENTER LINES

 SEWER

 SW CULVERT

LEGEND:

 UG- TELECOM

 WATER

 UNDERGROUND PRIMARY

 30 #1/0 AL CONC 34.5/19.9KV

 FIBEROPTIC CABLE

 TEST PIT LOCATION





PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS				
W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/03-30-17	WBF/03-30-2017	





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DRAWING NAME:

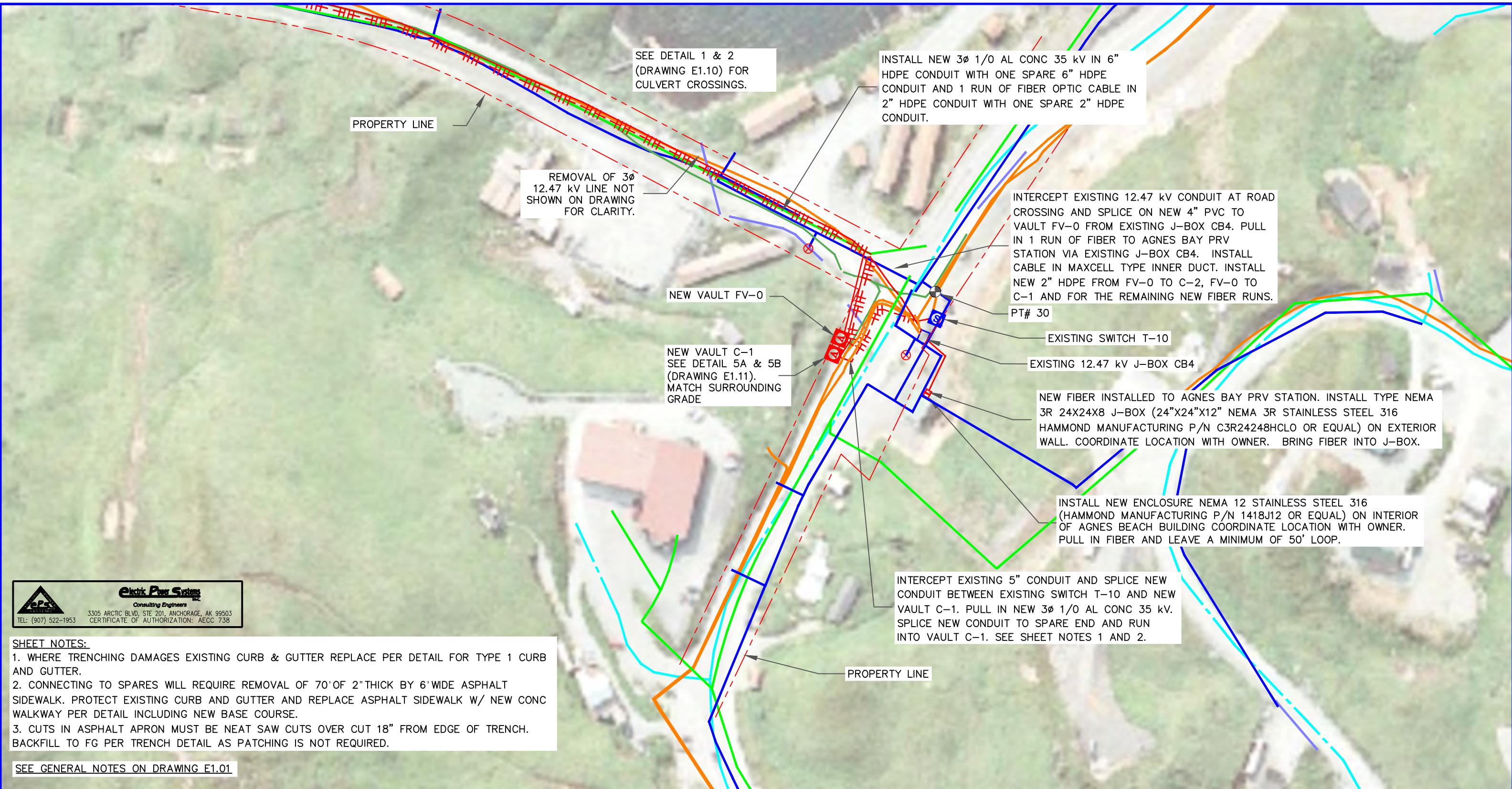
**DUTCH HARBOR
WESTWARD/CITY INTERTIE
CAPTAIN'S BAY ROAD
SITE PLAN**

16-0011_captain_bay_road_line_extension.dwg

REF DWG(S):

DRAWING NO.: **E1.08**

SHEET **9** OF **30**








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- SHEET NOTES:**
- 1. WHERE TRENCHING DAMAGES EXISTING CURB & GUTTER REPLACE PER DETAIL FOR TYPE 1 CURB AND GUTTER.
 - 2. CONNECTING TO SPARES WILL REQUIRE REMOVAL OF 70' OF 2" THICK BY 6' WIDE ASPHALT SIDEWALK. PROTECT EXISTING CURB AND GUTTER AND REPLACE ASPHALT SIDEWALK W/ NEW CONC WALKWAY PER DETAIL INCLUDING NEW BASE COURSE.
 - 3. CUTS IN ASPHALT APRON MUST BE NEAT SAW CUTS OVER CUT 18" FROM EDGE OF TRENCH. BACKFILL TO FG PER TRENCH DETAIL AS PATCHING IS NOT REQUIRED.


SEE GENERAL NOTES ON DRAWING E1.01


 ROAD CENTER LINES


 SEWER


 SW CONVEYANCE SYSTEM


 SW CULVERT

 WATER

 UNDERGROUND PRIMARY

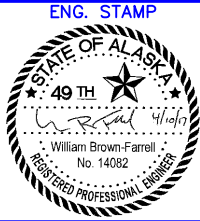
 UG-TELECOM

 3Ø #1/0 AL CONC 34.5/19.9KV

 FIBEROPTIC CABLE



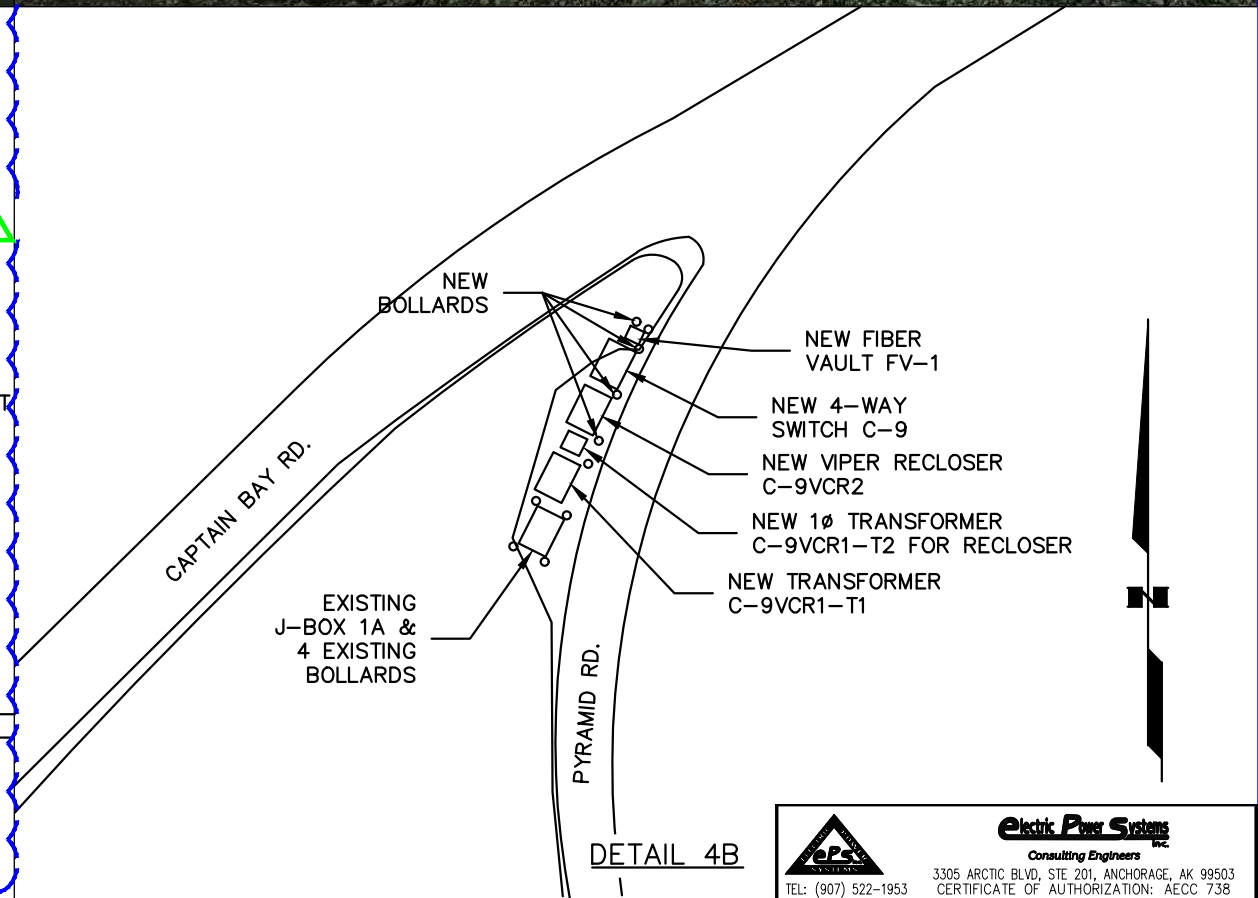
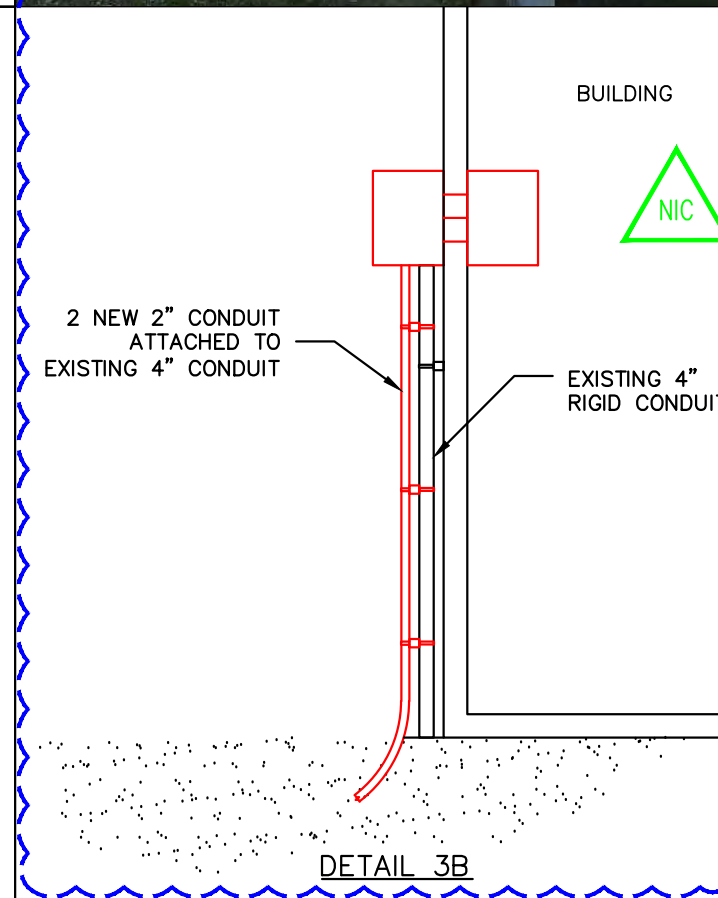
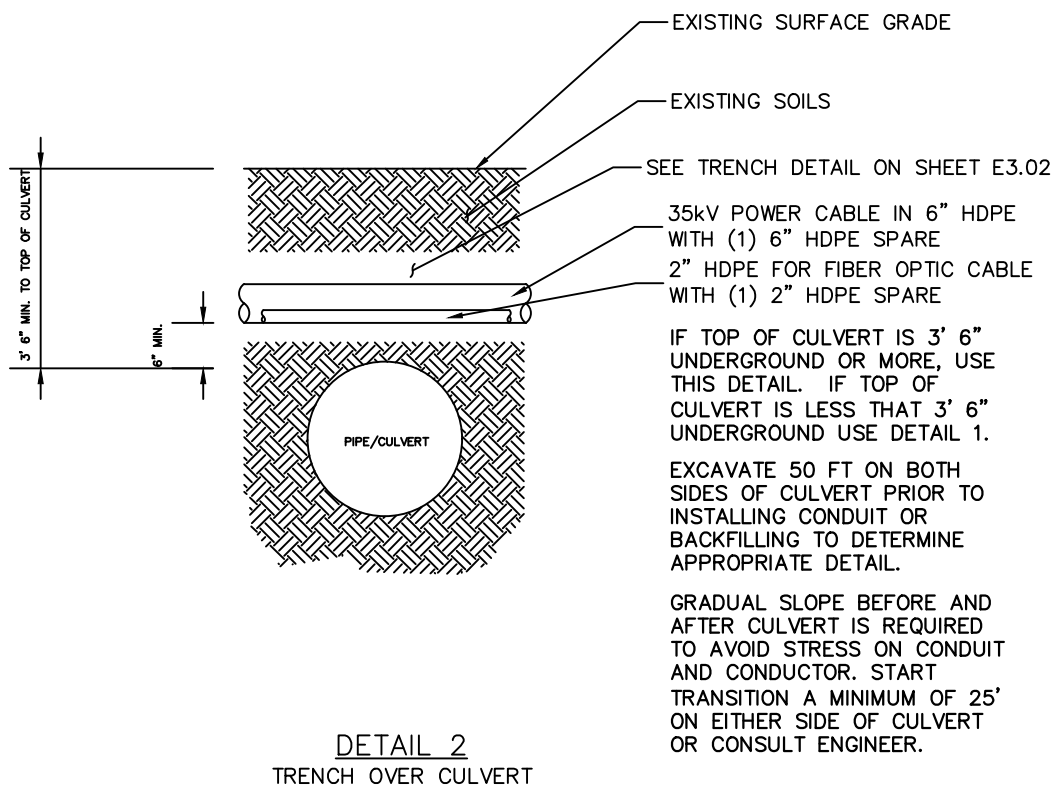
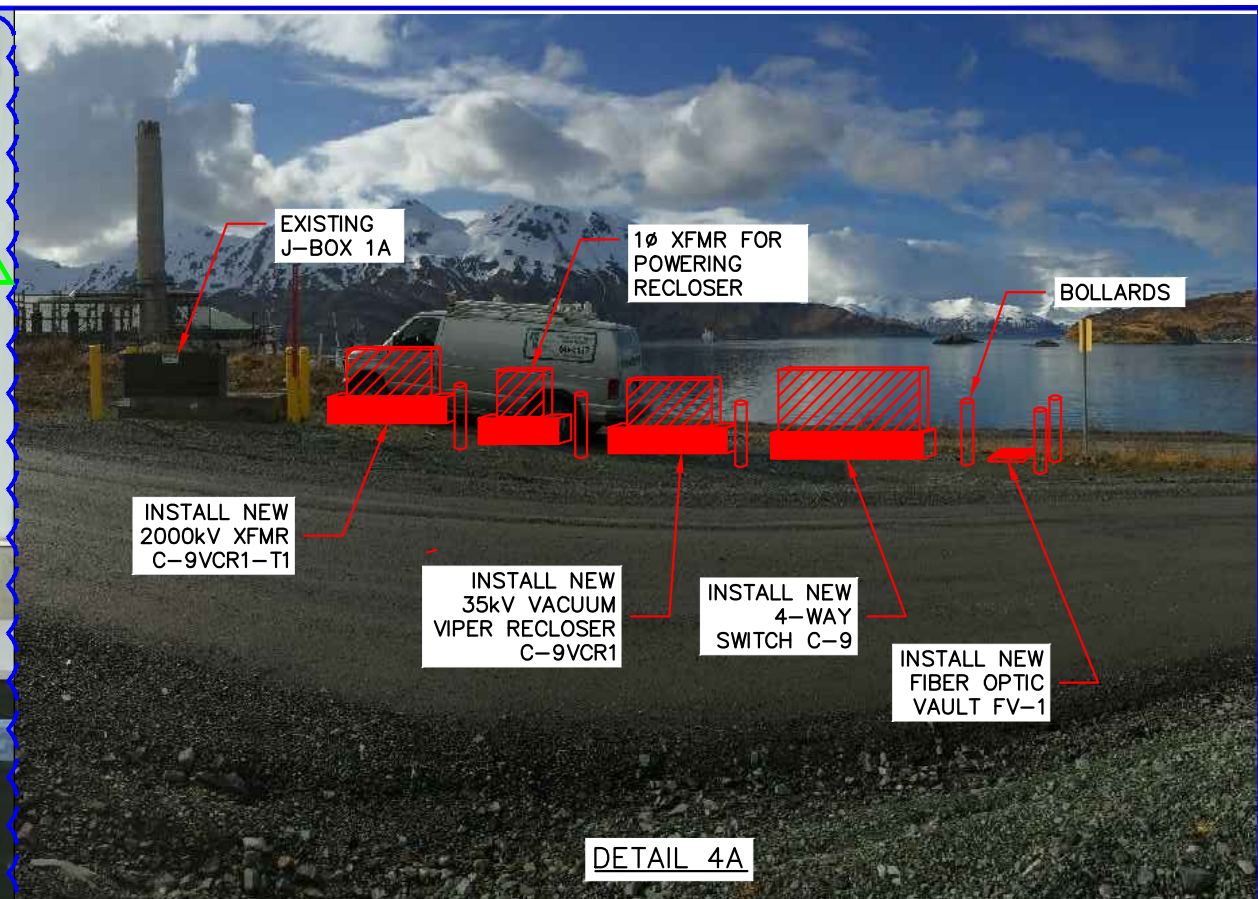
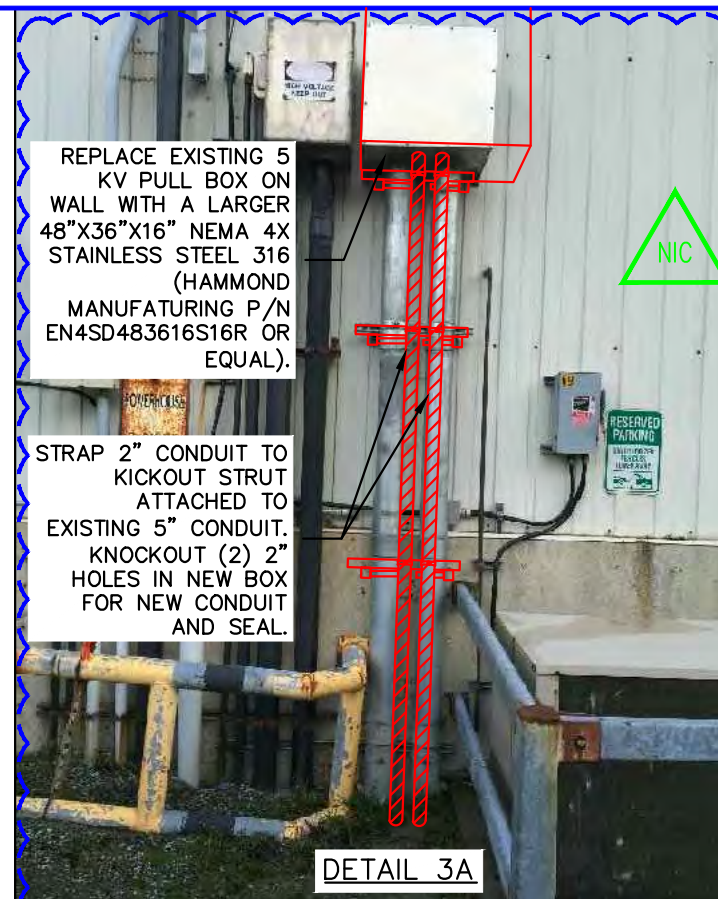
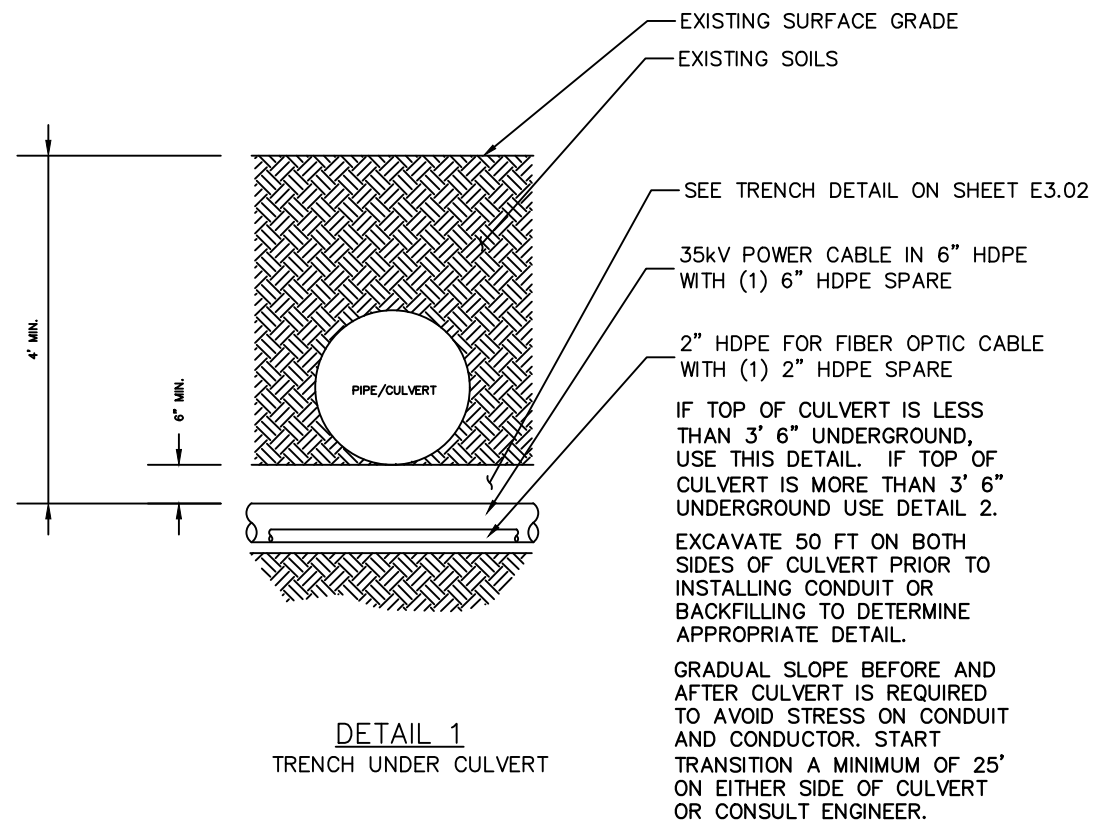
PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS				
		W.O. #: 16-0011		
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/04-10-17	WBF/04-10-2017	





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FAX: (907) 522-1182

DRAWING NAME: DUTCH HARBOR WESTWARD/CITY INTERTIE CAPTAIN'S BAY ROAD INTERSECTION SITE PLAN	
REF DWG(S):	16-0011_captain_bay_road_line_extension.dwg
DRAWING NO.:	E1.09
SHEET 10 OF 30	



PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
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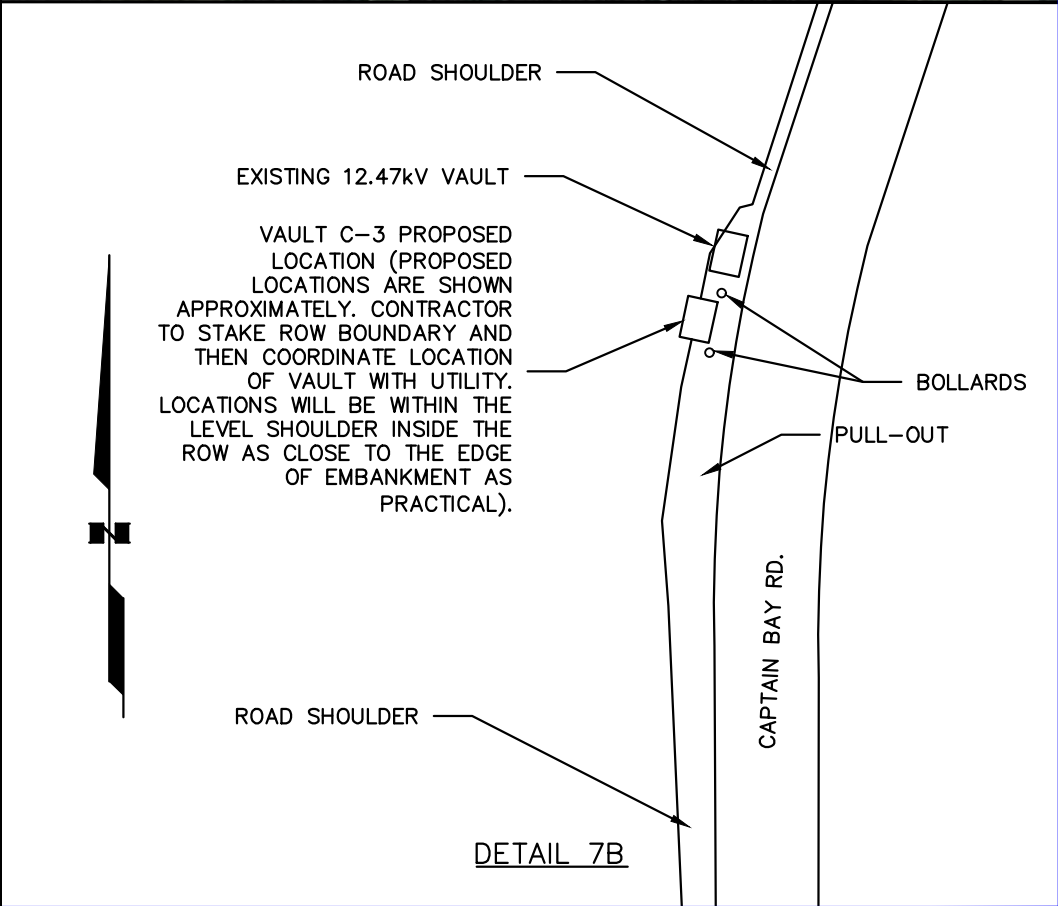
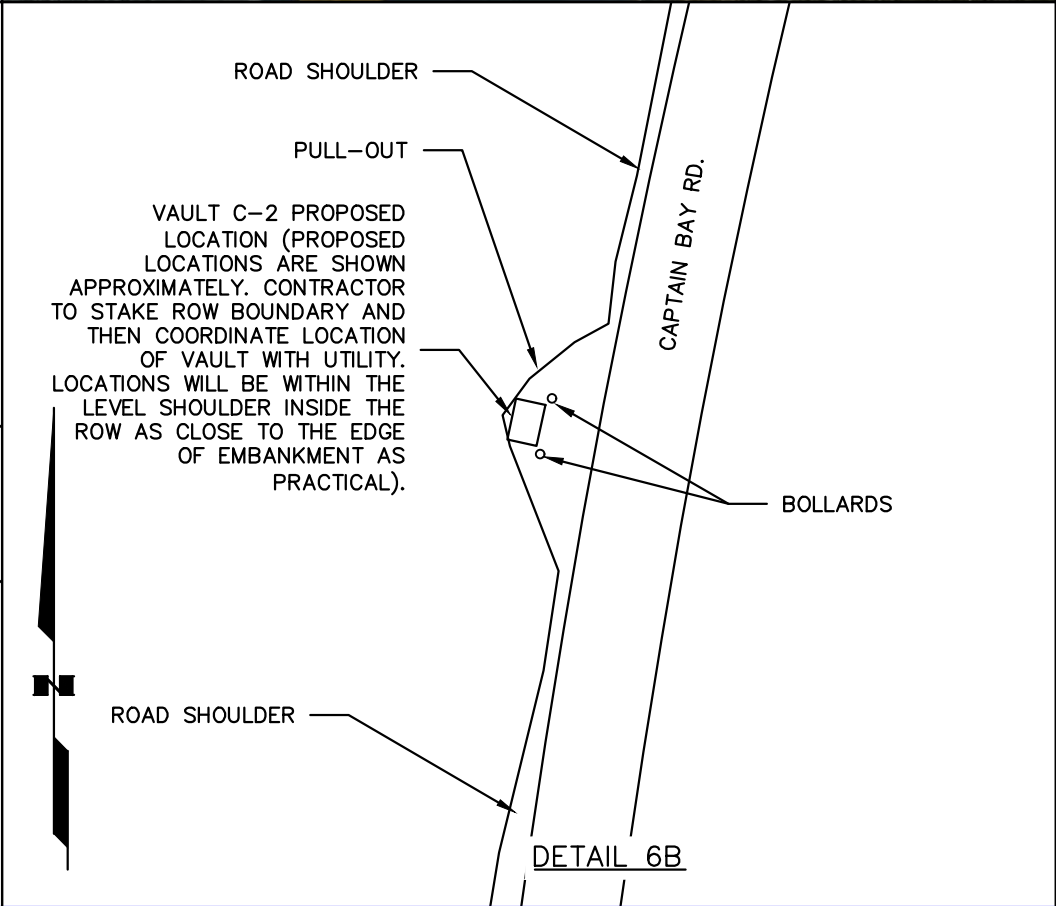
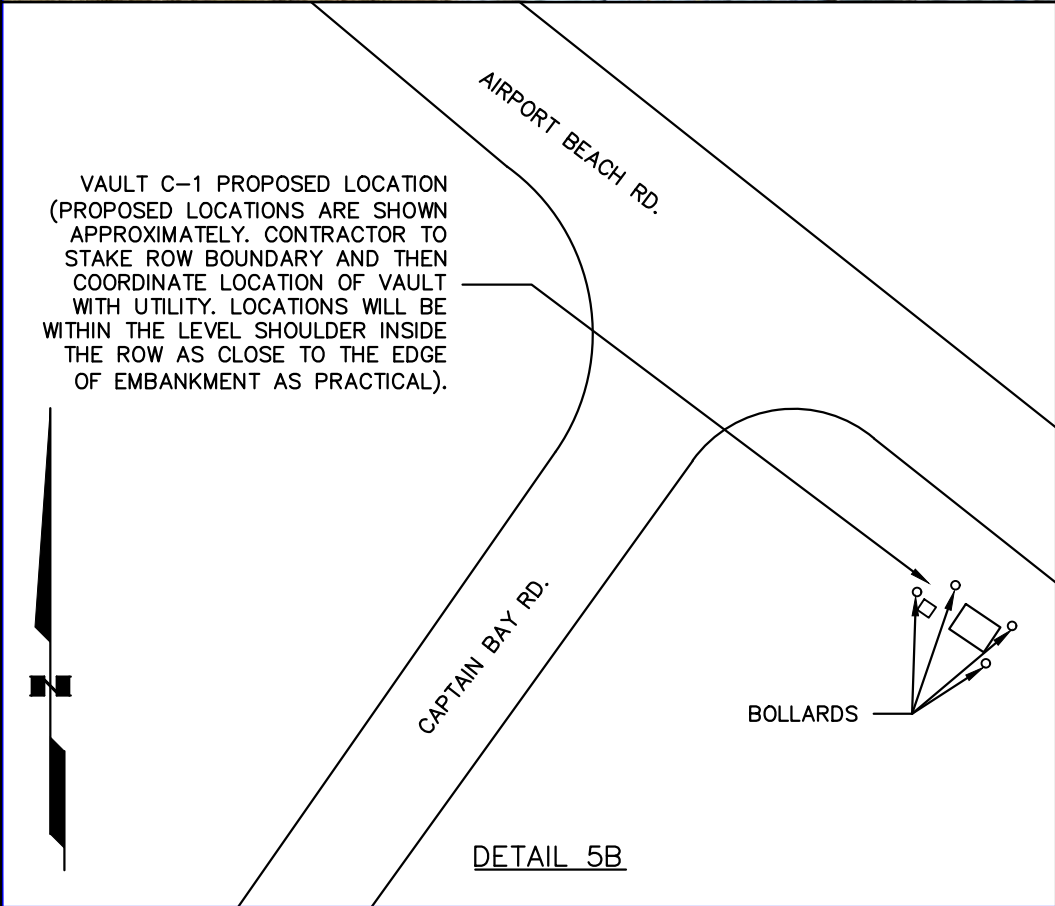
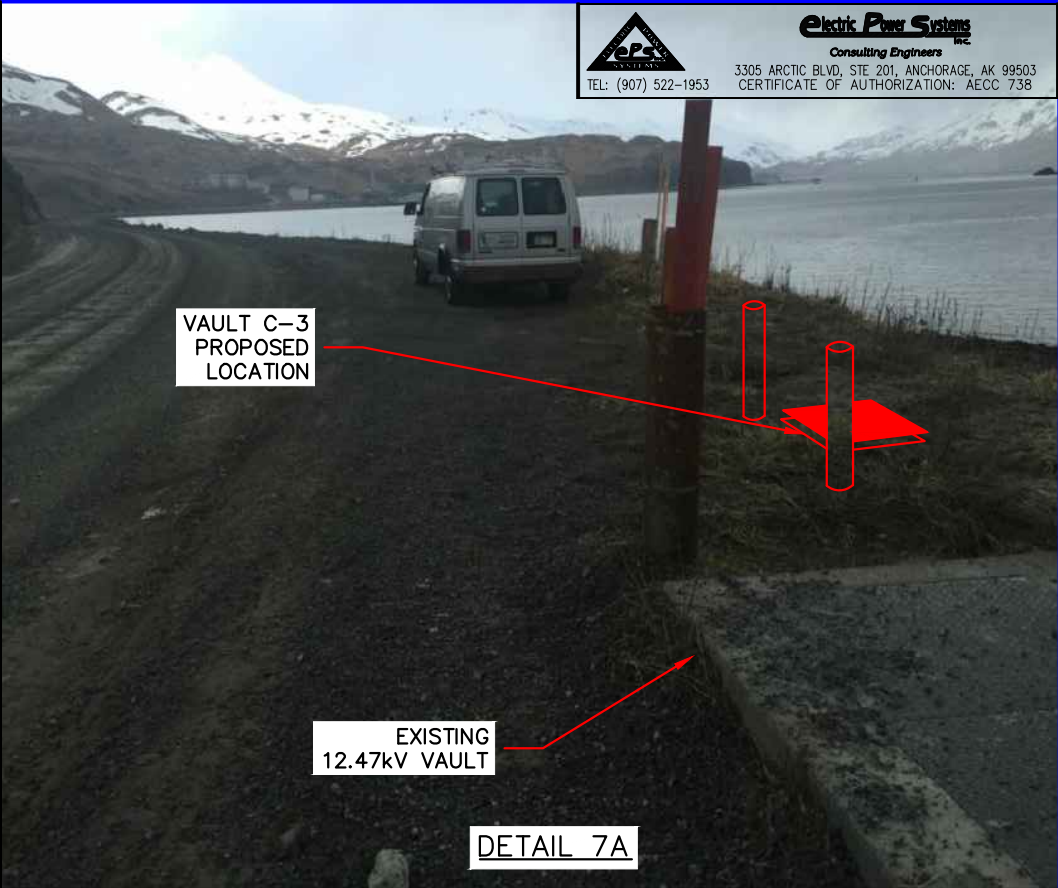
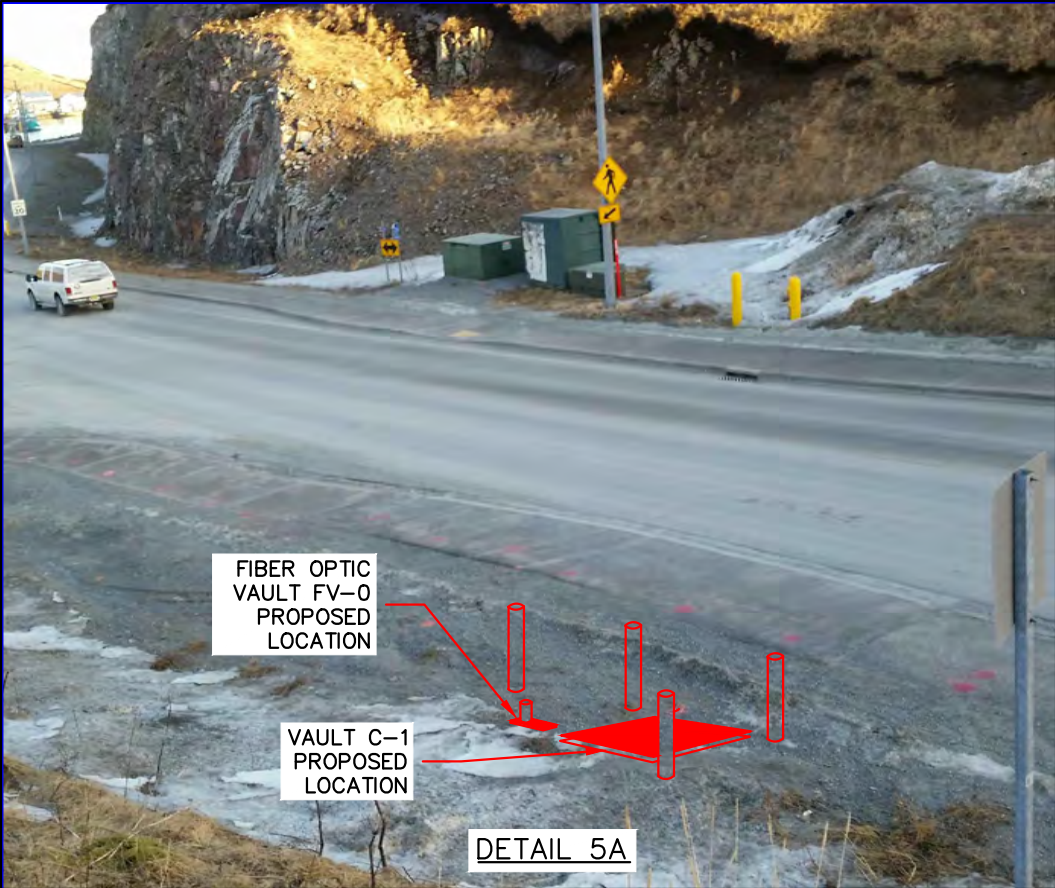
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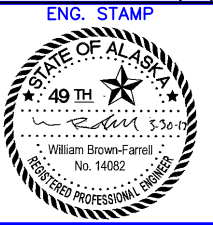
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16-0011_captain_bay_road_line_extension.dwg

SHEET 11 OF 30



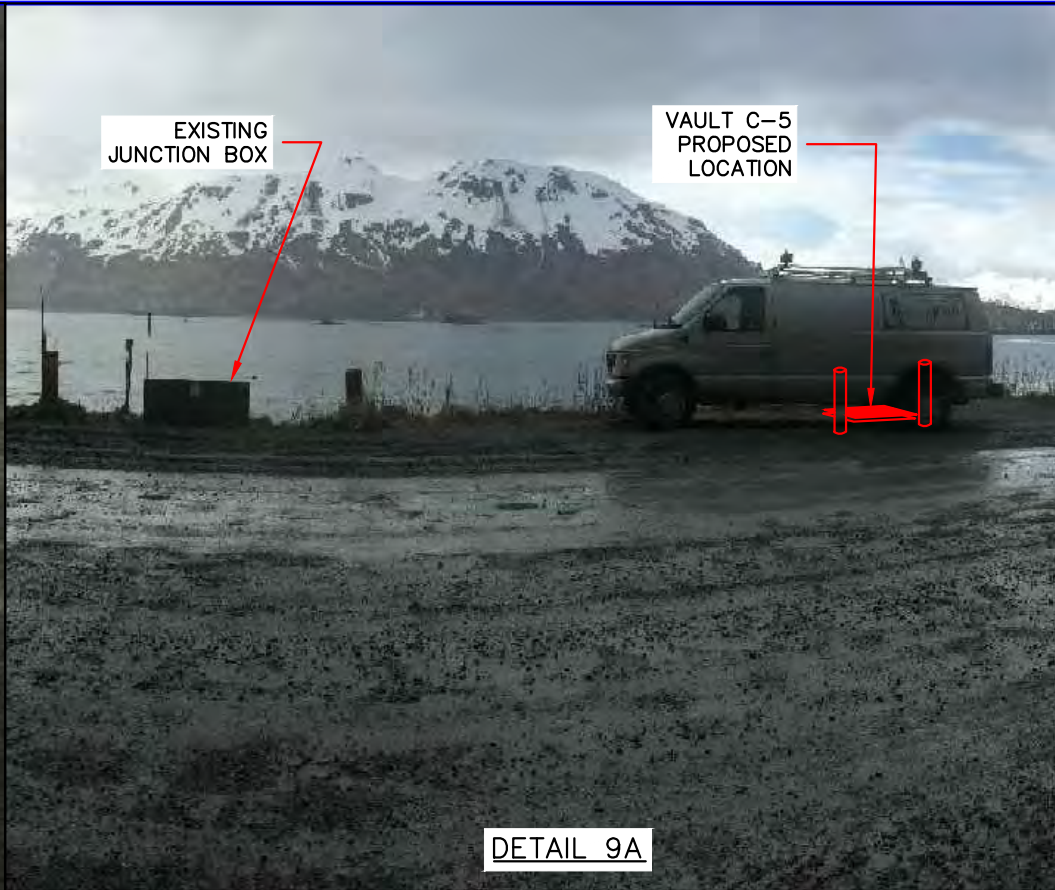
PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS				
W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/03-30-17	WBF/03-30-2017	



DRAWING NAME:		DUTCH HARBOR WESTWARD/CITY INTERTIE VAULT LOCATIONS	
REF DWG(S):		16-0011_captain_bay_road_line_extension.dwg	
DRAWING NO.:		E1.11	SHEET 12 OF 30



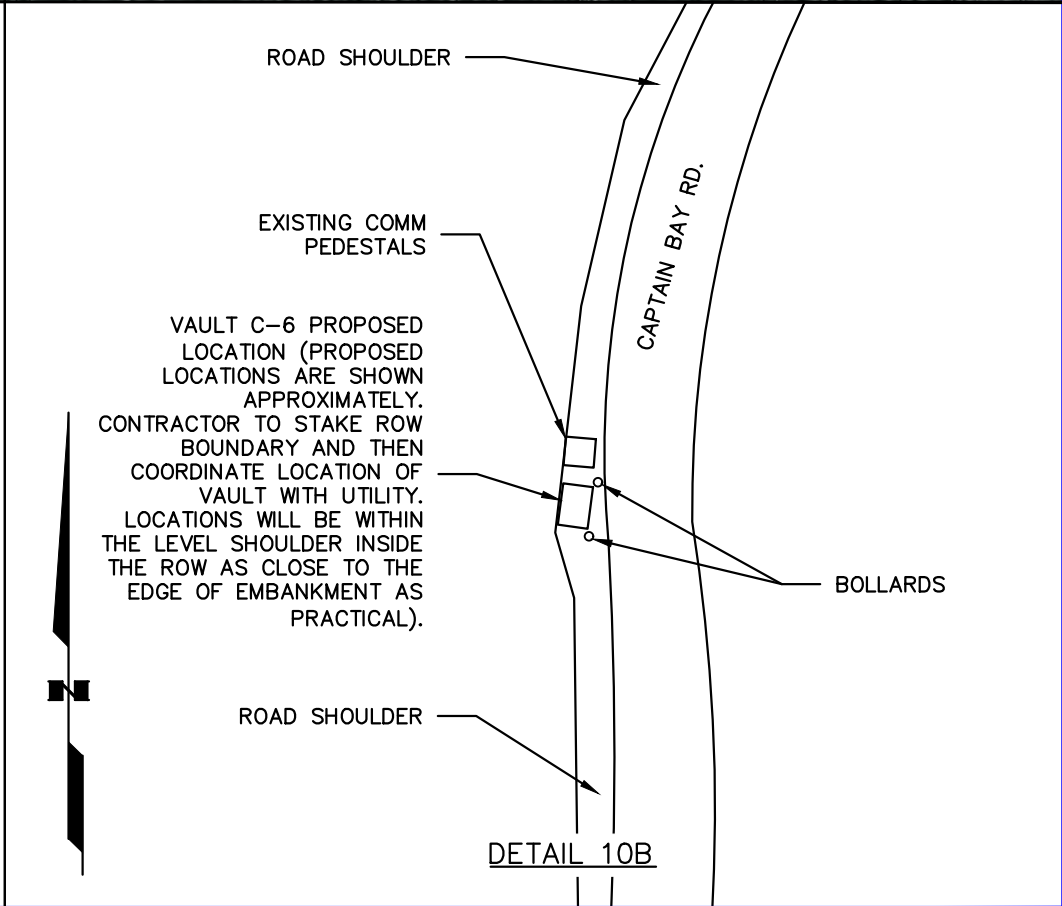
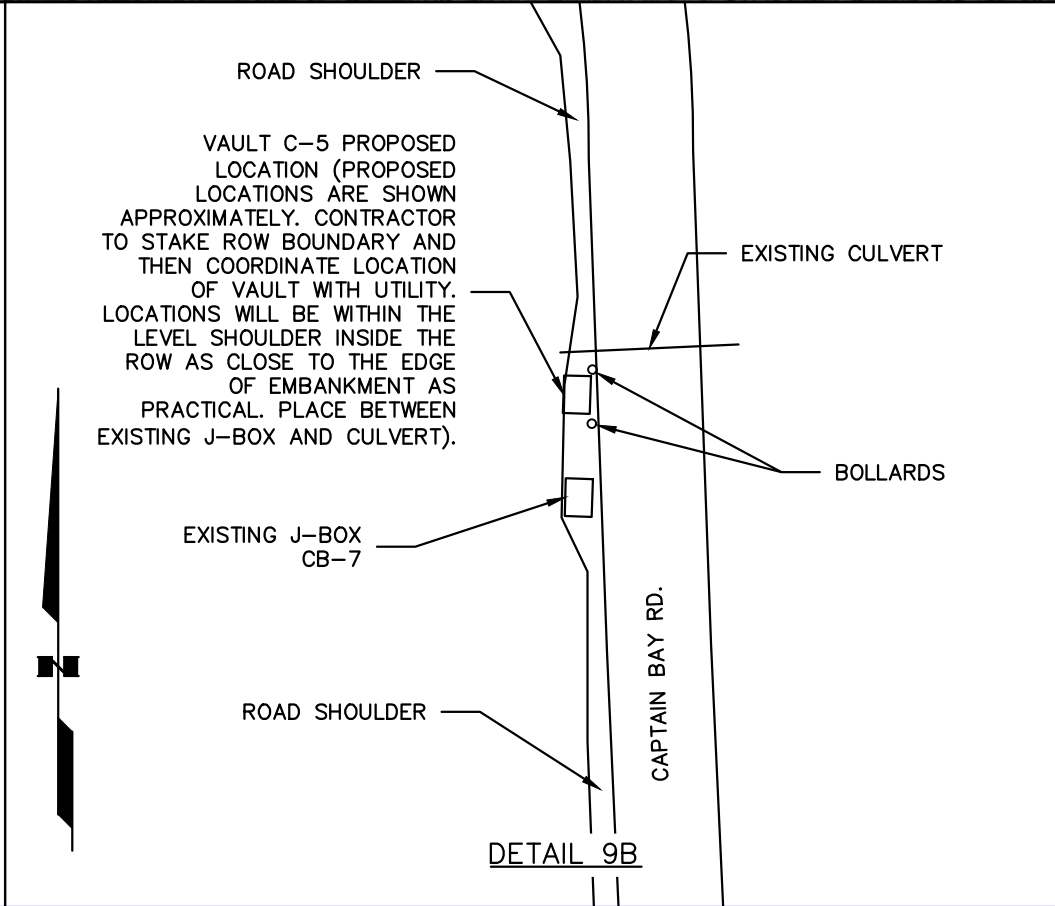
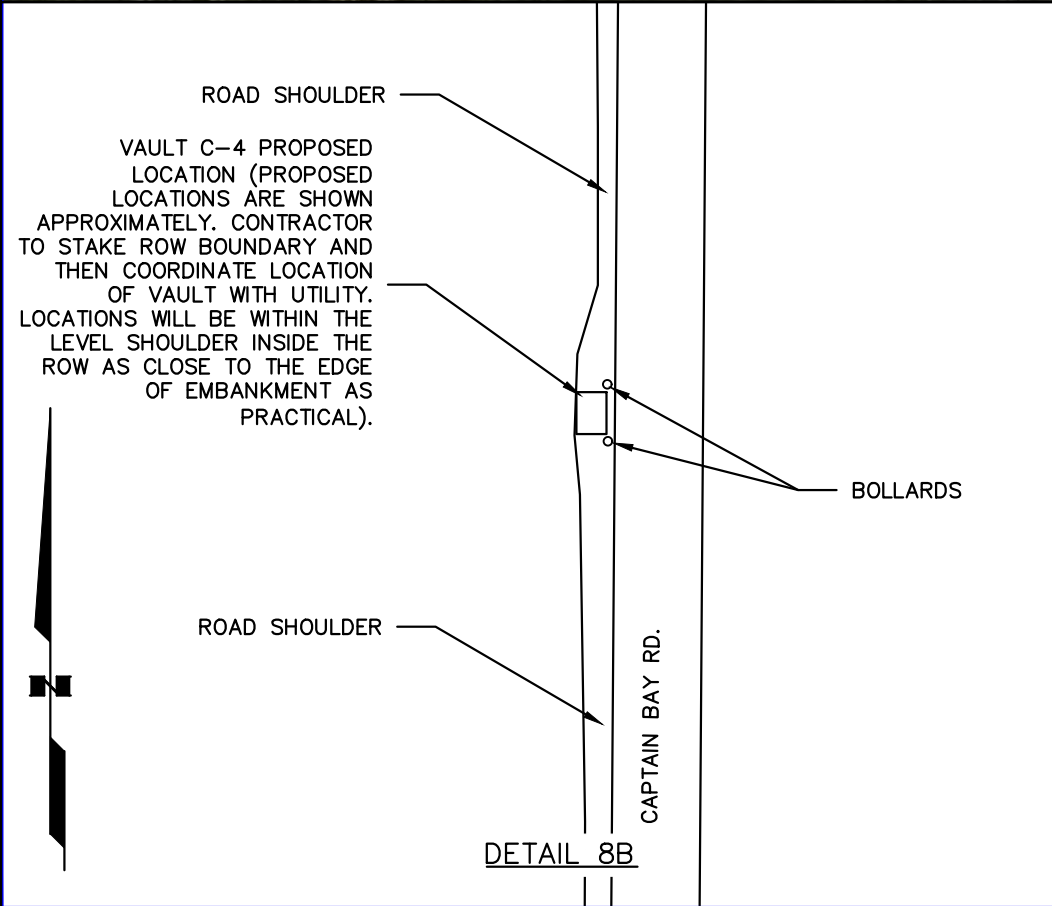
DETAIL 8A



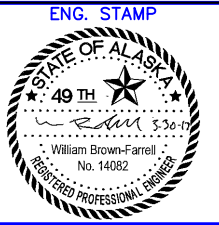
DETAIL 9A



DETAIL 10A



PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/03-30-17	WBF/03-30-2017	



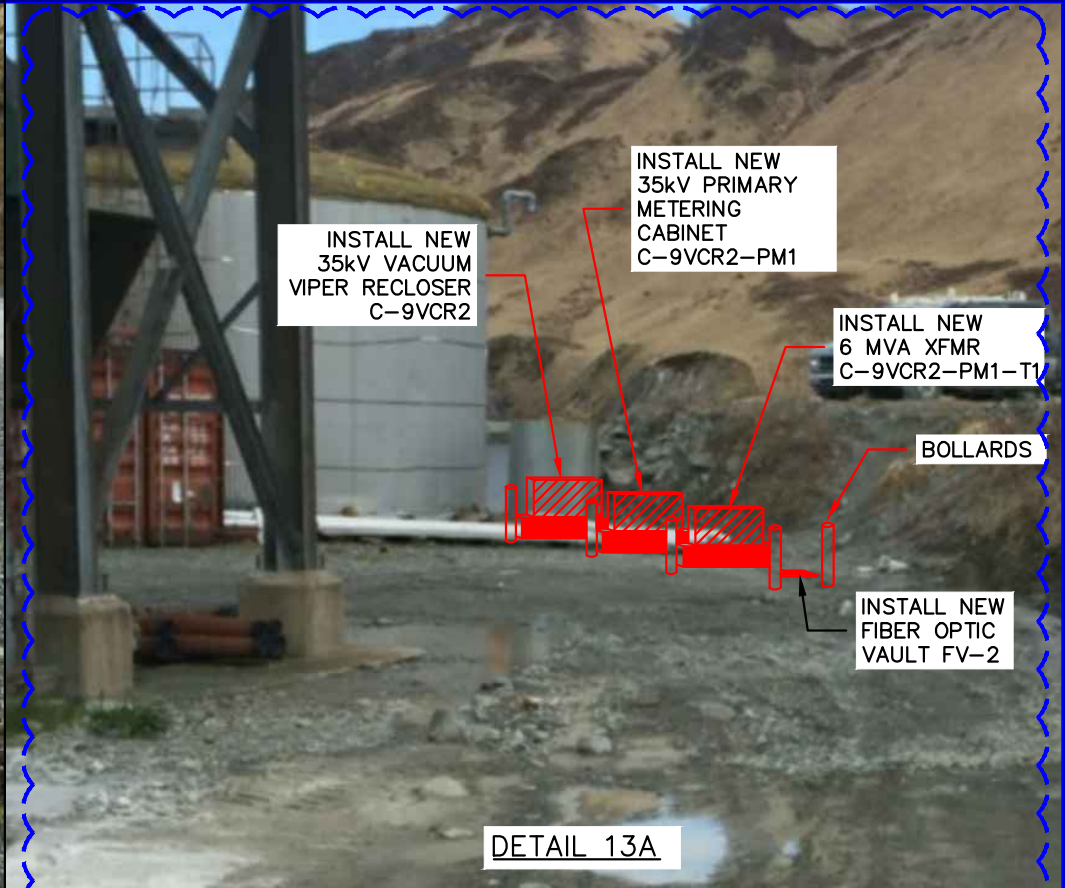
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REF DWG(S):		16-0011_captain_bay_road_line_extension.dwg	
DRAWING NO.:		E1.12	
		SHEET 13 OF 30	



DETAIL 11A

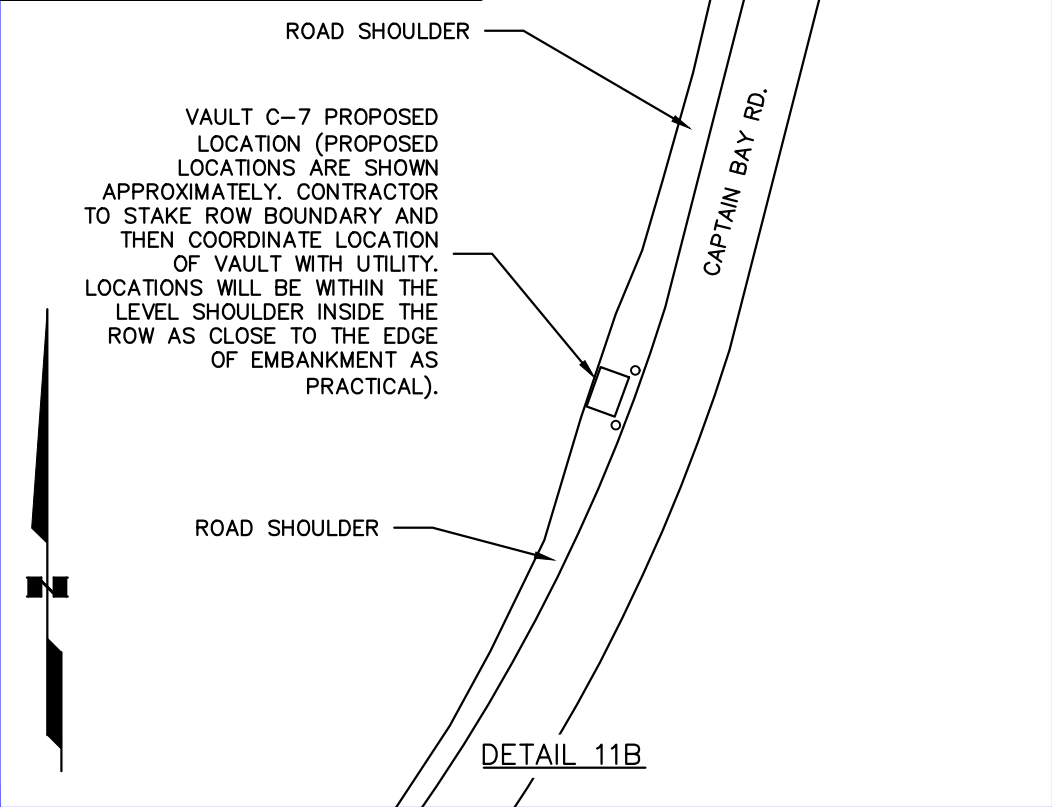


DETAIL 12A

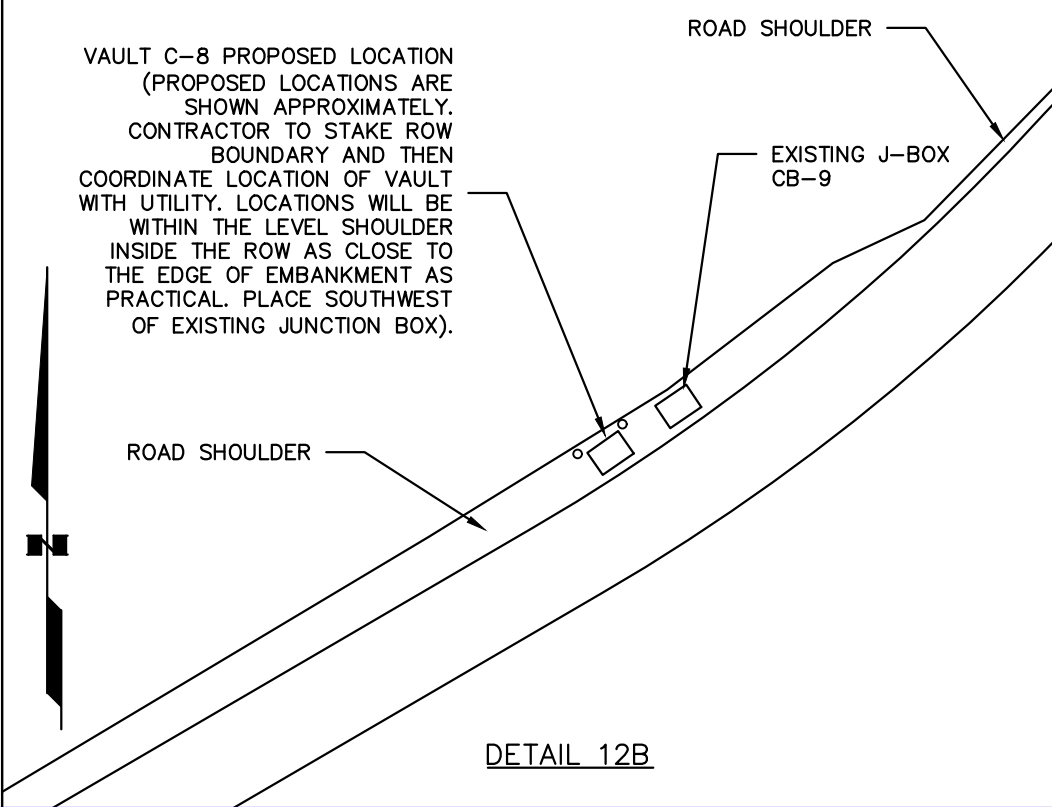


DETAIL 13A

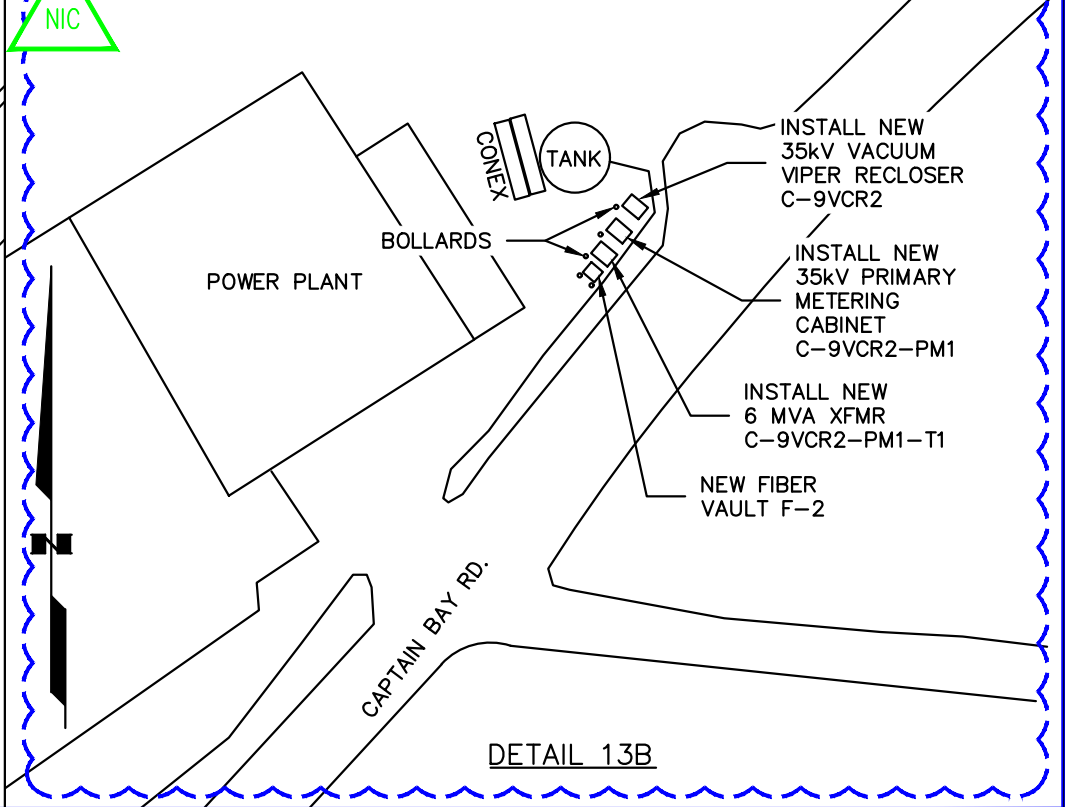
Electric Power Systems Inc.
Consulting Engineers
3305 ARCTIC BLVD, STE 201, ANCHORAGE, AK 99503
TEL: (907) 522-1953
CERTIFICATE OF AUTHORIZATION: AECC 738



DETAIL 11B

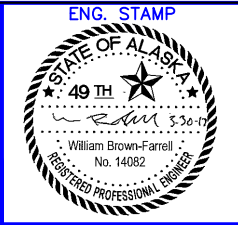


DETAIL 12B



DETAIL 13B

PROJECT: WESTWARD 35 kV INTERTIE DESIGN-BUILD				
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS				
W.O. #: 16-0011				
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE
0	ISSUED FOR BID	DRK/03-30-17	WBF/03-30-2017	



Electric Power Systems Inc.
Consulting Engineers
TEL: (907) 522-1953
FAX: (907) 522-1182

DRAWING NAME: **DUTCH HARBOR WESTWARD/CITY INTERTIE VAULT LOCATIONS**

REF DWG(S):

DRAWING NO.: **E1.13**

16-0011_captain_bay_road_line_extension.dwg

SHEET **14** OF **30**

LEGEND:

A

ABOVE GROUND SECTION CAN

B

BELOW GROUND VAULT

S

SWITCH

3

3 PHASE XFMR

1

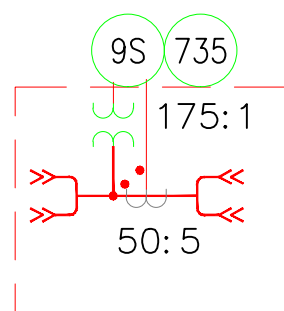
1 PHASE XFMR

34.5 kV

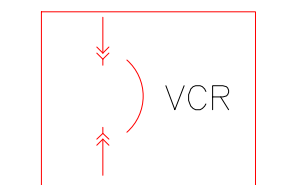
12.47 kV

4.16 kV

480 & 208 V



PRIMARY METERING STATION (SCADA)



VACUUM CIRCUIT RECLOSER

N.I.C. - RETIRED BY OTHERS

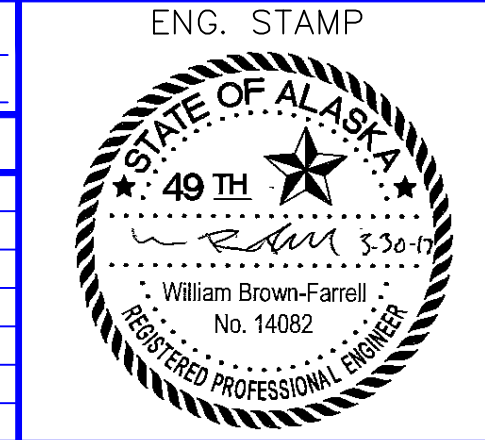
SPLICE


RETIRE J-BOXES, VAULTS AND CONDUCTOR BETWEEN, BUT NOT INCLUDING CB-4 AND CB-9

CAPTAIN'S BAY CIRCUIT

SPARE 4" PVC TO (OSI)


PROJECT: WESTWARD/CITY INTERTIE PROJECT			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS			
JOB #: 16-0011			
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR BID	DRK/03-30-2017	WFB/03-30-2017





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FAX: (907) 522-1182
WEB: WWW.EPSINC.COM

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION
1	E2.01/1	SINGLE LINE DIAGRAM - EXISTING

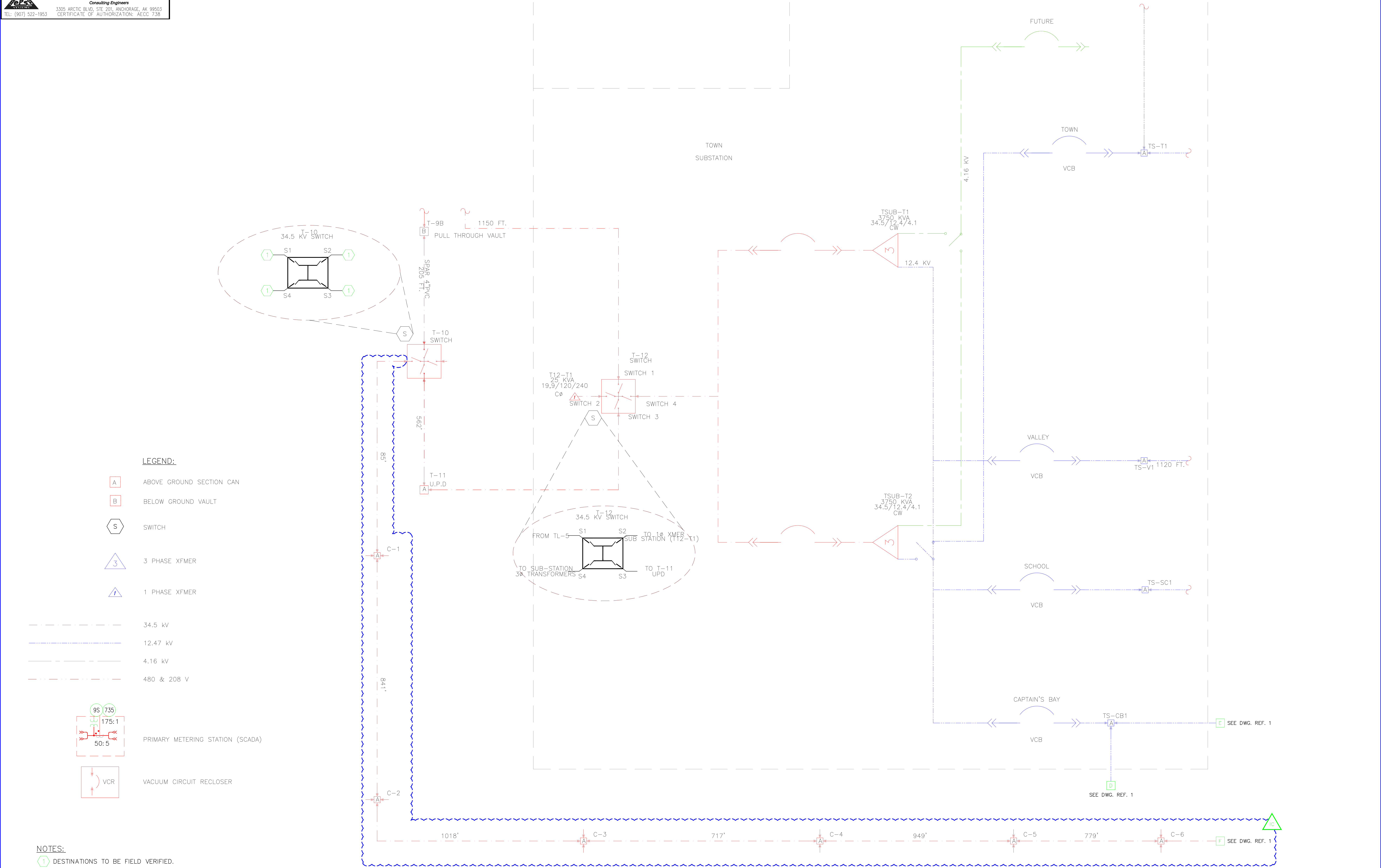


Electric Power Systems
Consulting Engineers
3305 ARCTIC BLVD, STE 201, ANCHORAGE, AK 99503
TEL: (907) 522-1953
CERTIFICATE OF AUTHORIZATION: AECOC 738

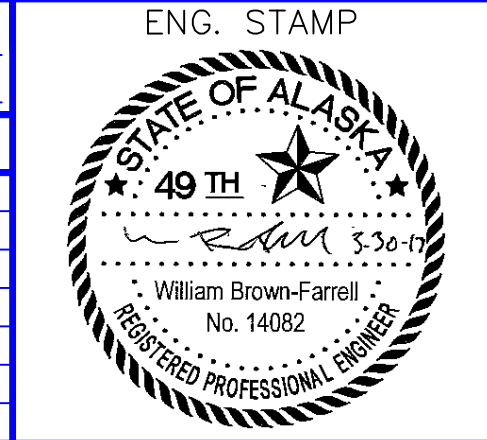
CITY OF UNALASKA
WESTWARD/CITY INTERTIE
SINGLE LINE DIAGRAM - EXISTING

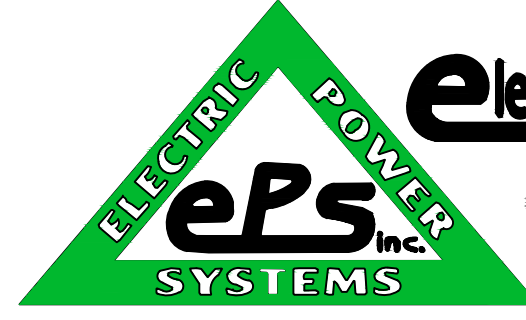
DRAWING NAME:
REF DWG(S):
DRAWING NO.: **E2.02**

e2.02.dwg
SHEET **16** OF **30**



PROJECT: WESTWARD/CITY INTERTIE PROJECT			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS			
JOB #: 16-0011			
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR BID	DRK/03-30-2017	WBF/03-30-2017





electric Power Systems Inc.
Consulting Engineers
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WEB: WWW.EPSINC.COM

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION
1	E2.04/1	SINGLE LINE DIAGRAM - PROPOSED

DRAWING NAME:		CITY OF UNALASKA WESTWARD/CITY INTERTIE SINGLE LINE DIAGRAM - PROPOSED	
REF DWG(S):		SEE DWG. REF. 1	
DRAWING NO.:		E2.03	
SHEET		17 OF 30	

LEGEND:

A ABOVE GROUND SECTION CAN

B BELOW GROUND VAULT

S SWITCH

3 3 PHASE XFMR

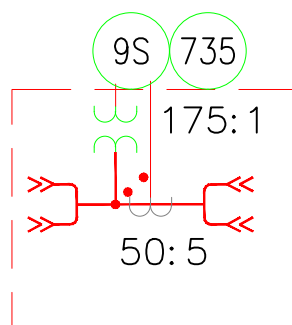
1 1 PHASE XFMR

34.5 kV

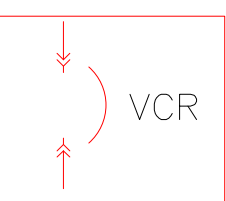
12.47 kV

4.16 kV

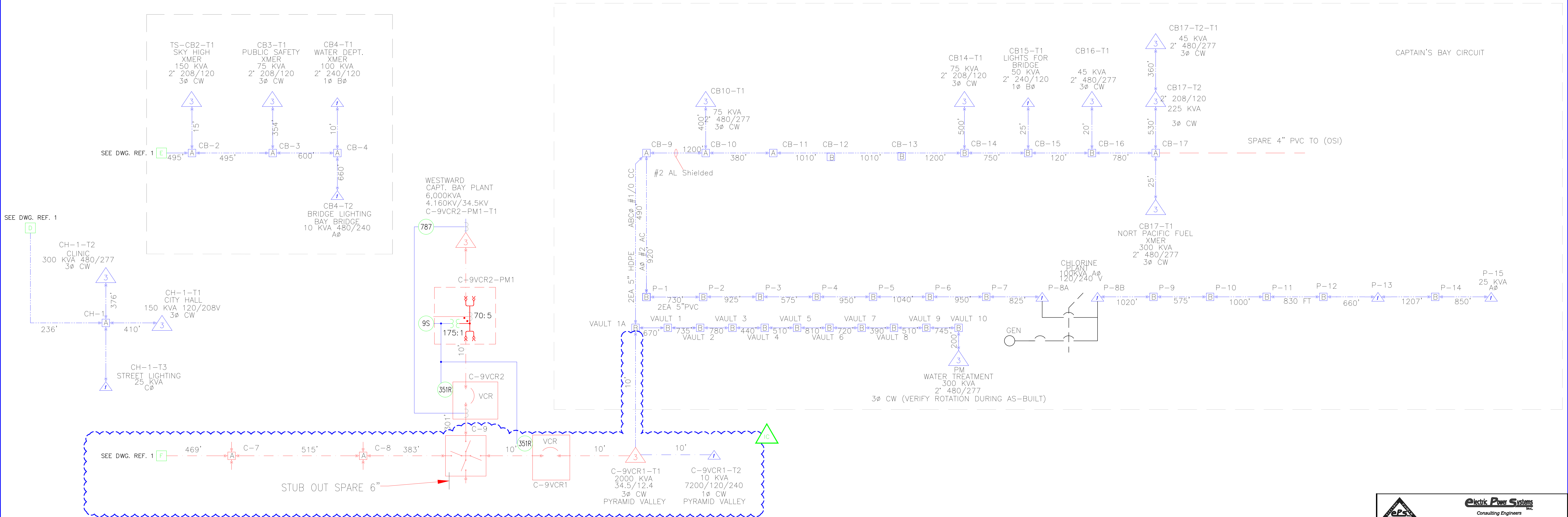
480 & 208 V



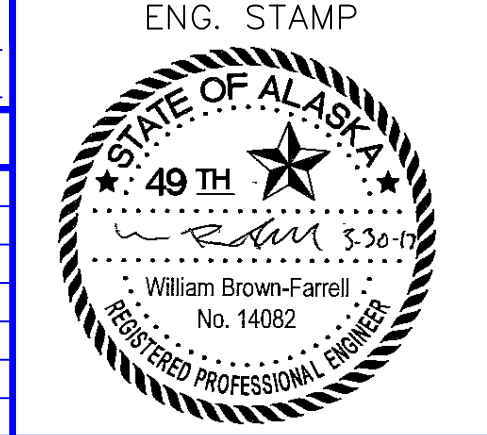
PRIMARY METERING STATION (SCADA)



VACUUM CIRCUIT RECLOSER



PROJECT: WESTWARD/CITY INTERTIE PROJECT			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS			
JOB #: 16-0011			
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR BID	DRK/03-30-2017	WBF/03-30-2017



electric Power Systems Inc.
Consulting Engineers

TEL: (907) 522-1953
FAX: (907) 522-1182
WEB: WWW.EPSINC.COM

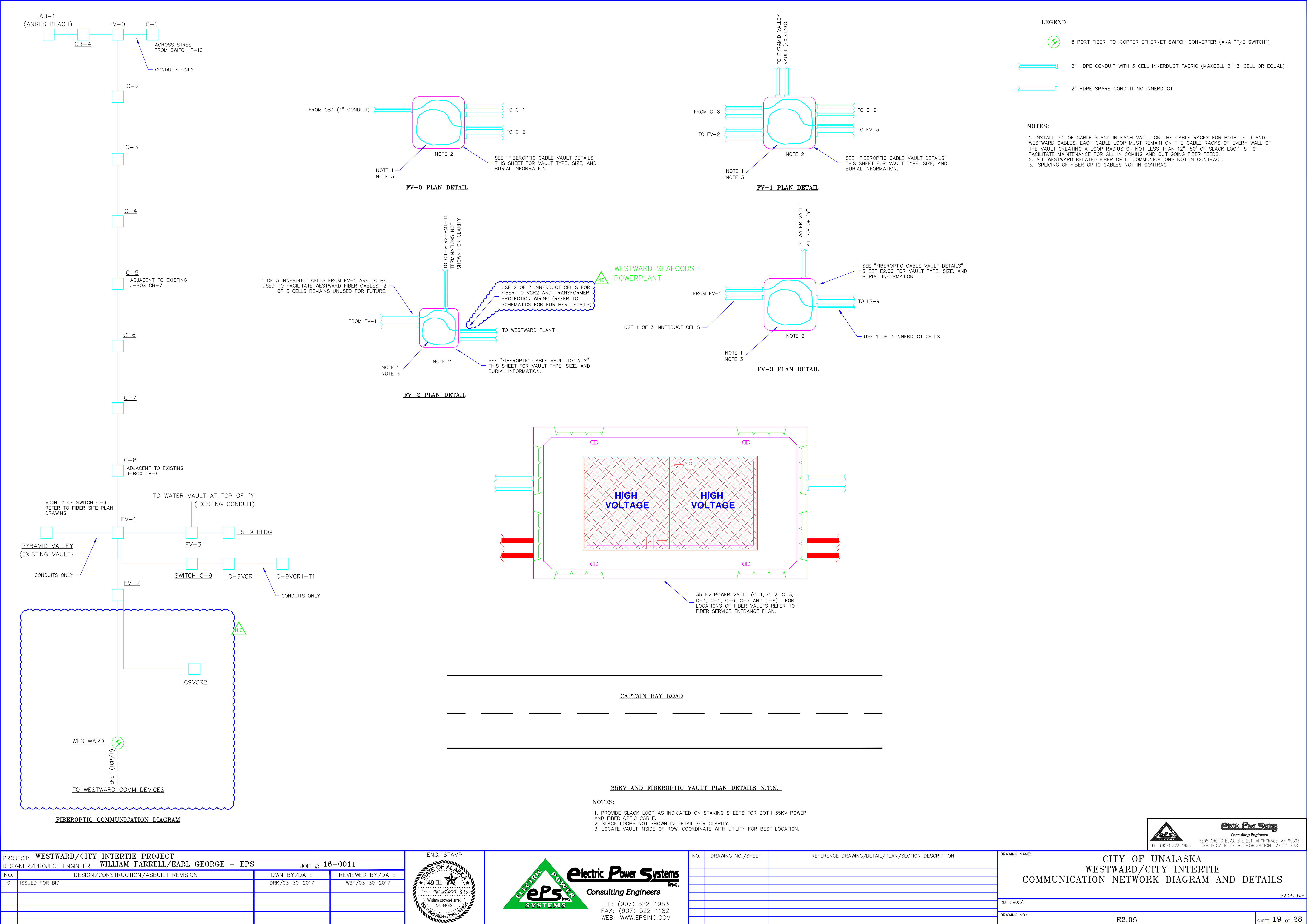
NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION
1	E2.03/1	SINGLE LINE DIAGRAM - PROPOSED

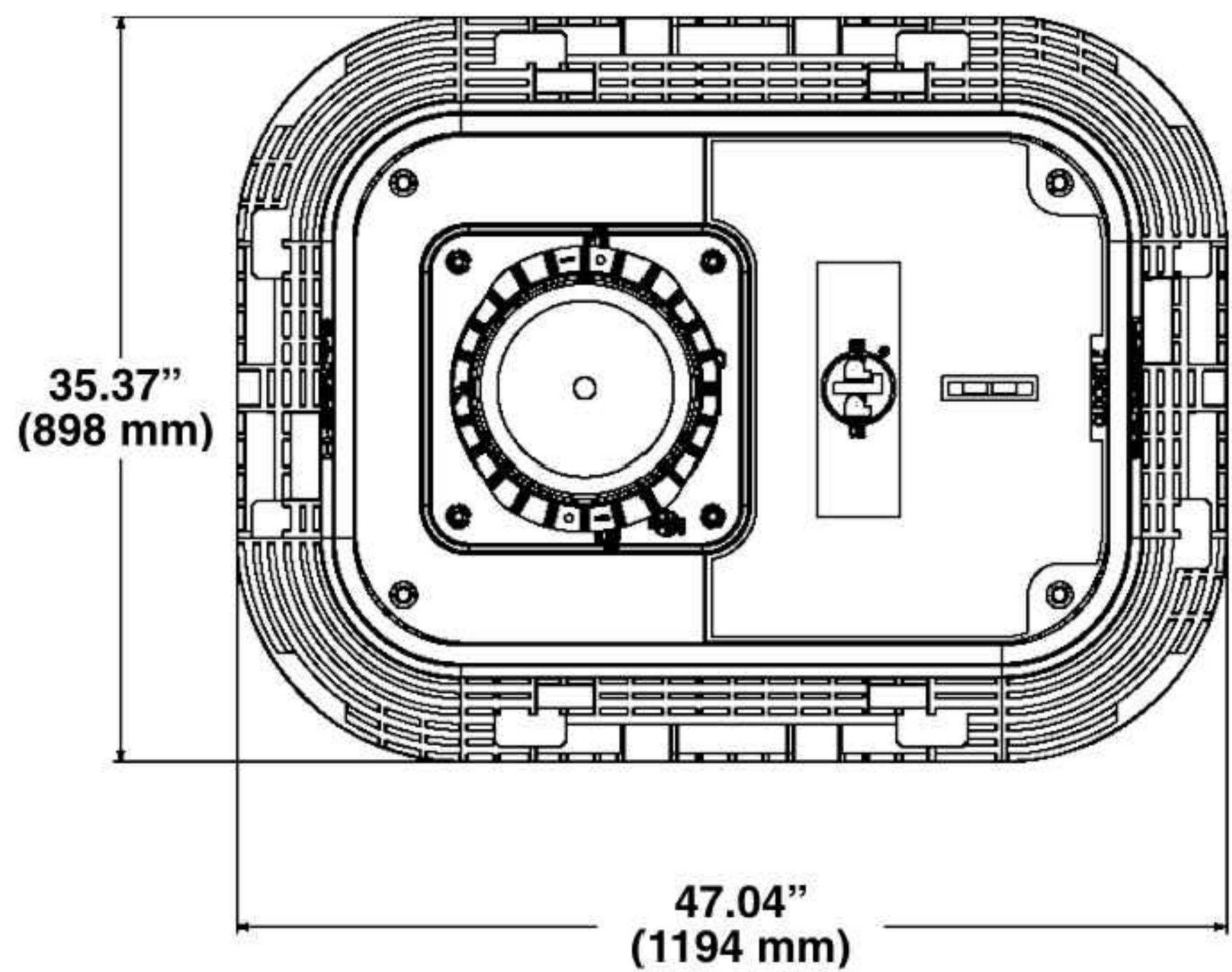
DRAWING NAME: **CITY OF UNALASKA
WESTWARD/CITY INTERTIE
SINGLE LINE DIAGRAM - PROPOSED**

REF DWG(S): **e2.04.dwg**

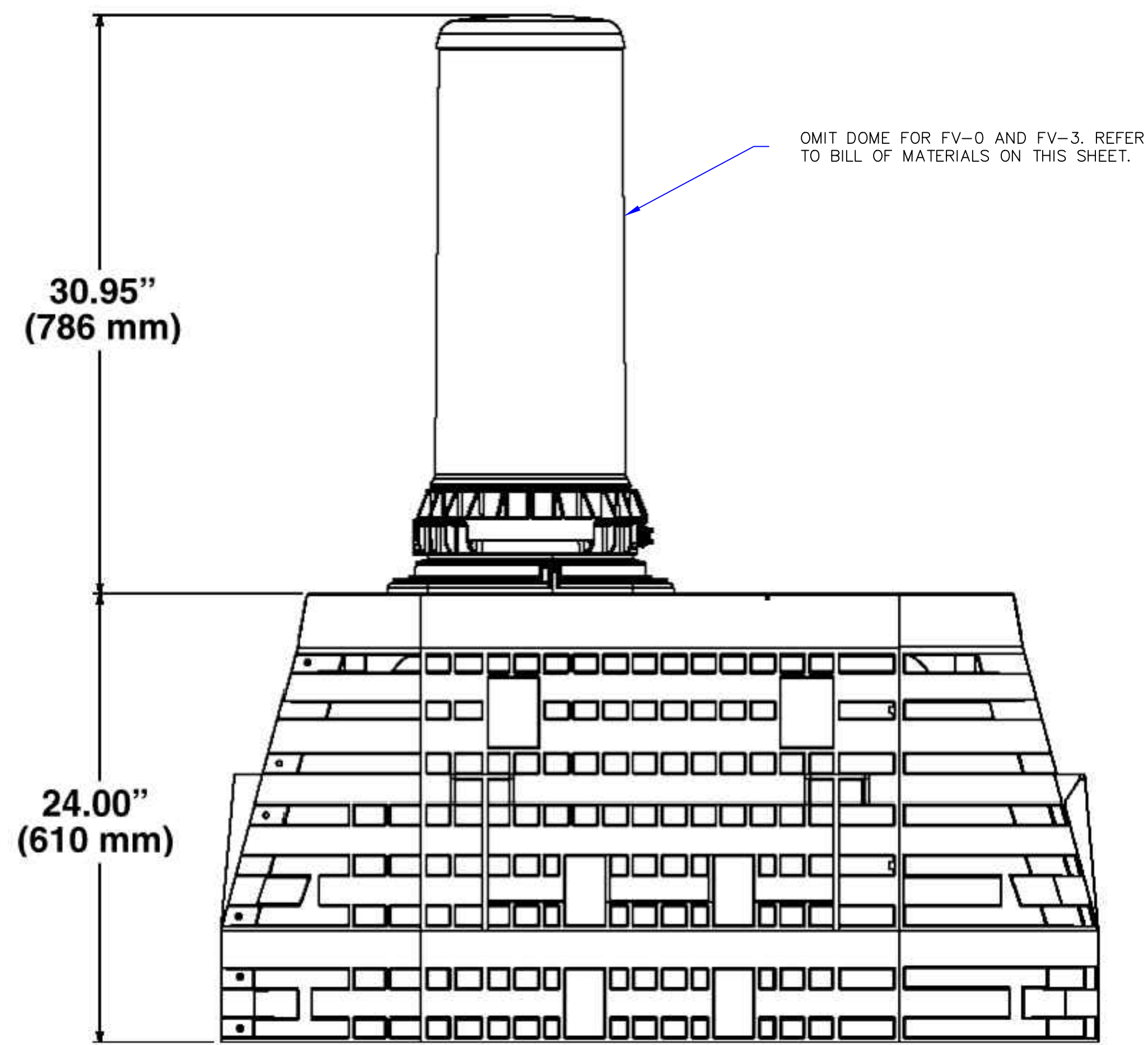
DRAWING NO.: **E2.04**

SHEET **18** OF **30**

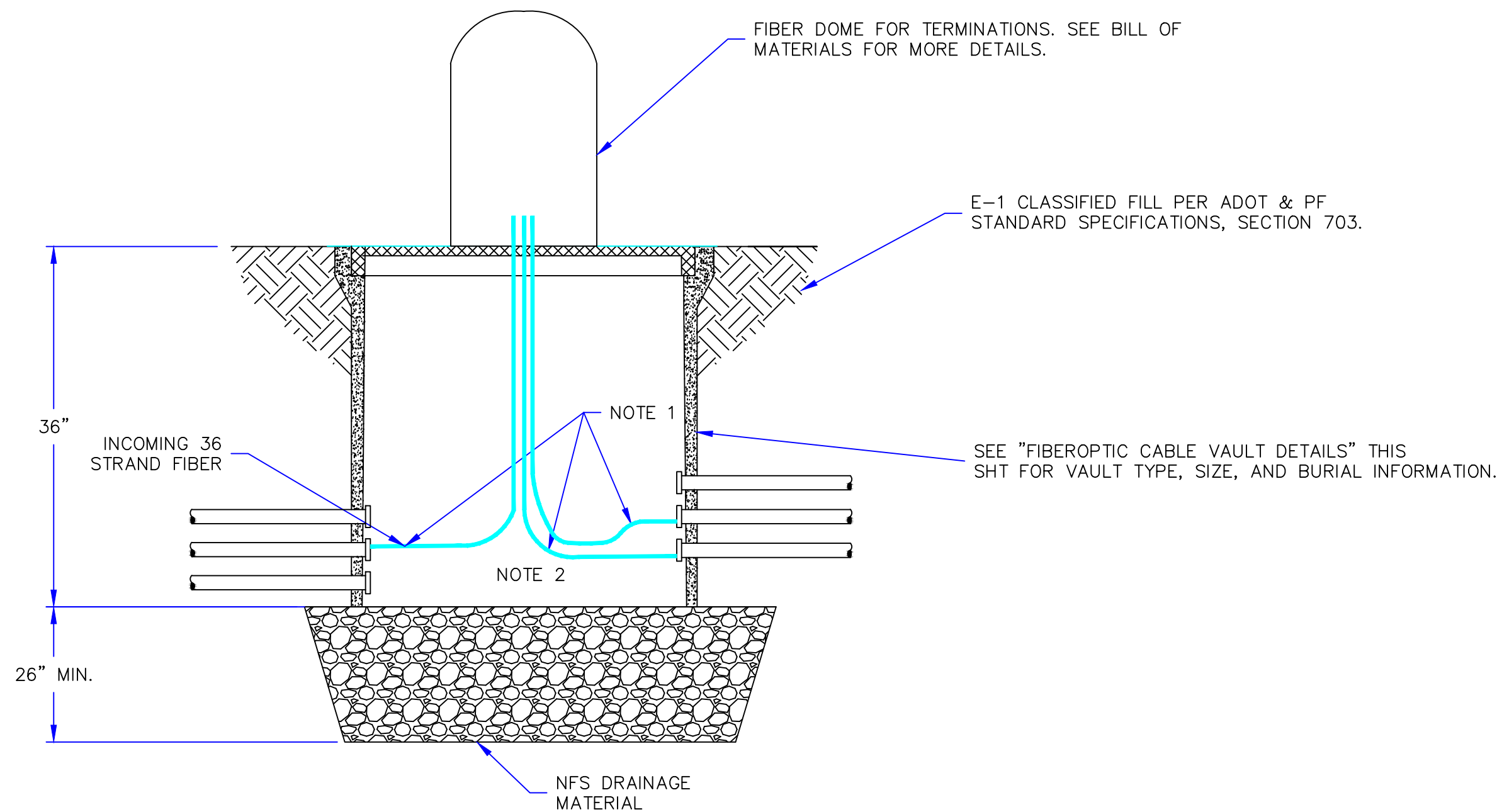




1 FIBER VAULT AND DOME PLAN DETAIL (N.T.S.)
(NOT ALL VARIATIONS SHOWN. SEE BOM FOR SPECIFIC DETAILS)



2 FIBER VAULT AND DOME ELEVATION DETAIL (N.T.S.)
(NOT ALL VARIATIONS SHOWN. SEE BOM FOR SPECIFIC DETAILS)

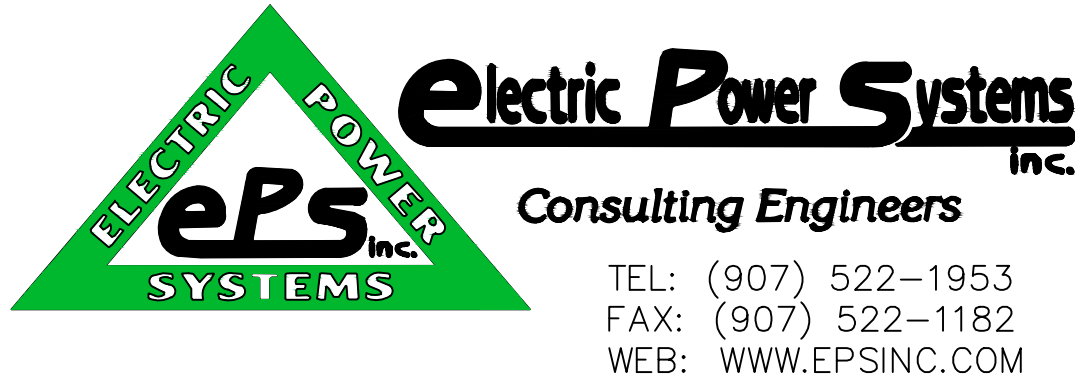
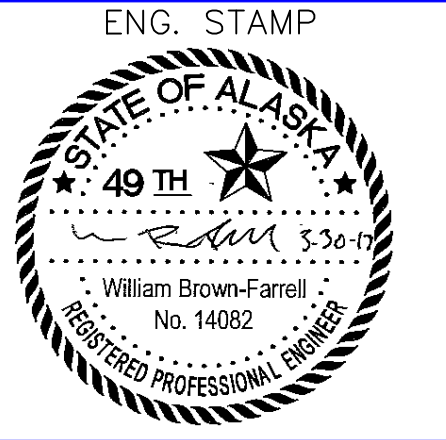


3 FIBEROPTIC CABLE PATCH PANEL ELEVATION DETAIL (N.T.S.)

BOM-CAPTAIN'S BAY INTERTIE FIBER-OPTIC COMMUNICATIONS						
NUMBER	UNIT	QTY.	DESCRIPTION	LOCATION	MFGR./CATALOG NO.	NOTE
1	EA	2	GLC-1	FV-0,FV-3	PREFORMED LINE PRODUCTS/COYGLC-C4-000	LARGE BASE W/ COVER AND PLUG
2	EA	2	GLC-2	FV-1,FV-2	PREFORMED LINE PRODUCTS/COYGLC-C4-001	LARGE BASE W/ COVER AND NO PLUG
3	EA	1	GLC-3	FV-1	PREFORMED LINE PRODUCTS/COYGLC-F7-000	28" CROSS-CONNECT ORGANIZER
4	EA	1	GLC-4	FV-2	PREFORMED LINE PRODUCTS/COYGLC-F3-000	17" CROSS-CONNECT ORGANIZER
5	EA	2	GLC-5	FV-1,FV-2	PREFORMED LINE PRODUCTS/COYGLC-S5-000	GROUNDING SPACER
6	EA	12	GLC-6	AB-1,FV-1,FV-2	PREFORMED LINE PRODUCTS/P12LC3** OR EQUAL	SINGLE MODE (OS1/OS2) FACTORY POLISHED LC 12-FIBER PIGTAIL
7	EA	3	TRAY-1	FV-1,FV-2	PREFORMED LINE PRODUCTS/80809958	24CT DEEP PROFILE SPLICE TRAY
8	EA	1	TRAY-2	FV-1	PREFORMED LINE PRODUCTS/80808945	40CT DEEP PROFILE SPLICE TRAY
9	EA	12	FAP-1	FV-1,FV-2	PREFORMED LINE PRODUCTS/12SMLC	12 LC/UPC ADAPTER MODULE
10	EA	1	ENCL-1	AB-1	PENTAIR/PTHS242436X	ENCLOSURE STAINLESS
11	EA	1	ENCL-2	AB-1	PENTAIR/PTR24* INCLUDED IN (ENCL-1)	RAIL KIT
12	EA	1	ENCL-3	AB-1	PENTAIR/CP2020	BACK PLATE
13	EA	2	TERM-1	AB-1	PANDUIT/FRME1U	3 FAP OPTICOM RACK MOUNT FIBER ENCLOSURE**ACCESSORIES
14	EA	4	TERM-2	AB-1	PANDUIT/FAP6WBUDLCZ	FIBER ADAPTER PLATES 6 LC/DUPLEX
**Contractor is responsible for providing all consumables and manufacturer required accessories to install and provide a completely functional system. All connections to fiber backbone shall be through the means of fusion splice to manufactured, factory polished type LC pigtails. No mechanical splices or terminations allowed.						
**Exception - Allowed for temporary connection for cable acceptance testing and Verification						
**Contractor is responsible for providing fusion splicing and testing equipment as well as any labor or miscellaneous components required to carry out the required tasks. These may include but are not limited to: precision cleaver, strippers, splice trays, splints, heat shrink, tie wraps, bushings, seals, hand tools, cleaners, safety equipment and consumables.						
**Contractor is responsible for all conduit, raceway, patch cables and accessories required to complete system as outlined in the scope of work and project drawings. All pull points, termination points and enclosures shall be such that they do not exceed the fiber cable manufacturer installation requirements or permanent bending radius requirments after installation. No Condulets allowed in Fiber raceway path, No exceptions.						
**Bid Alternate #1 - Alternate bid item is for the purchase, mobilization, installation and testing of approx. 7,000 feet of non conductive 18/pr (36 count) OS1/OS2 fiber-optic cable between FV-1 and AB-1. All conduit, raceway, enclosures, vaults, pedestals and components as shown on the drawings to facilitate this install will be installed regardless of the acceptance of the alternate bid item.						

NOTES:
1. INSTALL 50' OF CABLE SLACK IN EACH VAULT ON THE CABLE RACKS FOR BOTH LS-9 AND WESTWARD CABLES. EACH CABLE LOOP MUST REMAIN ON THE CABLE RACKS OF EVERY WALL OF THE VAULT CREATING A LOOP RADIUS OF NOT LESS THAN 12". 50' OF SLACK LOOP IS TO FACILITATE MAINTENANCE FOR ALL IN COMING AND OUT GOING FIBER FEEDS.
2. SLACK LOOPS IN VAULT NOT SHOWN FOR CLARITY
3. SEE REFERENCE 6 AND STAKING SHEETS FOR CONDUIT PLANS FOR EACH VAULT.

PROJECT: WESTWARD/CITY INTERTIE PROJECT			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS			
JOB #:		16-0011	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR BID	DRK/03-30-2017	WBF/03-30-2017

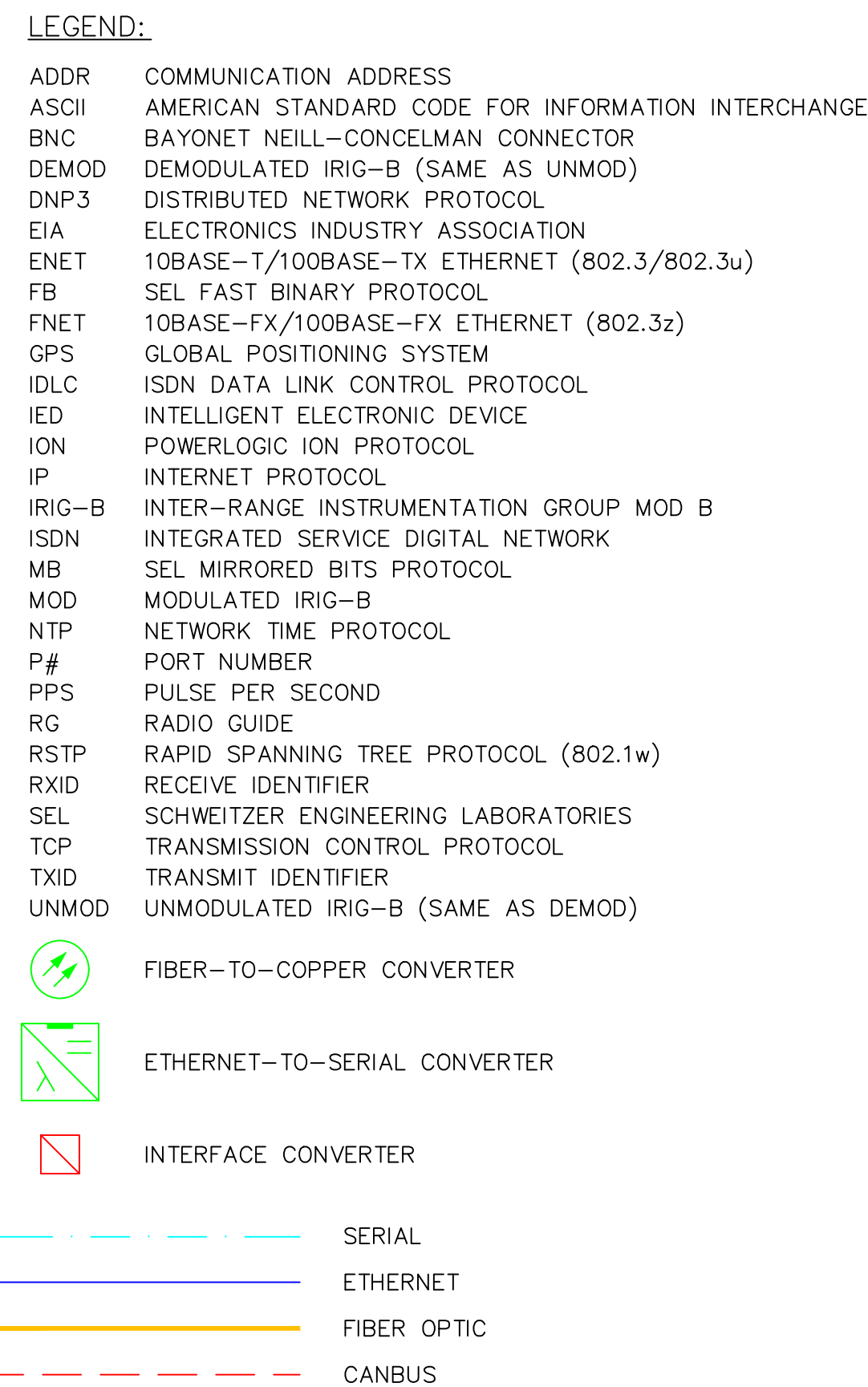


NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:		CITY OF UNALASKA WESTWARD/CITY INTERTIE COMMUNICATION VAULT DETAILS	
REF DWG(S):		e2.06.dwg	
DRAWING NO.:		E2.06	SHEET 20 of 30



OUTDOOR EQUIPMENT
CAPTAIN'S BAY PLANT YARD

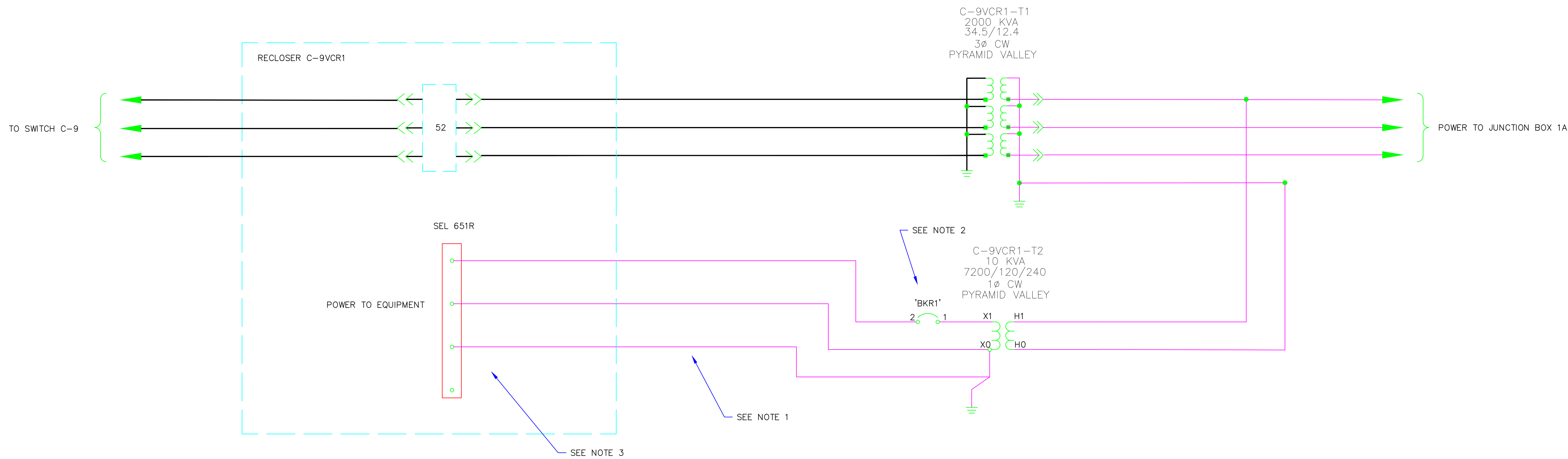
OUTDOOR EQUIPMENT
CAPTAIN'S BAY ROAD



NOTES:

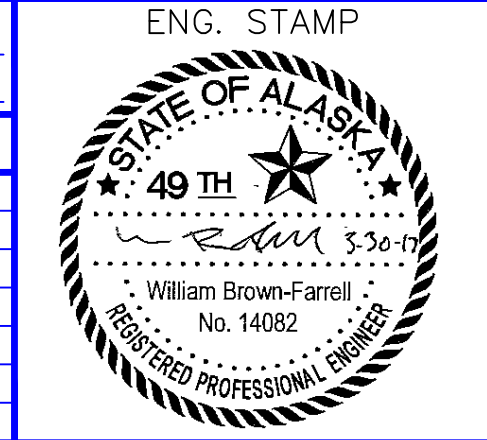
1. THE NOT IN CONTRACT WORK SHOWN WILL BE INSTALLED BY THE CITY OF UNALASKA'S CONTRACTOR. COORDINATE INSTALLATION WITH THE CITY'S CONTRACTOR.
2. SEE REFERENCE 1 FOR CONNECTION TO CITY COMMUNICATION SYSTEM

PROJECT: WESTWARD/CITY INTERTIE PROJECT				ENG. STAMP		NO.		DRAWING NO./SHEET		REFERENCE: DRAWING/DETAIL/PLAN/SECTION DESCRIPTION		DRAWING NAME:			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS				JOB #: 16-0011		  <p>electric Power Systems Inc. Consulting Engineers</p> <p>TEL: (907) 522-1953 FAX: (907) 522-1182 WEB: WWW.EPSINC.COM</p>		1		E2.05		COMMUNICATION NETWORK DIAGRAM AND DETAILS		<p align="center">CITY OF UNALASKA WESTWARD/CITY INTERTIE WESTWARD UTILITY COMMUNICATIONS SINGLE LINE DIAGRAM</p> <p align="right">e2.07.dwg</p>	
NO.		DESIGN/CONSTRUCTION/ASBUILT REVISION		DWN BY/DATE				REVIEWED BY/DATE				REF DWG(S):			
0		ISSUED FOR BID		DRK/03-30-2017				WBF/03-30-2017				DRAWING NO.: E2.07			
												SHEET 21 OF 30			



- NOTES:
1. INSTALL 3/4 #14 XHHW-2 FOR RECLOSER CONTROL POWER. SEE STAKING SHEETS FOR CONDUIT SCHEDULE
 2. DIN RAIL MOUNTED BREAKER(S) 1 MAIN AND 2 EACH LOAD MOUNTED IN A STAINLESS ENCLOSURE, WITH TERMINALS FOR LOAD SIDE OF BREAKER AS WELL AS GROUND CONNECTION AND NEUTRAL CONNECTIONS.
 3. VERIFY TERMINATION POINTS WITH THE RECLOSER AS-BUILT DRAWINGS TO BE PROVIDED BY THE OWNER
 4. RELAY PROGRAMMING AND COMMISSIONING BY OTHERS.
 5. INSTALL TERMINATION BLOCK INSIDE TRANSFORMER W/PROVISIONS FOR 4 EACH 120 LOAD TERMINALS FROM EACH CIRCUIT, 4 NEUTRAL TERMINALS AND 8 GROUND TERMINALS PER CIRCUIT.

PROJECT: WESTWARD/CITY INTERTIE PROJECT			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS			
JOB #: 16-0011			
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR BID	DRK/03-30-2017	WBF/03-30-2017



electric Power Systems Inc.
Consulting Engineers

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FAX: (907) 522-1182
WEB: WWW.EPSINC.COM

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

electric Power Systems Inc.
Consulting Engineers

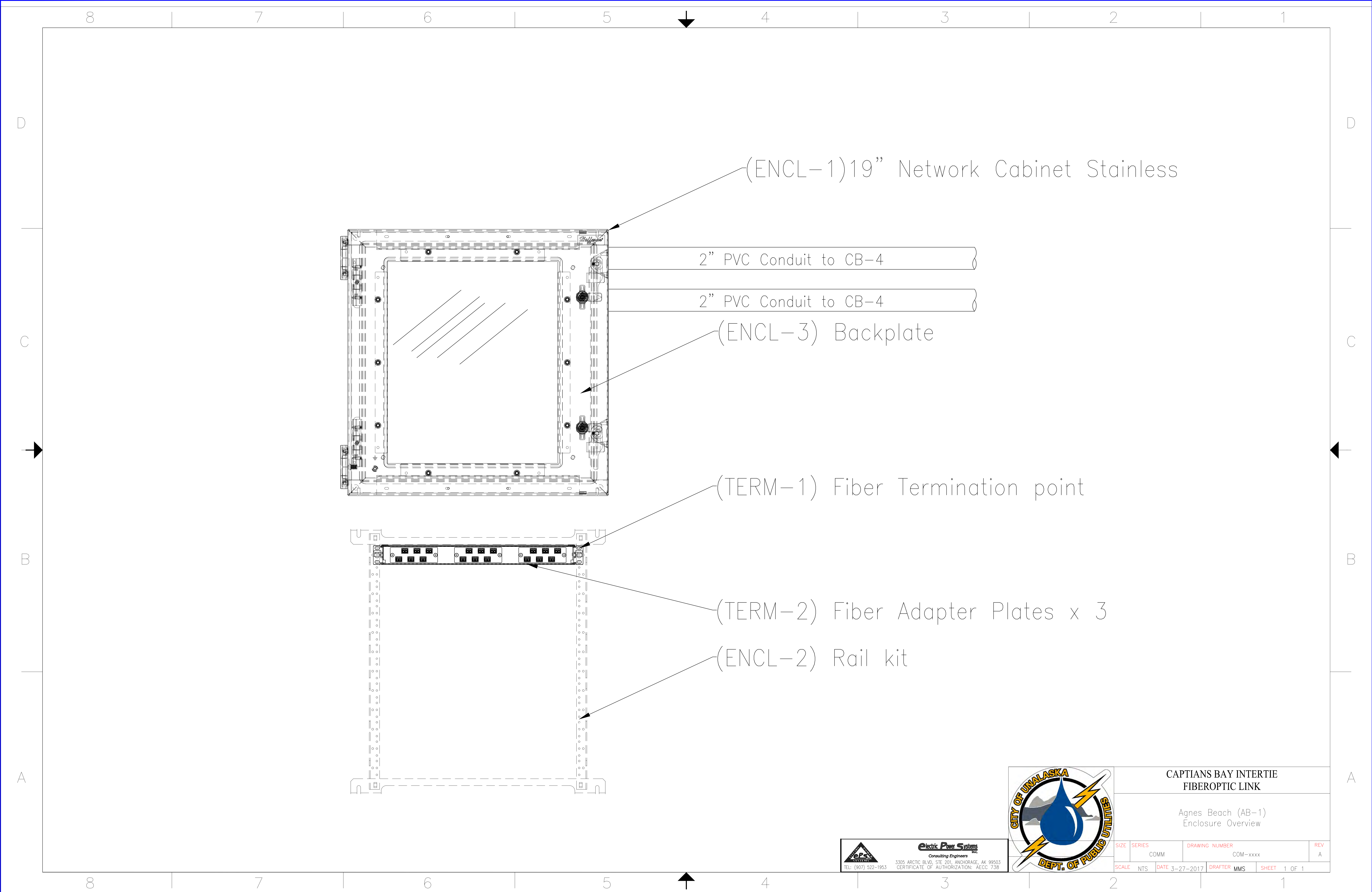
3305 ARCTIC BLVD, STE 201, ANCHORAGE, AK 99503
TEL: (907) 522-1953
CERTIFICATE OF AUTHORIZATION: AECC 738

CITY OF UNALASKA
WESTWARD/CITY INTERTIE
THREE LINE DIAGRAM
C-9VCR1

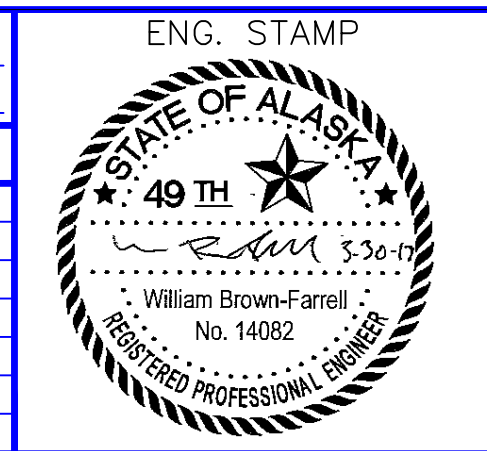
e2.08.dwg


REF DWG(S):	
DRAWING NO.:	E2.08

SHEET **22** OF **30**



PROJECT: WESTWARD/CITY INTERTIE PROJECT			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS			
JOB #: 16-0011			
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR BID	DRK/03-30-2017	WBF/03-30-2017






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Consulting Engineers

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FAX: (907) 522-1182
WEB: WWW.EPSINC.COM

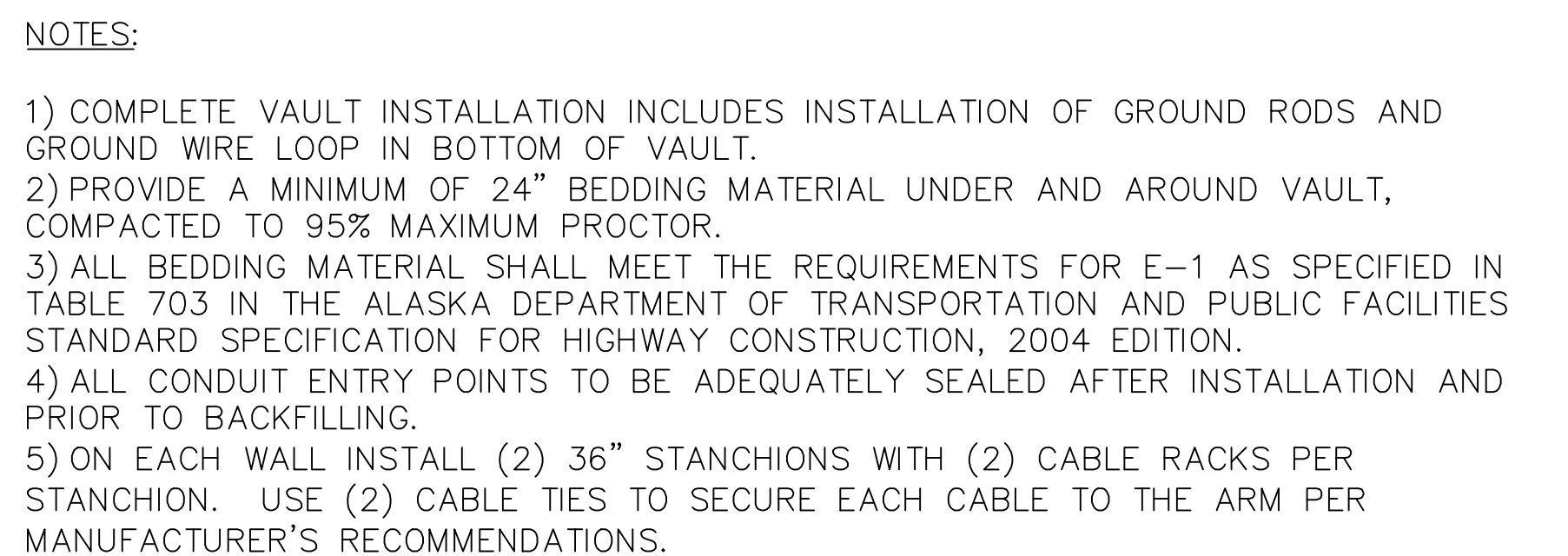
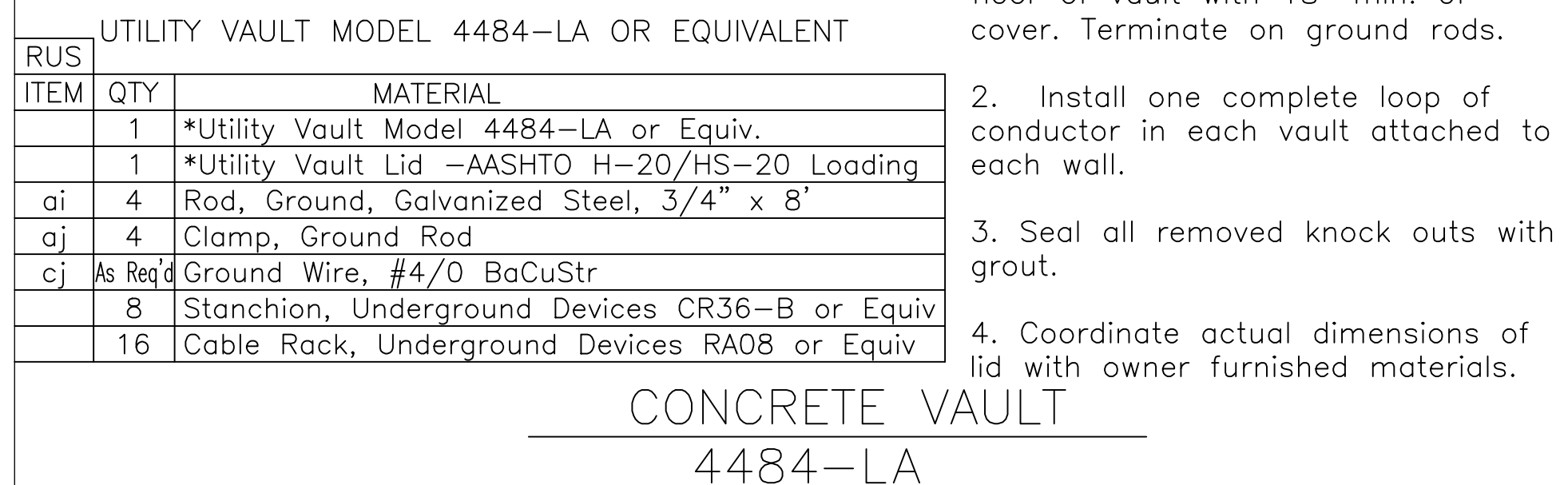
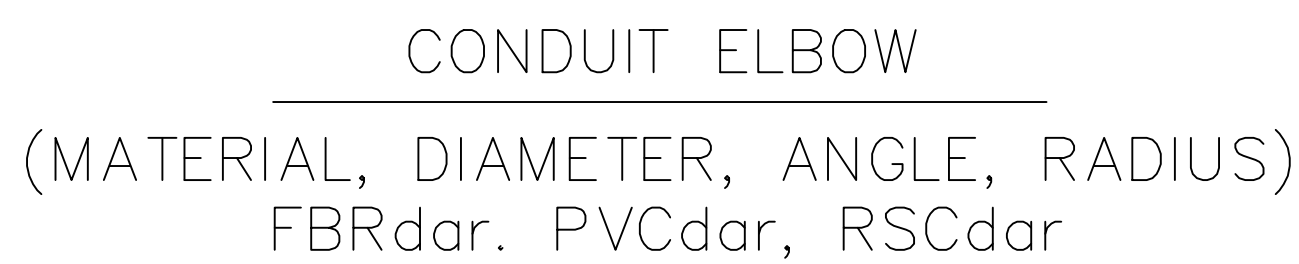
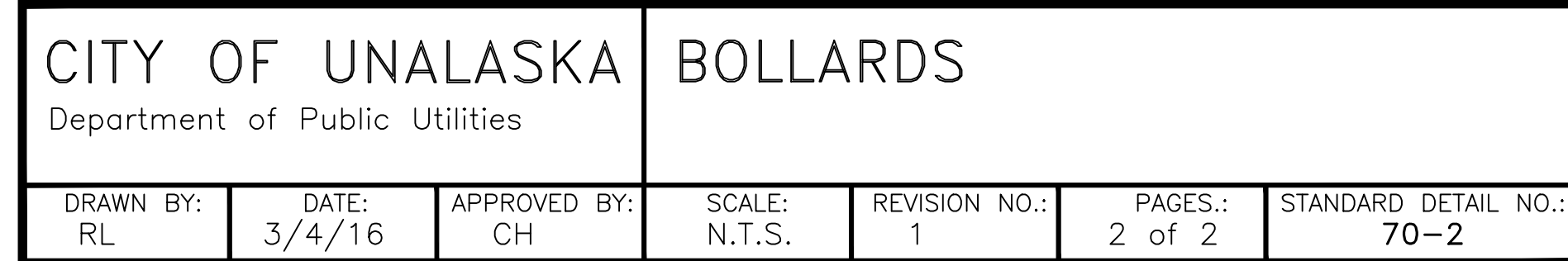
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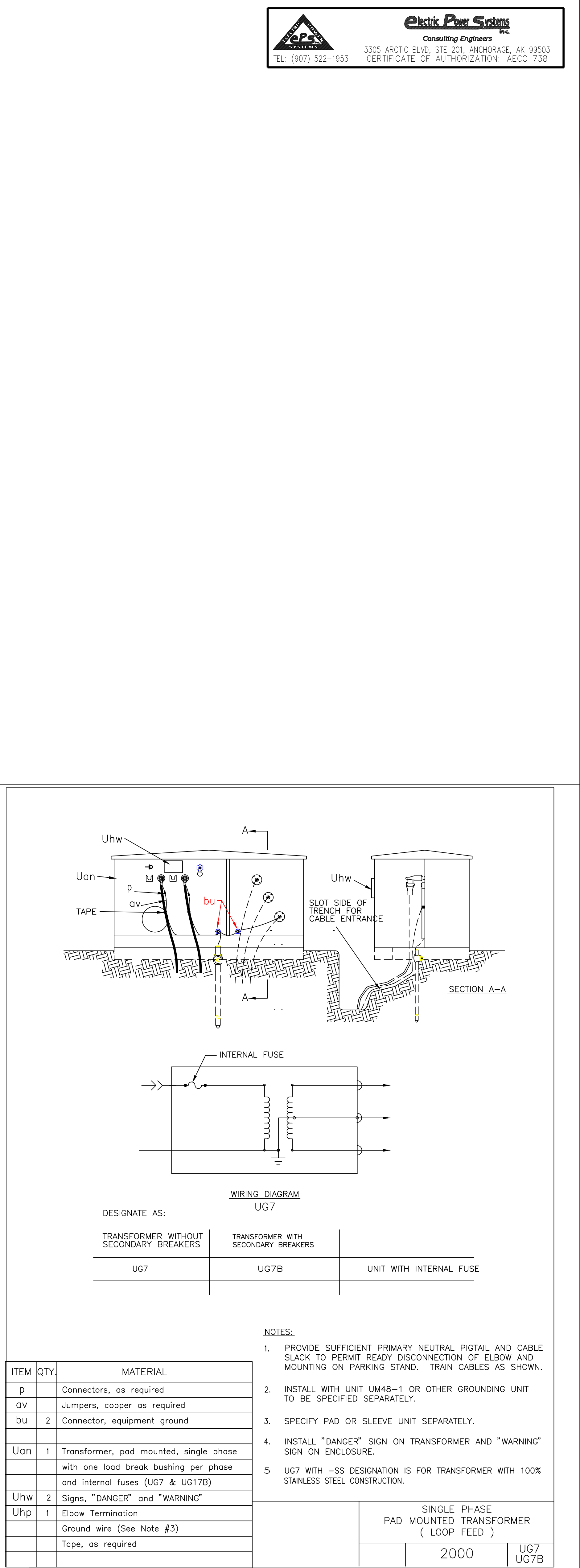
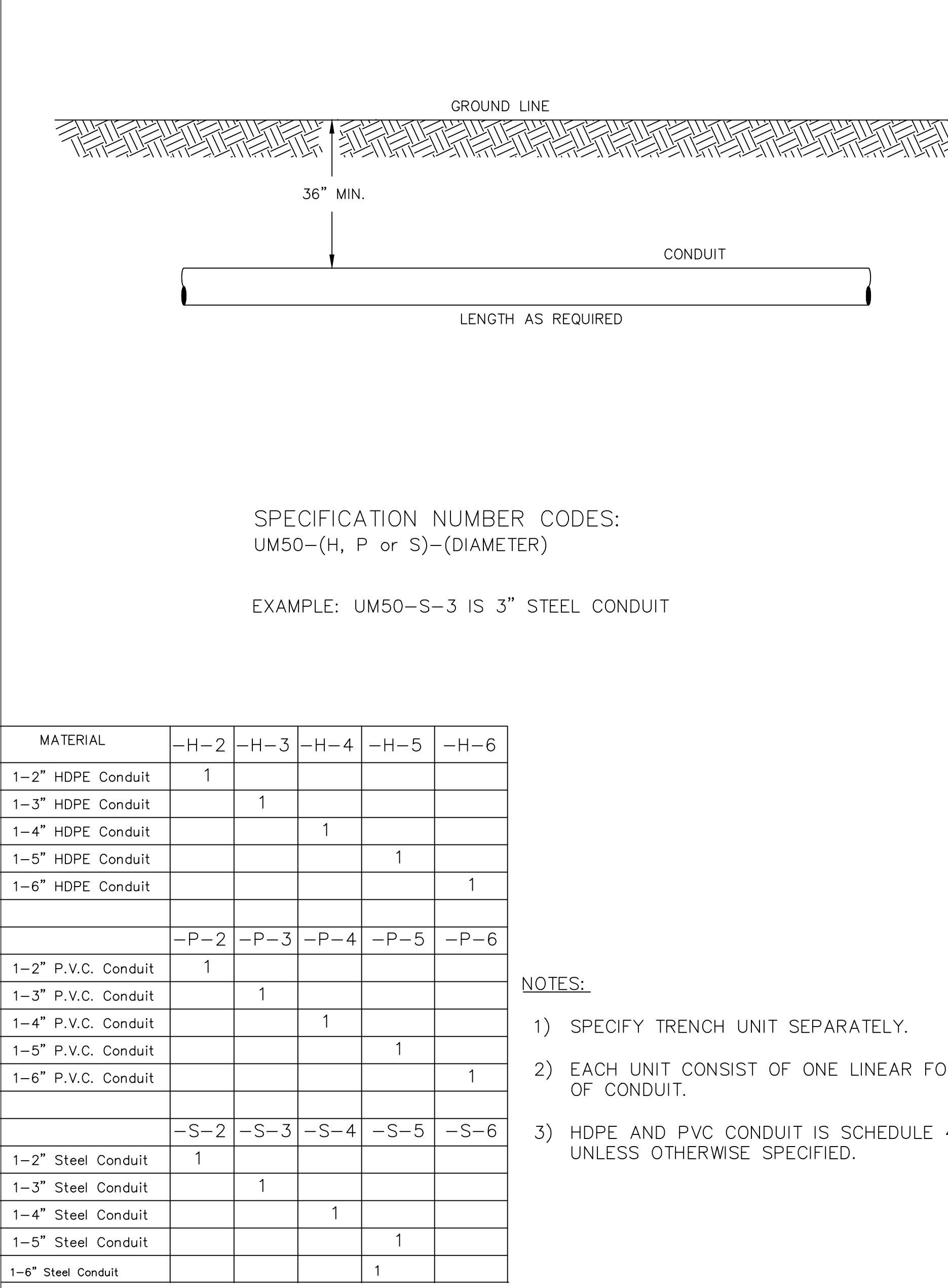
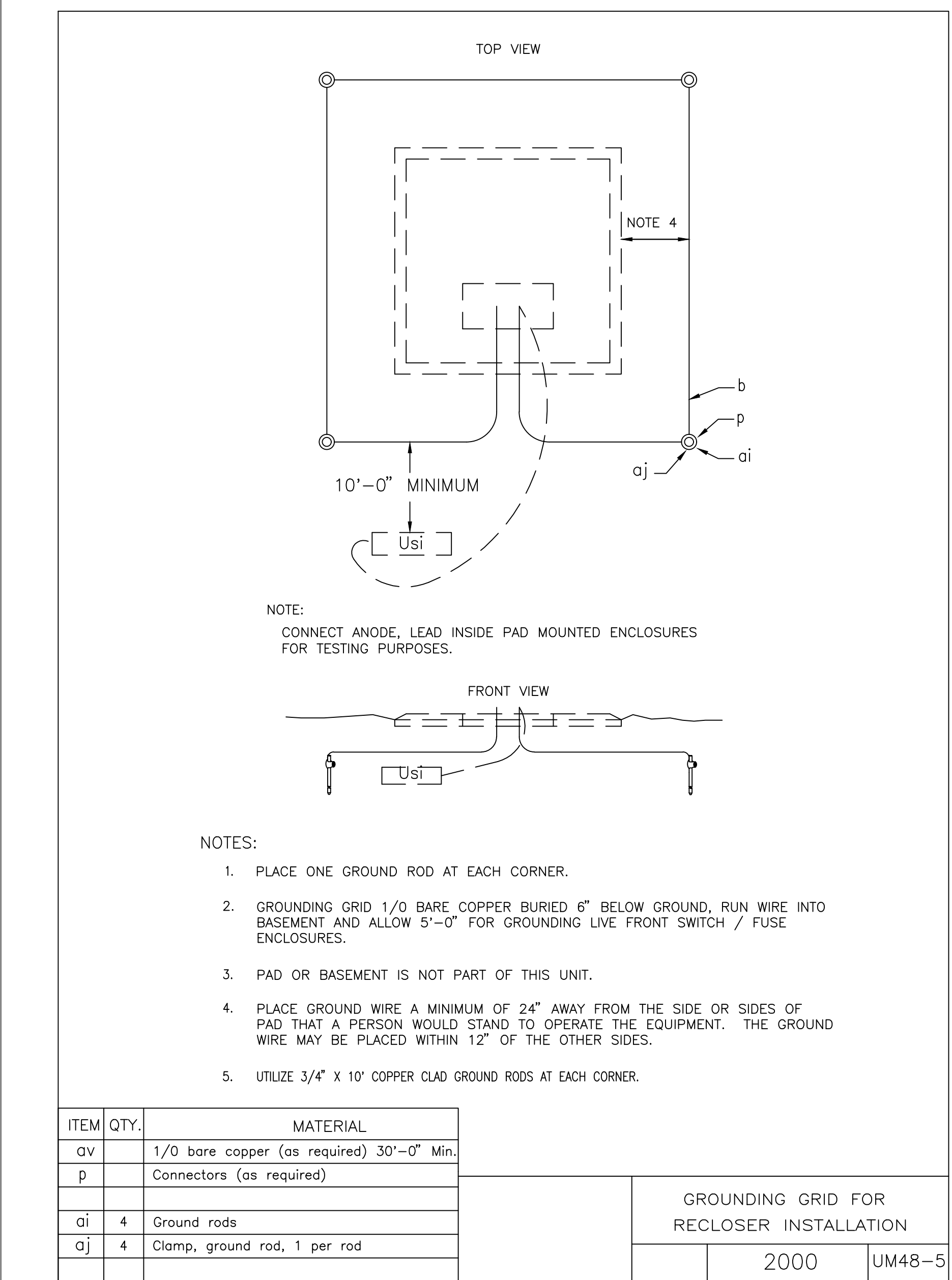
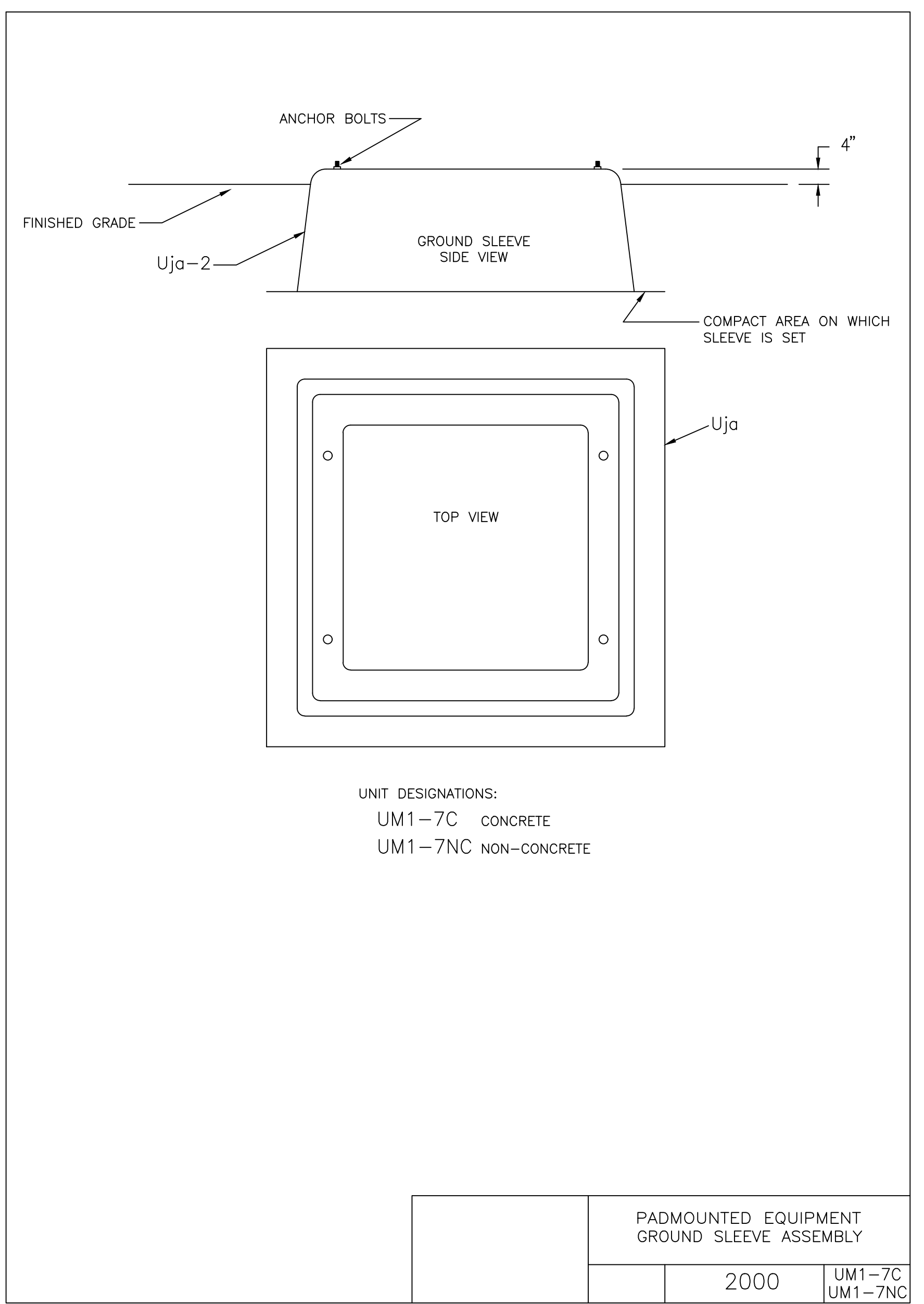
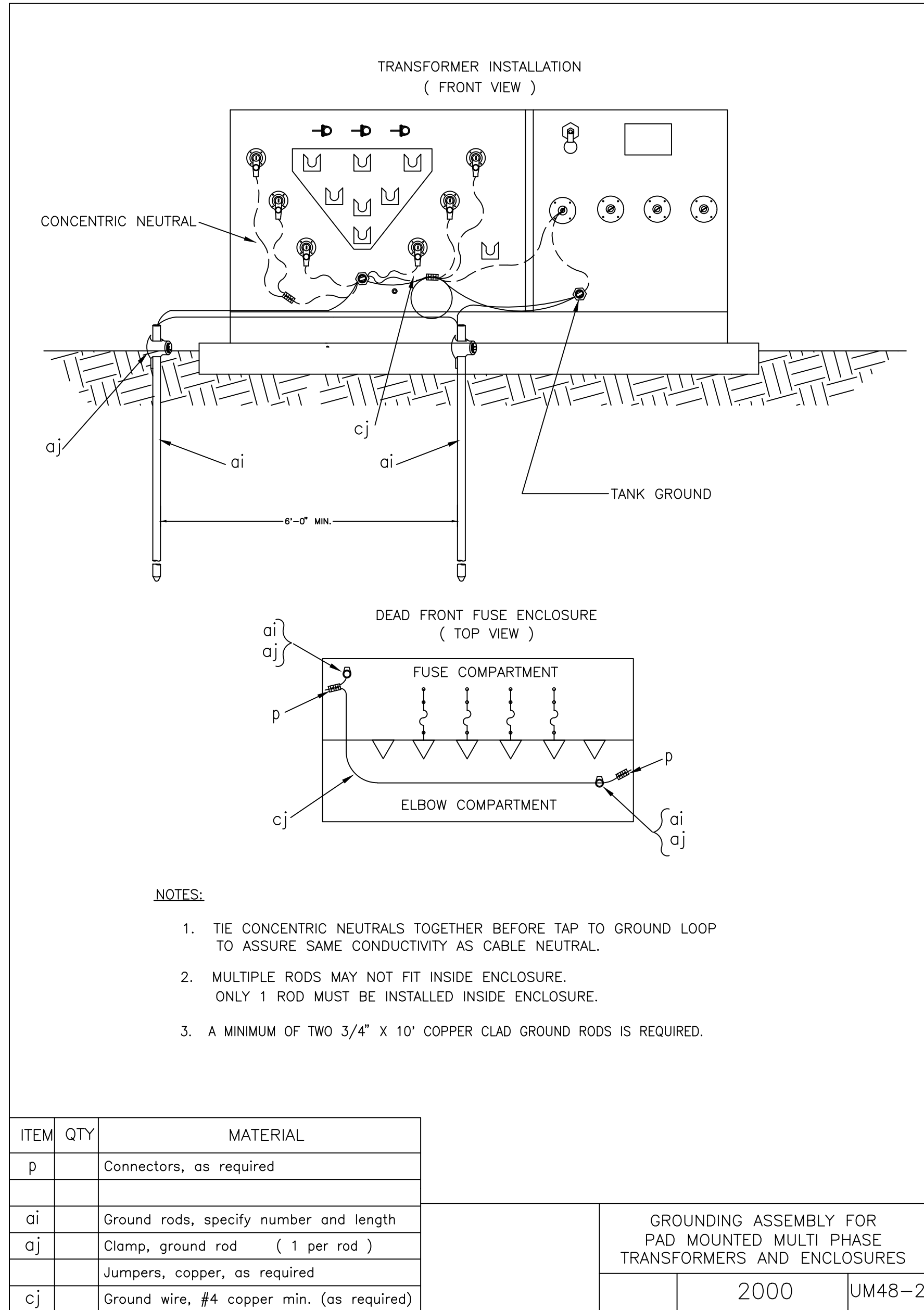
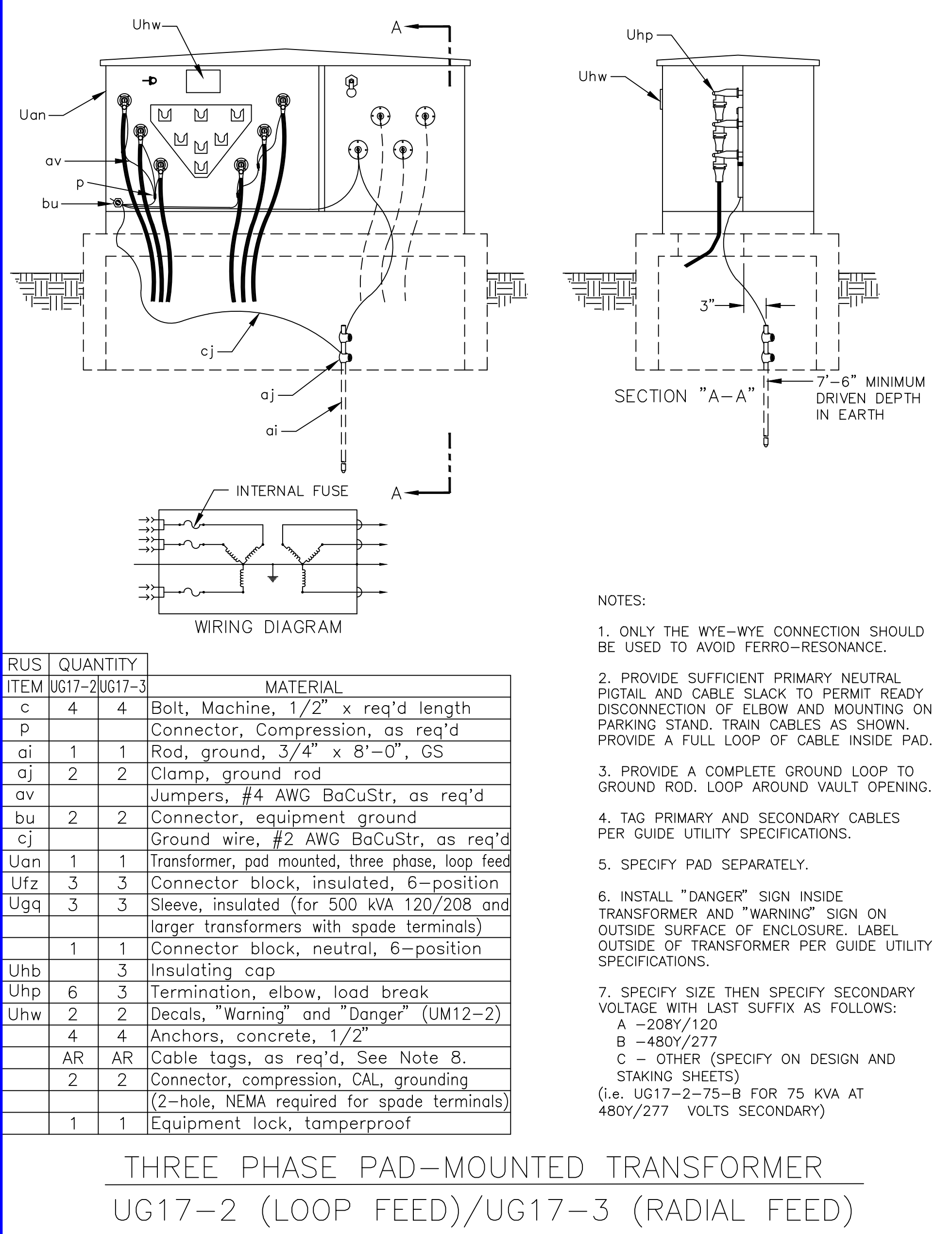
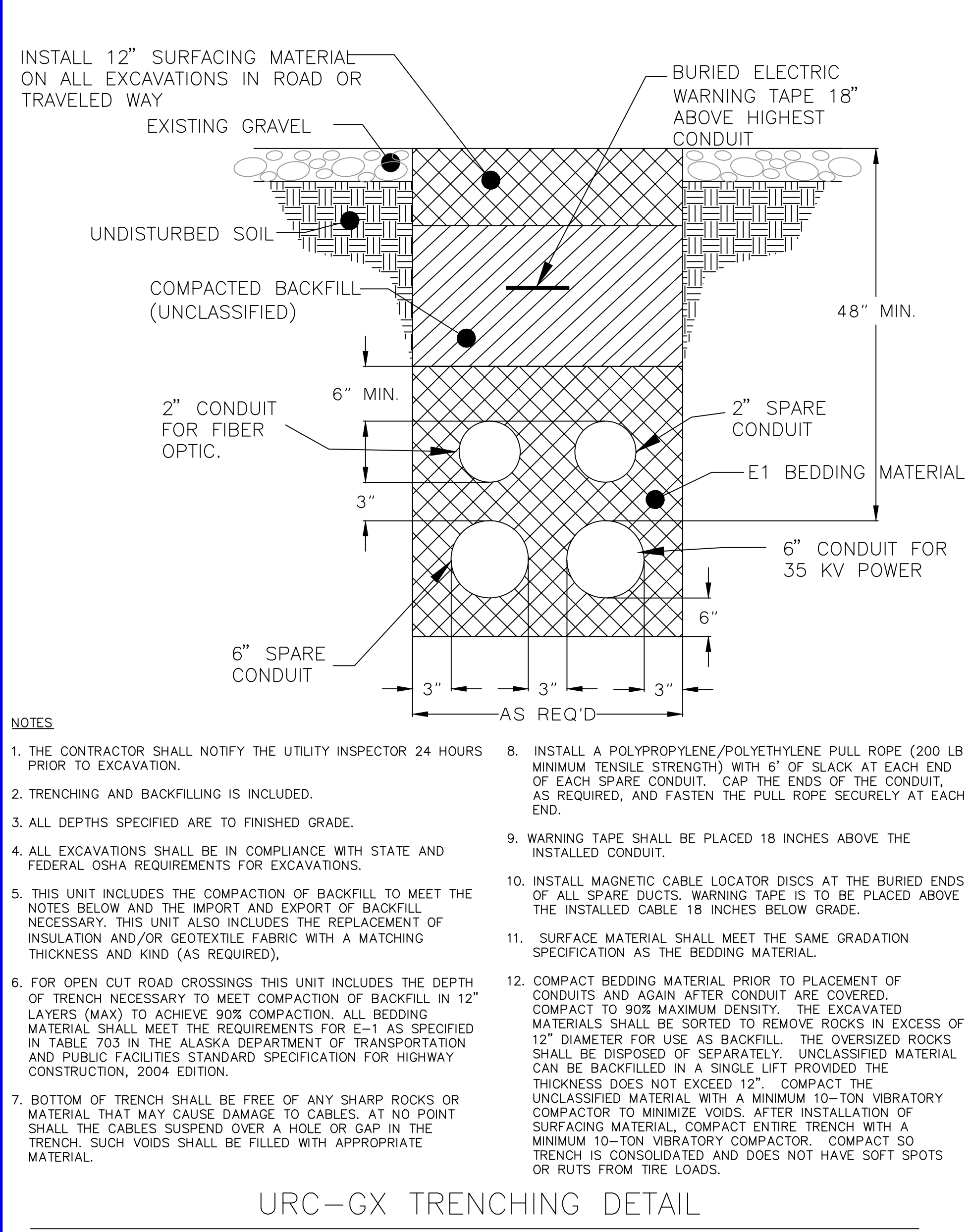


CITY OF UNALASKA
WESTWARD/CITY INTERTIE
AGNES BEACH (AB-1)
ENCLOSURE OVERVIEW

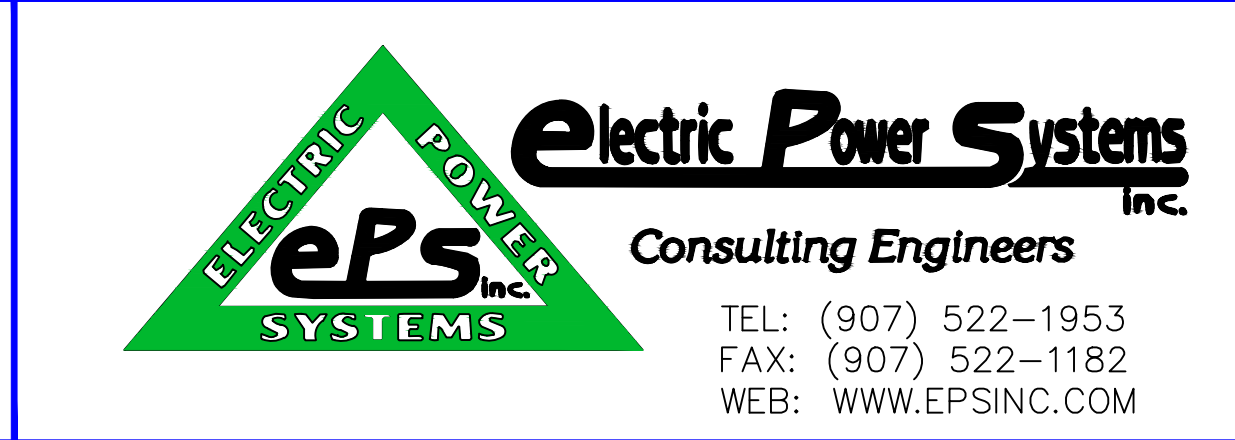
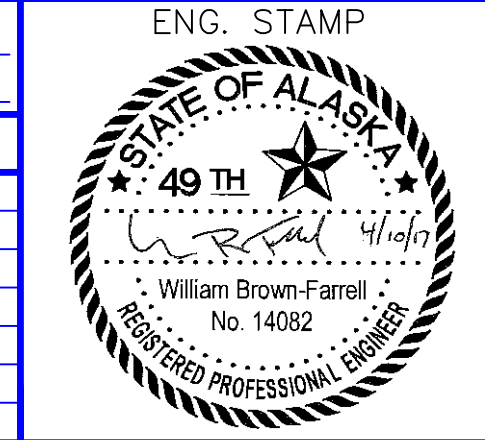
REF. DWG(S):
DRAWING NO.: E2.10

SHEET 24 OF 30



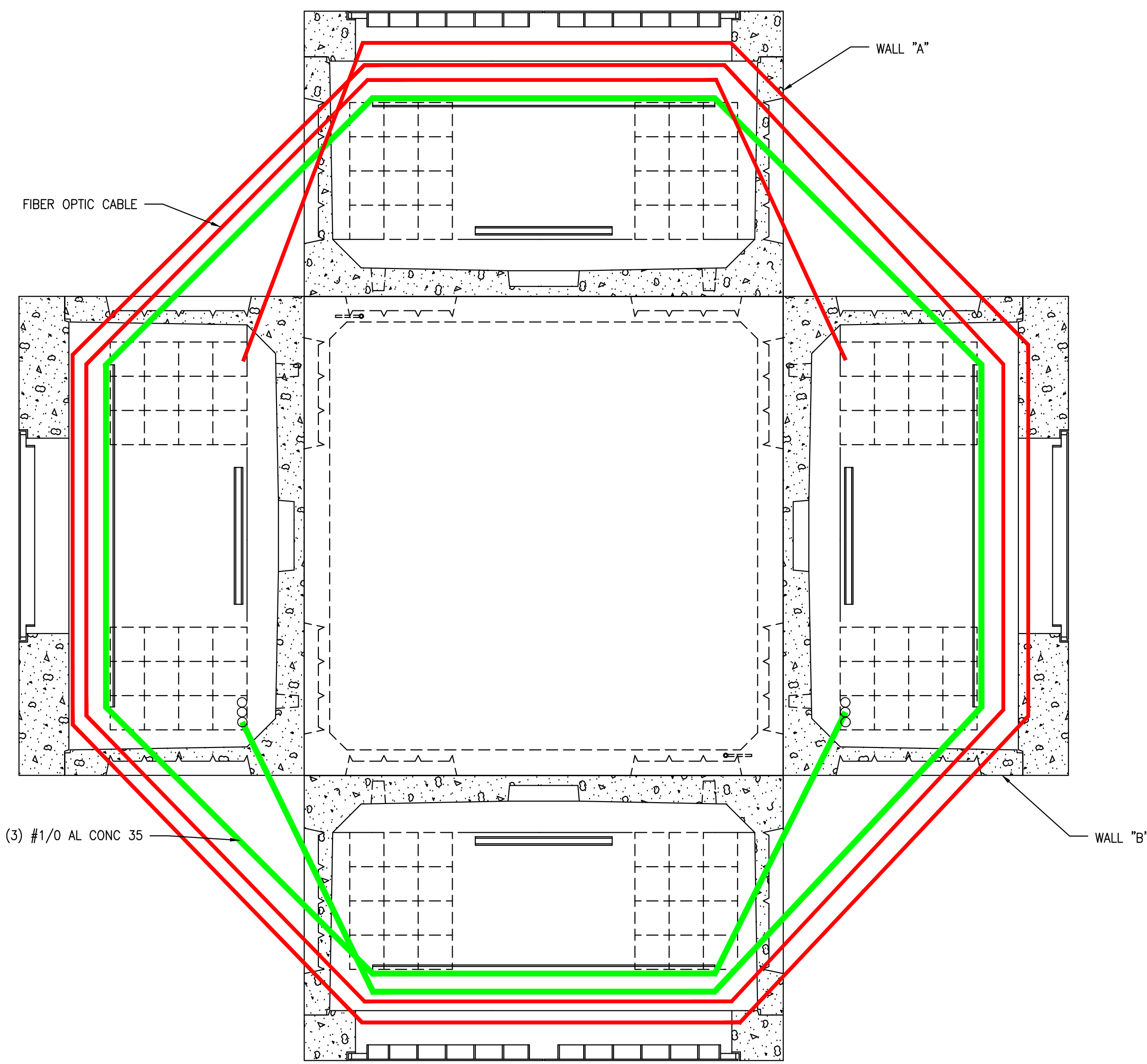


PROJECT: WESTWARD/CITY INTERTIE PROJECT			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS			
JOB #: 16-0011			
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR BID	DRK /04-10-2017	WBF /04-10-2017

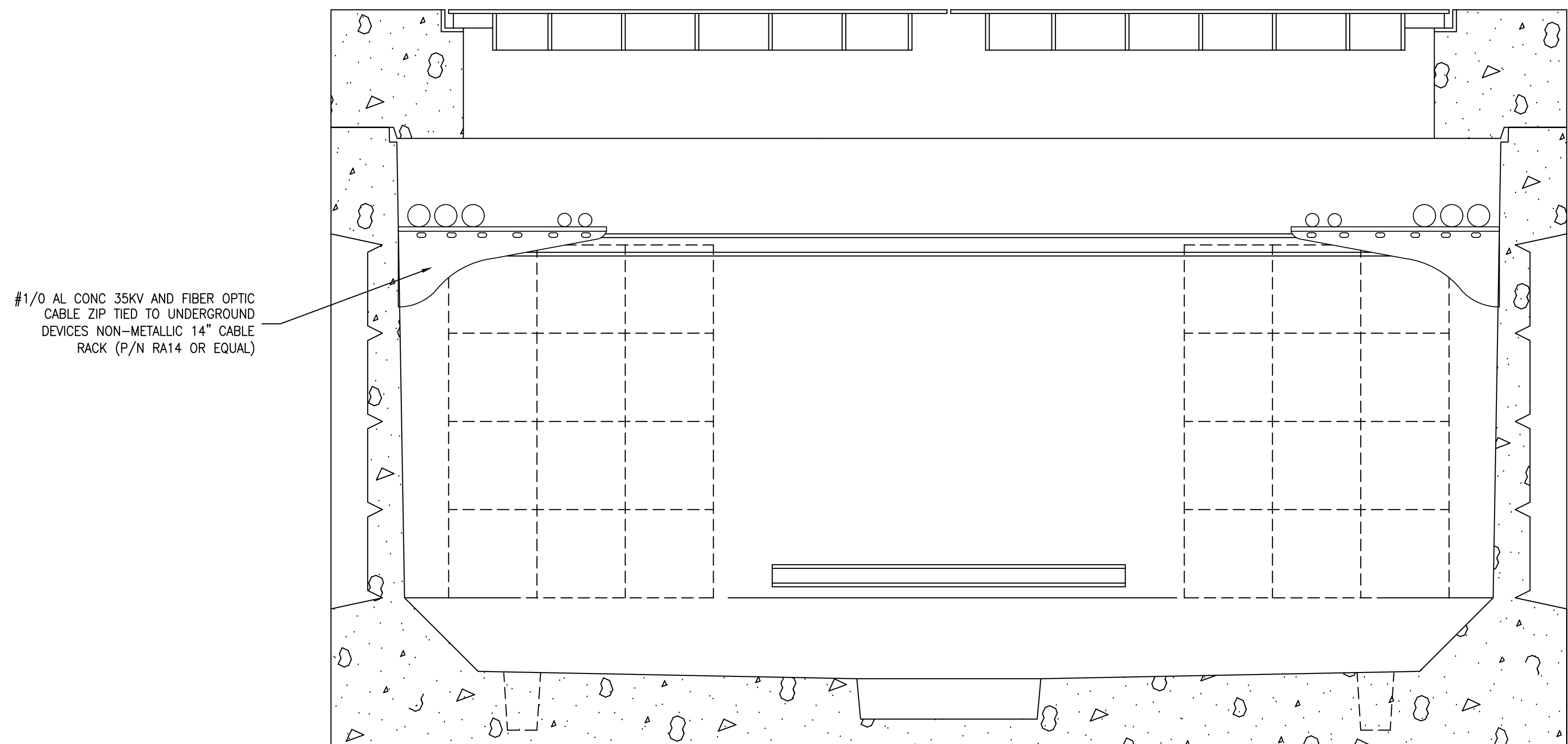


NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

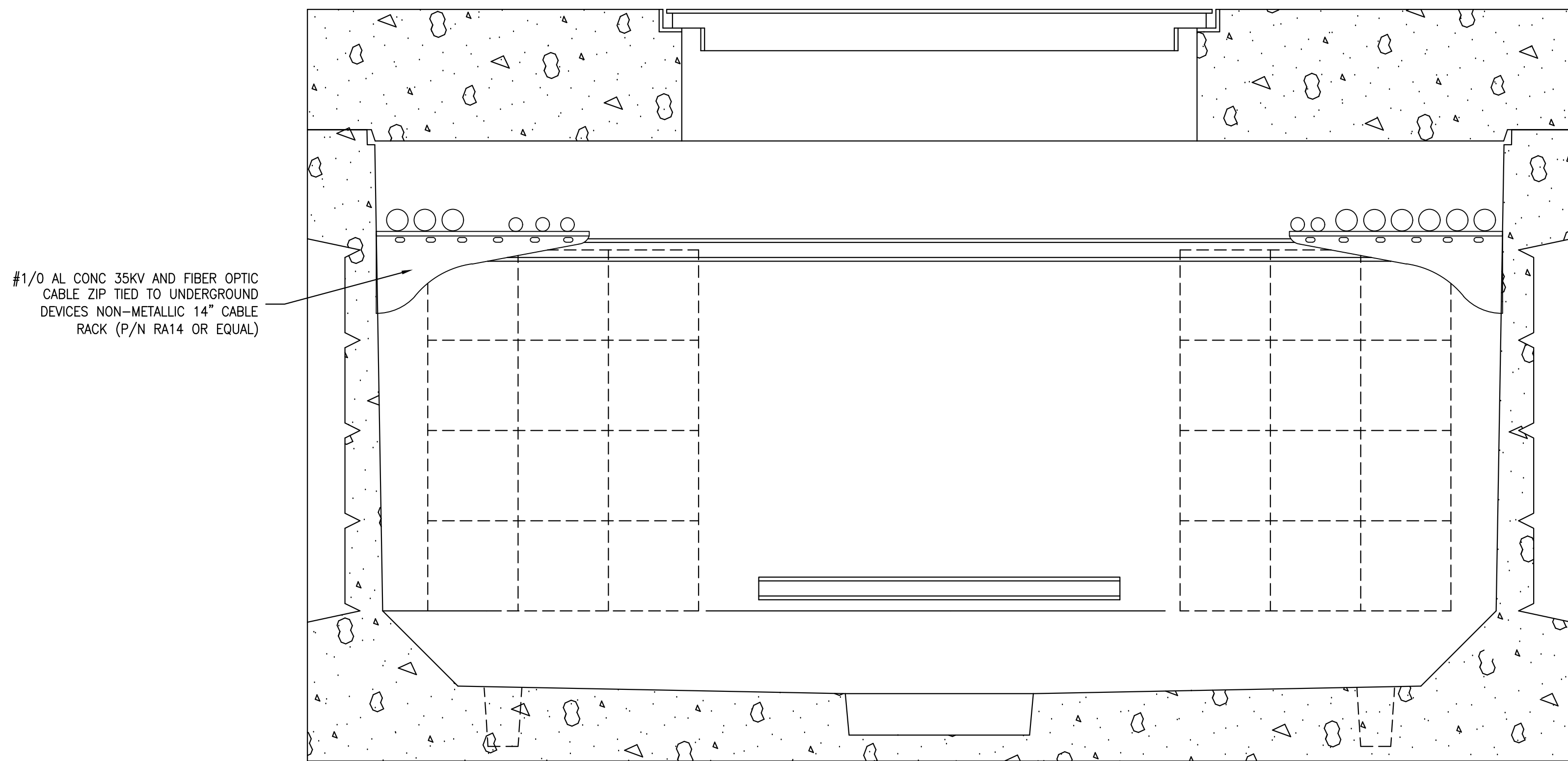
DRAWING NAME:		WESTWARD SEAFOODS	
		UNALASKA UTILITY INTERTIE DESIGN	
		CONSTRUCTION UNITS	
		e3.02.dwg	
REF DWG(S):			
DRAWING NO:		E3.02	
		SHEET 26 OF 30	



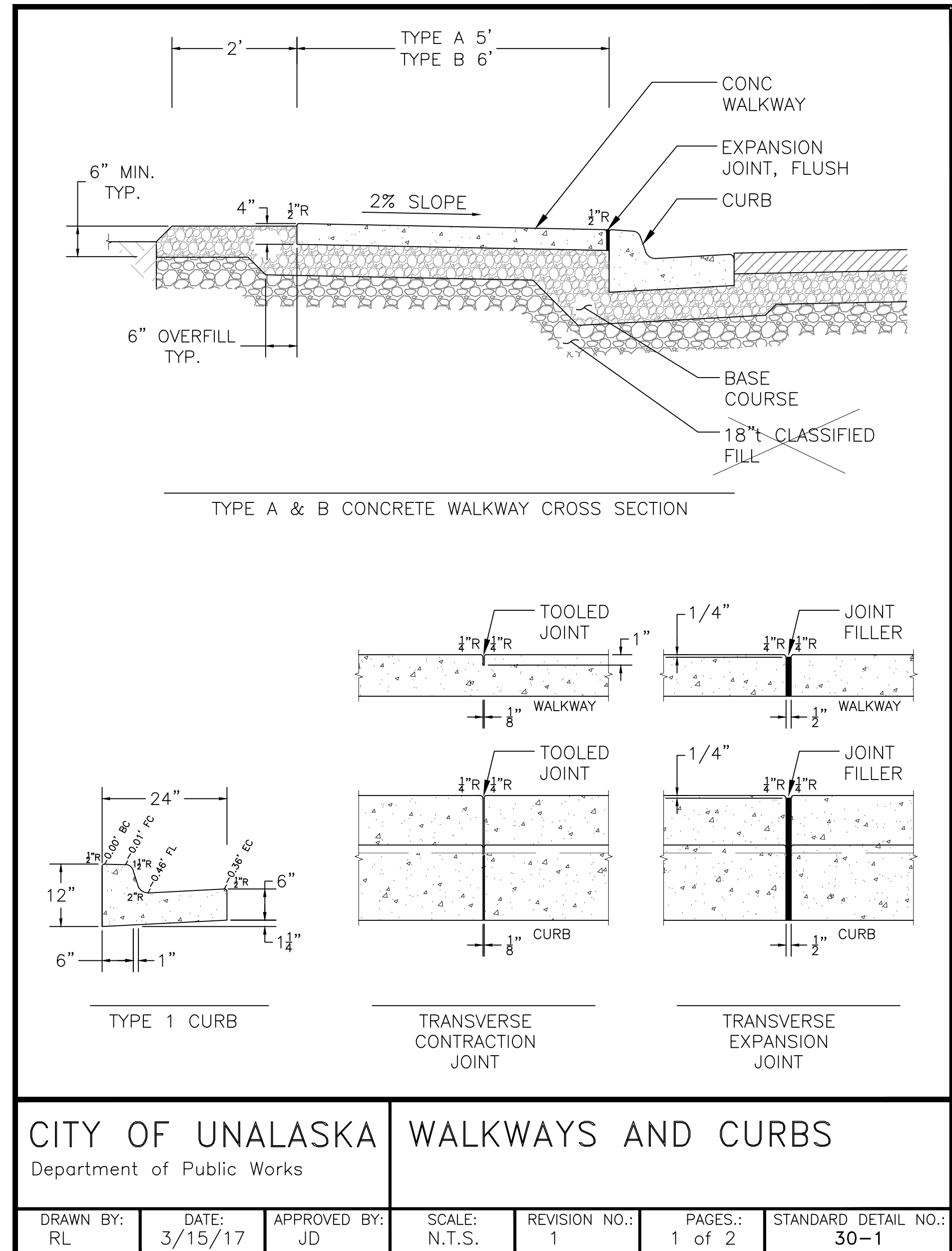
35KV VAULT 774-LA (INSIDE CABLE LAYOUT – TYPICAL)



35KV VAULT 774-LA (INSIDE CABLE LAYOUT – FACING WALL "A")



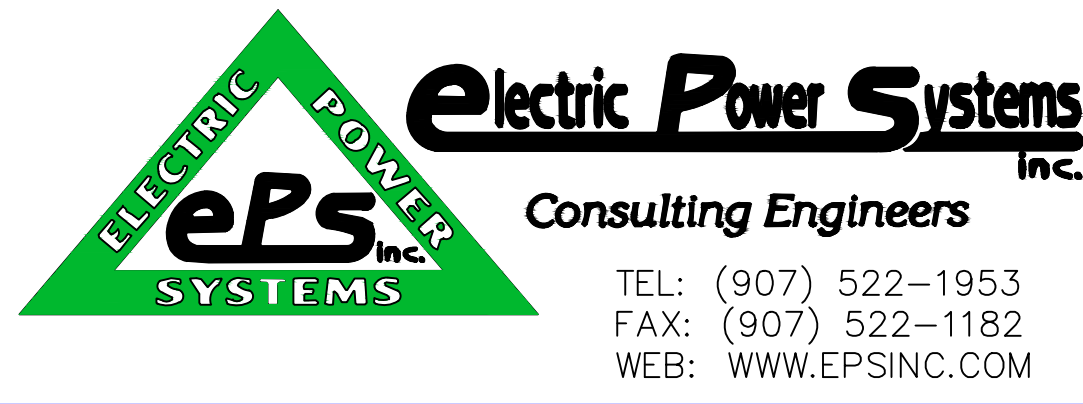
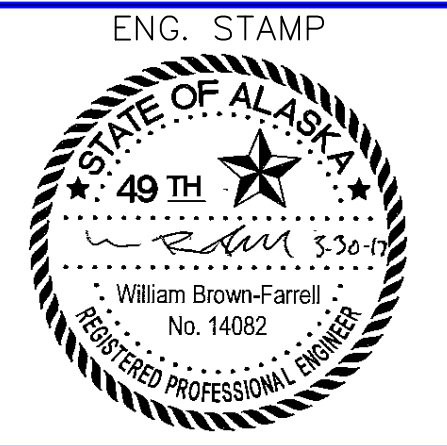
35KV VAULT 774-LA (INSIDE CABLE LAYOUT – FACING WALL "B")



CITY OF UNALASKA		WALKWAYS AND CURBS	
Department of Public Works			
DRAWN BY: RL	DATE: 3/15/17	APPROVED BY: JD	SCALE: N.T.S.
			REVISION NO.: 1
			PAGES.: 1 of 2
			STANDARD DETAIL NO.: 30-1

CITY OF UNALASKA		WALKWAYS AND CURBS	
Department of Public Works			
DRAWN BY: RL	DATE: 3/15/17	APPROVED BY: JD	SCALE: N.T.S.
			REVISION NO.: 2
			PAGES.: 2 of 2
			STANDARD DETAIL NO.: 30-1

PROJECT: WESTWARD/CITY INTERTIE PROJECT			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE – EPS			
JOB #: 16-0011			
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR BID	DRK /03-30-2017	WBF /03-30-2017

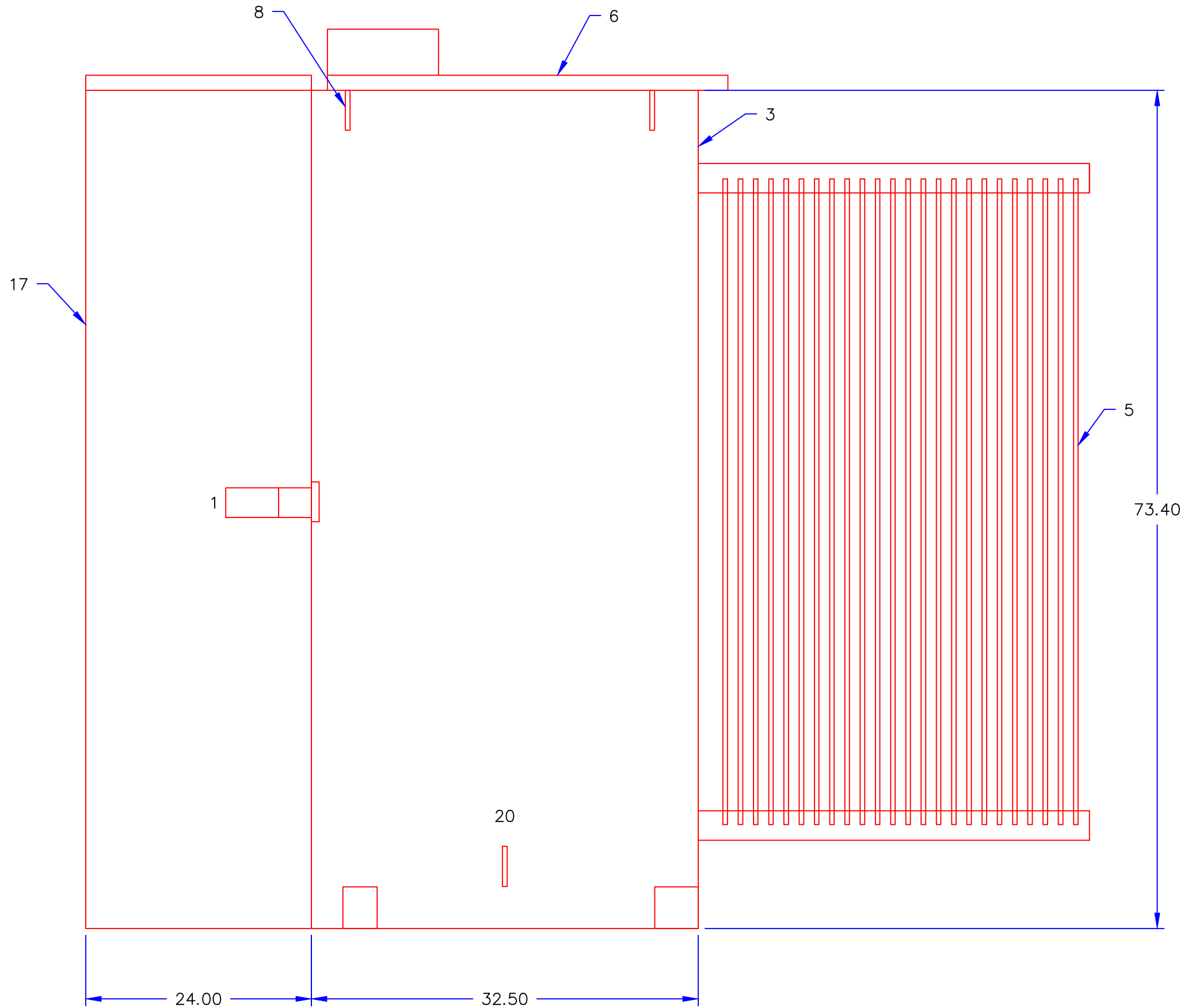
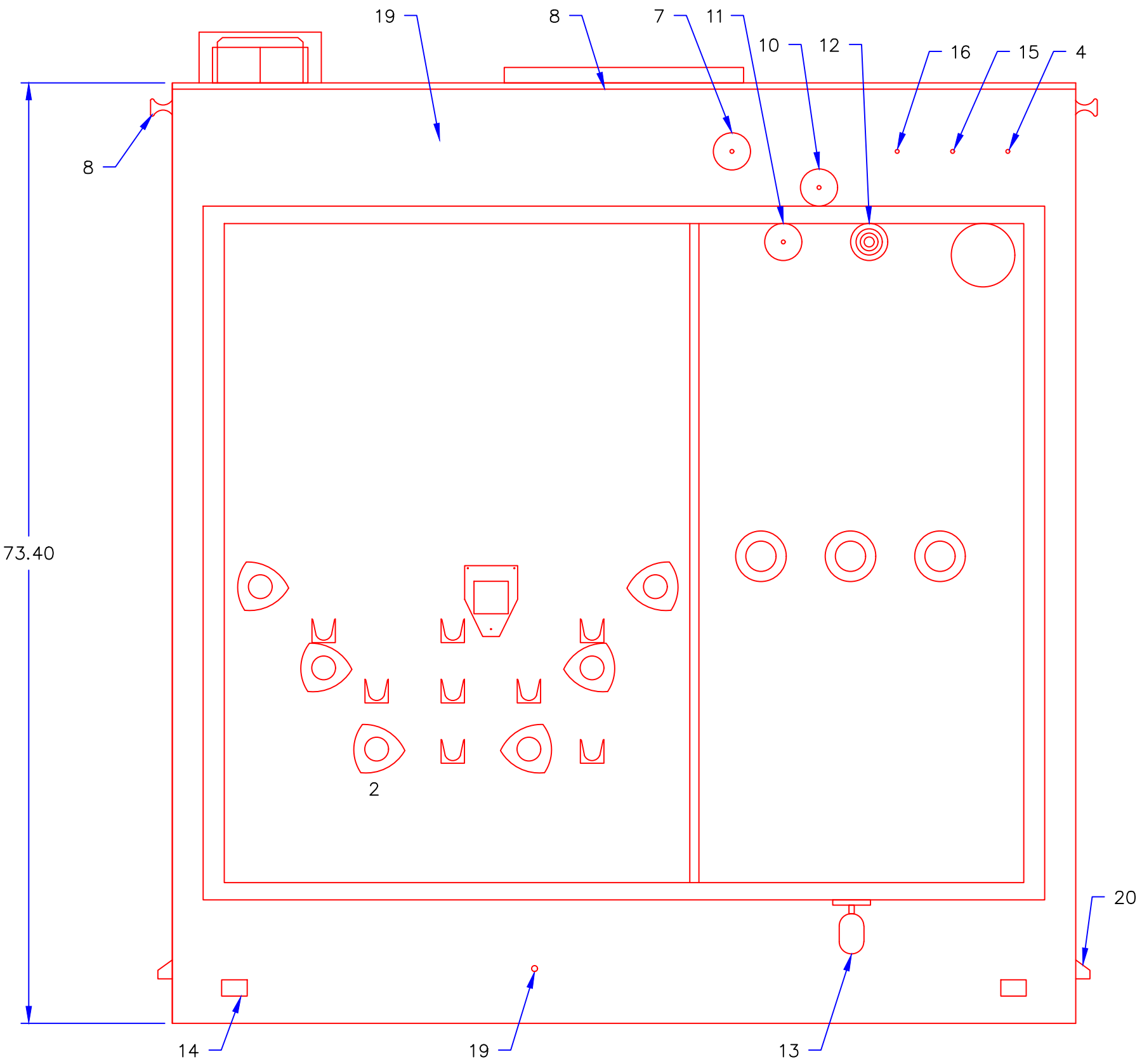
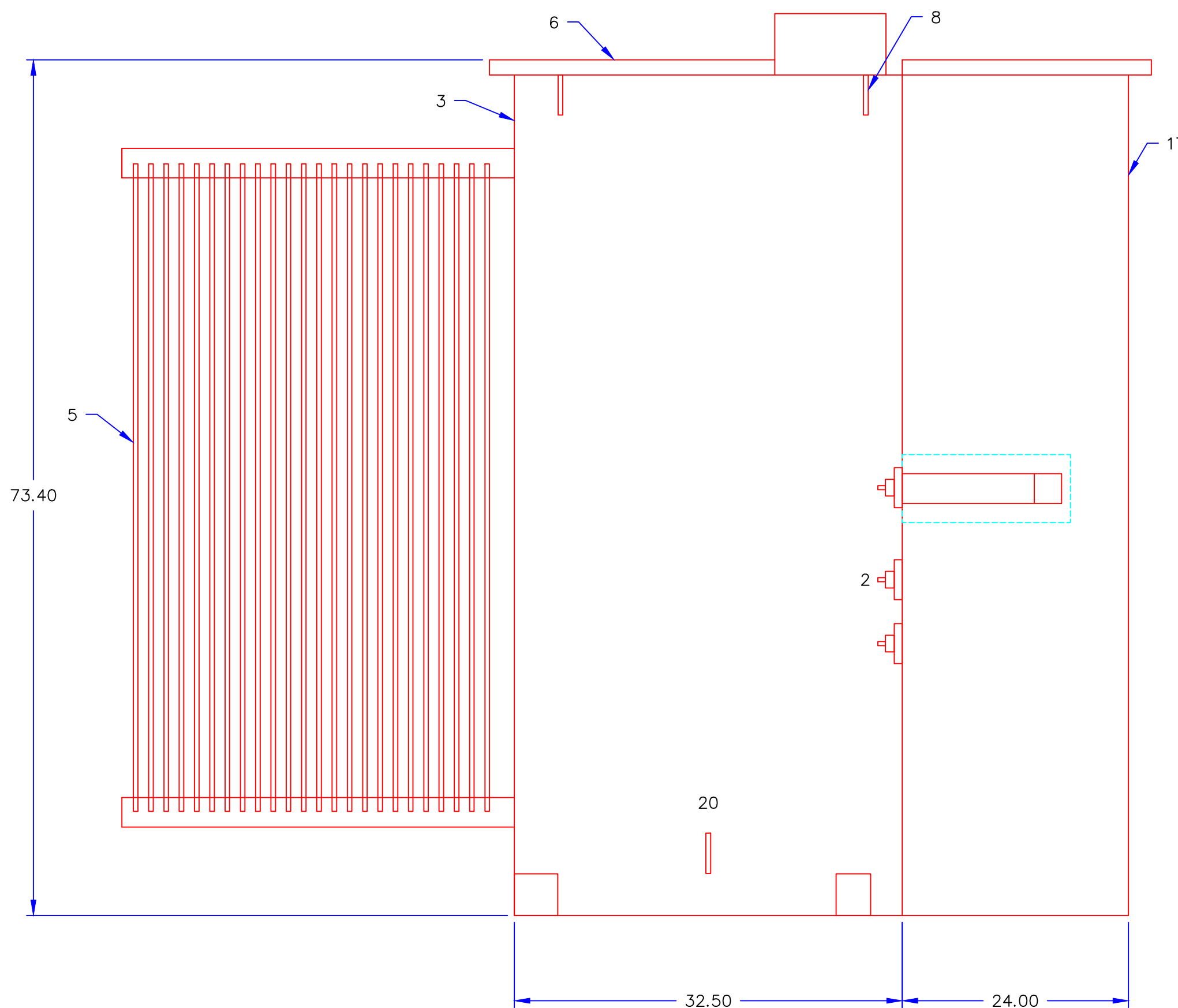
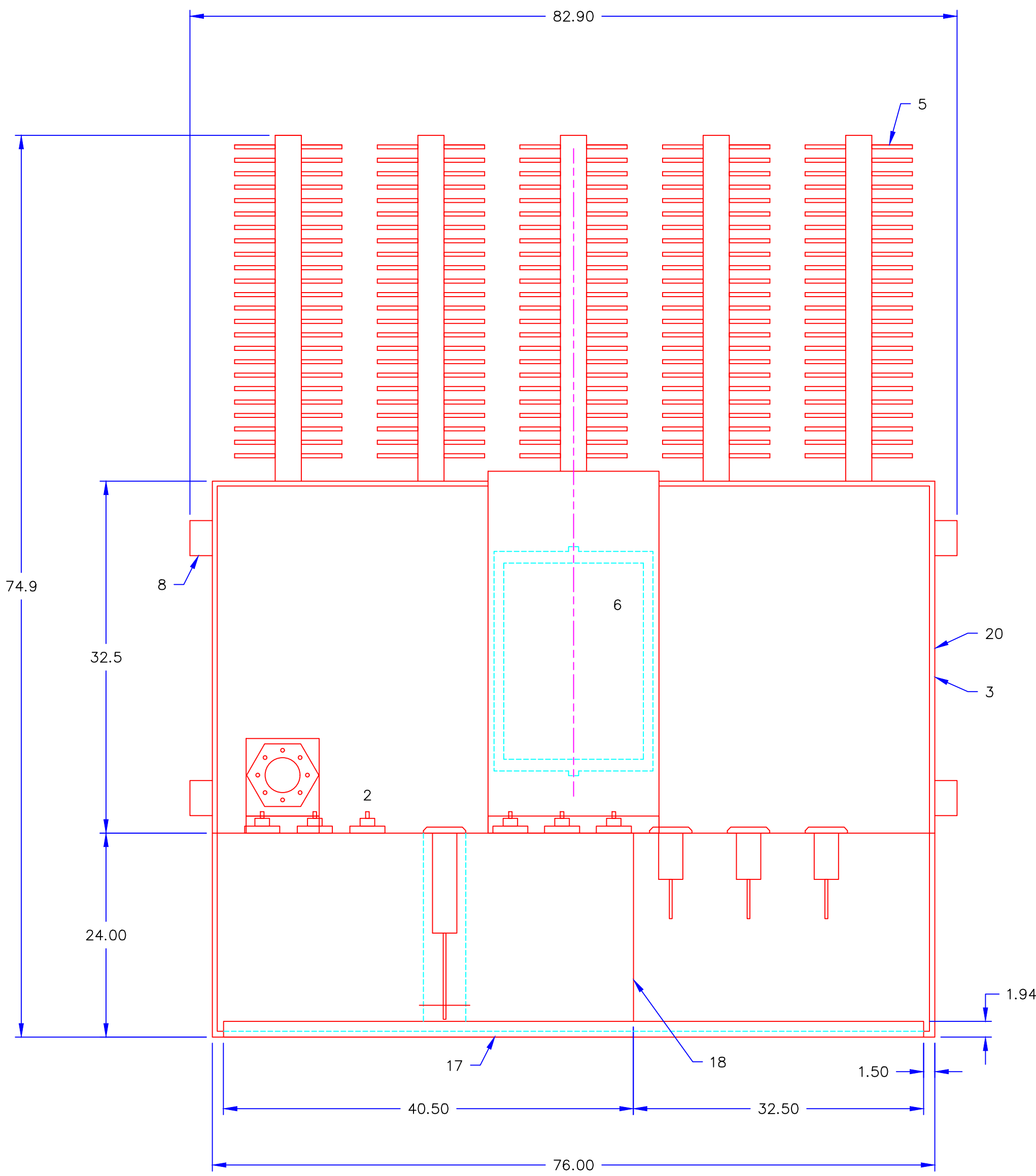


NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:		WESTWARD SEAFOODS UNALASKA UTILITY INTERTIE DESIGN CONSTRUCTION UNITS	
REF DWG(S):		e3.03.dwg	
DRAWING NO.:		E3.03	
		SHEET 27 of 30	

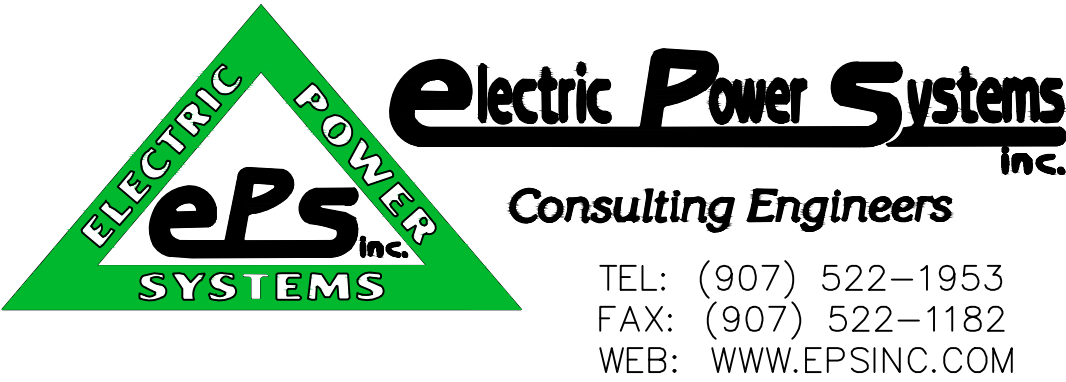
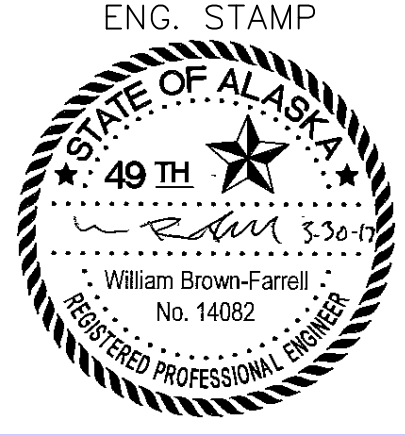
- STANDARD FEATURES:
- 1. L.V. BUSHINGS
 - 2. H.V. BUSHINGS
 - 3. TANK WITH WELDED-ON COVER
 - 4. 1" FILL PROVISION
 - 5. COOLING PANELS
 - 6. HANDHOLE WITH TAMPERPROOF COVER
 - 7. PRESSURE VACUUM GAUGE
 - 8. LIFTING PROVISIONS
 - 9. CORROSION RESISTANT NAMEPLATE AND CONNECTION DIAGRAM (NOT SHOWN)
 - 10. LIQUID LEVEL GAUGE
 - 11. DIAL TYPE THERMOMETER
 - 12. DE-ENERGIZED TAPCHANGER
 - 13. DRAIN VALVE AND SAMPLING DEVICE
 - 14. NEMA GROUND PAD
 - 15. SCHRADER VALVE
 - 16. PRESSURE RELIEF VALVE
 - 17. COMPARTMENT
 - 18. STEEL DIVIDED
 - 19. REMOVABLE FRONT SILL
 - 20. JACK LUGS

KVA: 2000
HV: 34500Y/19919
LV: 12470/7200
TOTAL WEIGHT: 13604 LBS.
FLUID VOLUME: 503 GALS.



NOTES:
1. DIMENSIONS ARE FOR REFERENCE ONLY AND ARE NOT FOR CONSTRUCTION. CONTRACTOR TO VERIFY FINAL DIMENSIONS OF OWNER FURNISHED EQUIPMENT PRIOR TO ORDERING VAULT AND LID.

PROJECT: WESTWARD/CITY INTERTIE PROJECT			
DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS			
JOB #: 16-0011			
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR BID	DRK /03-30-2017	WBF /03-30-2017

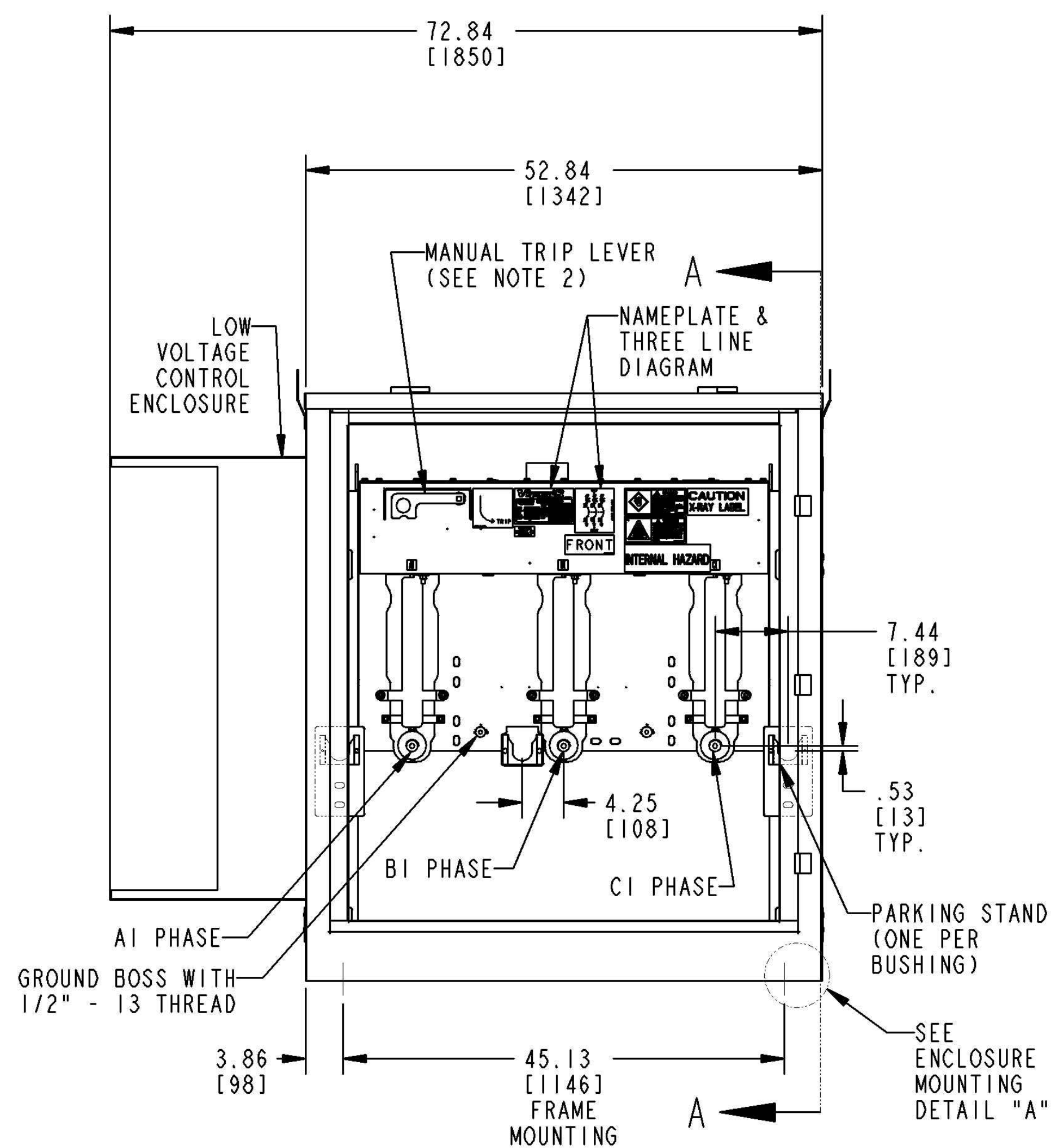


NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

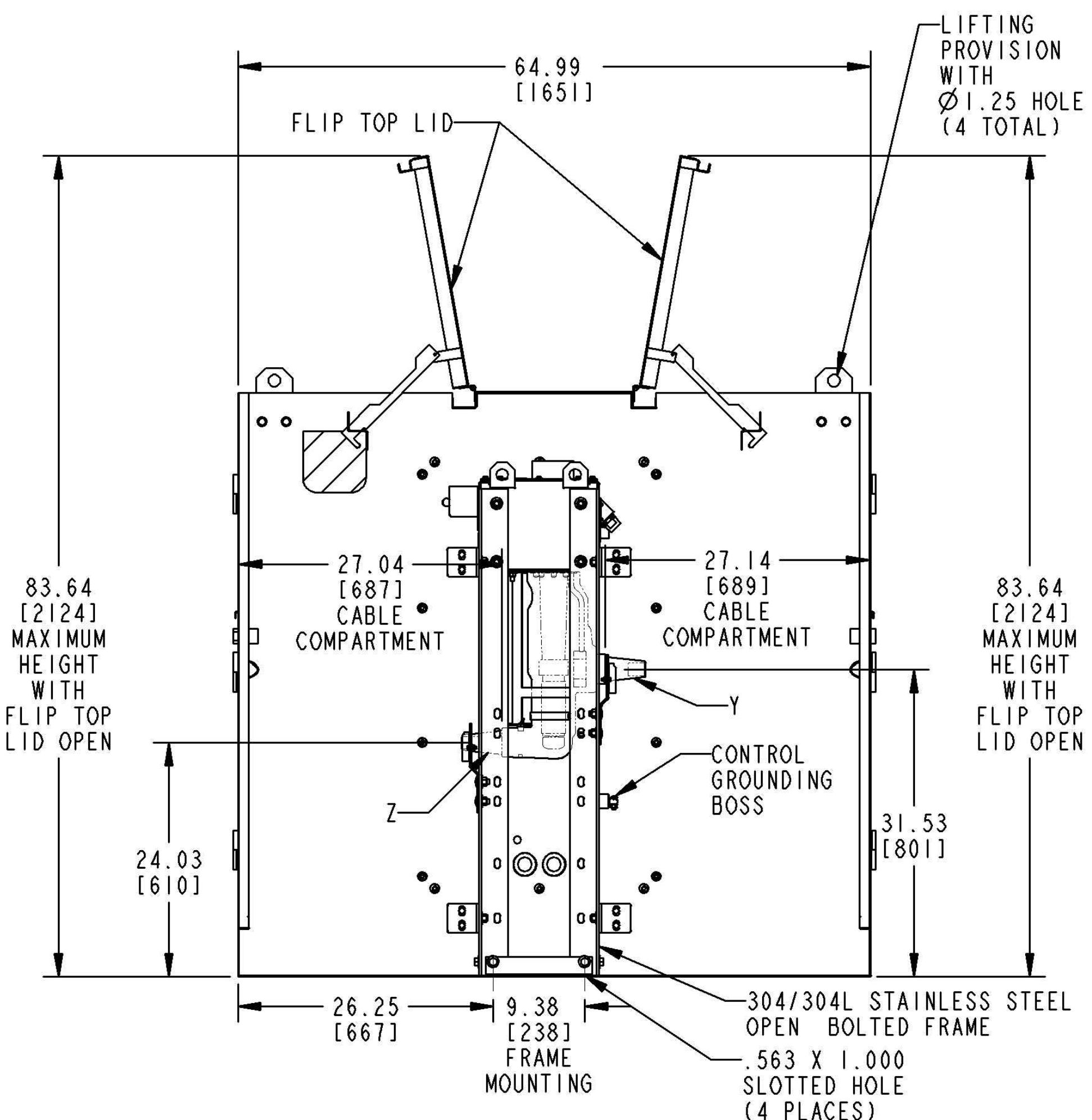
DRAWING NAME:		WESTWARD SEAFOODS UNALASKA UTILITY INTERTIE DESIGN 2 MVA TRANSFORMER	
REF DWG(S):		eq1.01.dwg	
DRAWING NO.:		EQ1.01	
		SHEET 28 OF 30	

NAME:CLEACH OBJECT:D3676PM3ZE00_1 DATE:04-Apr-17 11:46:31

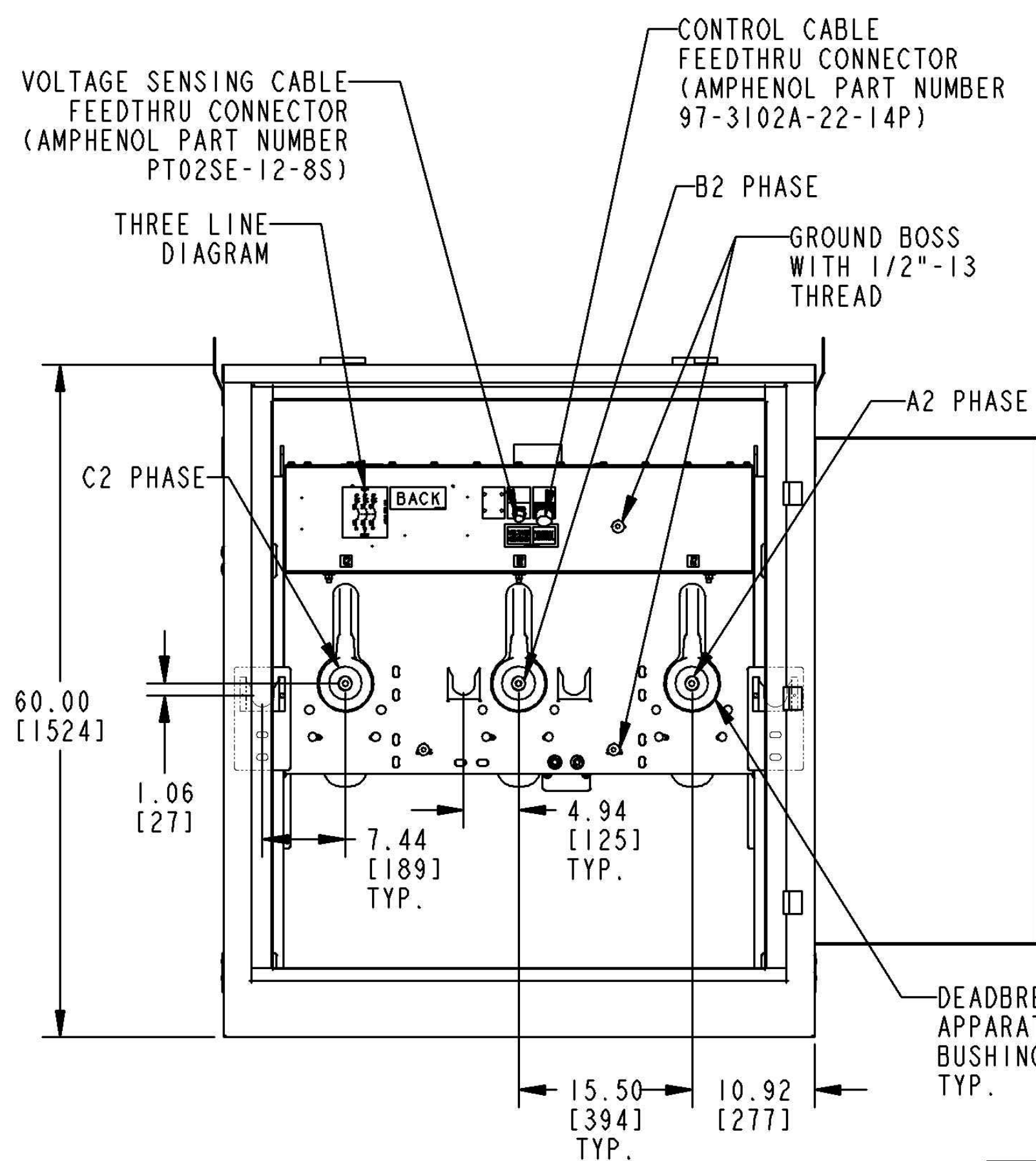
3D MODEL	MC ERRORS	LAST CHECKED	TIME	DATE	CUSTOMER
DRAWING	MC ERRORS	CHECKED	Mon	Nov 14 2016	12:00:10 GMT-0600 STANDARD
DRAWING	MC ERRORS	CHECKED	Tue	Apr 04 2017	11:11:39 GMT-0600 CUSTOMER



FRONT VIEW



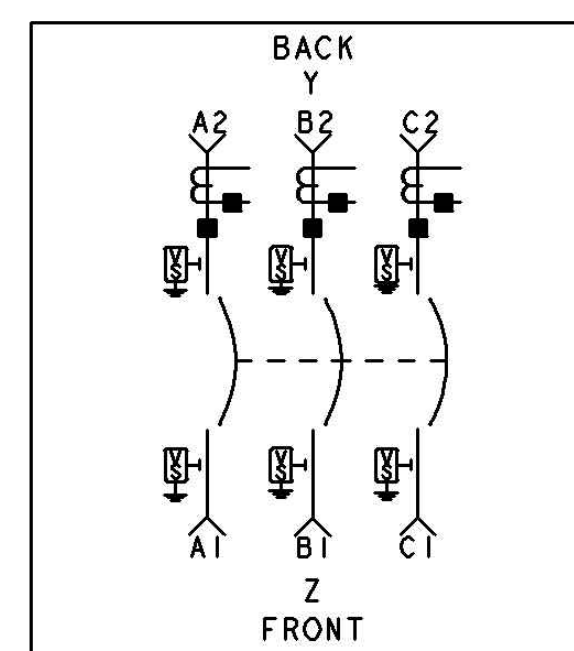
SECTION A-A



BACK VIEW

FINAL REVIEW		REVISIONS				
CDL		REV.	ECO	ENG	DES	DATE

RECLOSER ELECTRICAL INFORMATION SEE NOTES FOR LIMITATIONS		
RATED VOLTAGE (MAXIMUM)	38	KV
IMPULSE LEVEL (BIL)	150	KV
CONTINUOUS CURRENT, RMS SYM	630	AMP
CURRENT INTERRUPTING, RMS SYM	12.5	KA
AC 1 MINUTE WITHSTAND (DRY)	50	KV
DC 15 MINUTE WITHSTAND	103	KV
MOMENTARY CURRENT, RMS ASYM	20	KA
MAKING CURRENT, RMS ASYM	20	KA
SHORT-TIME WITHSTAND RATING (3 SEC. DURATION), RMS SYM	12.5	KA



THREE LINE DIAGRAM

IN SERVICE WEIGHT APPROX.	1500 LBS/	680 KG
SHIPPING WEIGHT APPROX.	1850 LBS/	839 KG

ENTRANCES	BUSHING ELECTRICAL CHARACTERISTICS	IEEE 386 INTERFACE
Z	38KV 630A DEADBREAK APPARATUS BUSHING	INTERFACE 13
Y	38KV 630A DEADBREAK APPARATUS BUSHING	INTERFACE 13

RECLOSER SPECIFICS:


- RECLOSER IS EQUIPPED WITH A CONTROL:
SEL651R24DXGA8AE1113C7XX (9163XXX2647-3)
- CONTROL CABLE LENGTH IS 10 FT.
- VOLTAGE SENSING CABLE LENGTH IS 10 FT.
- RECLOSER HEATERS IS 120VAC.
- VIPER IS EQUIPPED WITH LOW ENERGY ANALOG (LEA)
VOLTAGE SENSING ON Y AND Z SIDES.
- MAXIMUM OUTPUT OF VOLTAGE SENSING IS 5 VAC WITH A
10,000:1 RATIO.
- LEA VOLTAGE SENSING IS CALIBRATED AT THE FACTORY USING
RATIO CORRECTION FACTORS (RCFS) PROVIDED WITH THE VIPER
- RCFS ARE PROGRAMMED INTO THE MATCHING SEL 651R.
RCFS MUST BE REPROGRAMMED IF DIFFERENT CONTROL IS USED.
SEE LABEL INCLUDED WITH CONTROL FOR RCF VALUES AND
EQUIVALENT PT RATIO.

NOTES:

1. 304/304L STAINLESS STEEL MECHANISM HOUSING PAINTED ASA TO LIGHT GRAY PER G & W SPEC 223.011-82.
2. MANUAL TRIP LEVER IS EQUIPPED WITH ELECTRICAL AND MECHANICAL LOCKOUT OF CLOSING CIRCUIT WHEN LEVER IS IN THE TRIPPED POSITION.
3. 304 STAINLESS STEEL ENCLOSURE FINISHED PADMOUNT GREEN MUNSELL 76Y3.29/1.5. ENCLOSURE IS DESIGNED PER APPLICABLE SECTIONS OF ANSI/IEEE C37.74 AND C57.12.29. DRAWING IS TYPICAL AND SHOWS OVERALL DIMENSIONS ONLY. CONSTRUCTION DETAILS MAY VARY FROM THOSE DEPICTED.
4. WHEN ELBOWS, INSERTS, AND ANY OTHER ACCESSORIES ARE CONNECTED TO THE SWITCH, THE RATINGS OF EACH CONNECTED ASSEMBLY WILL BE THAT OF THE LOWEST RATED COMPONENT OF THE ASSEMBLY.
5. RECLOSER IS EQUIPPED WITH A 400/200:1 CURRENT TRANSFORMER ON EACH PHASE FACTORY SET AT 200:1 RATIO. REFER TO INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FOR CHANGING CURRENT TRANSFORMER RATIO IN THE FIELD.
6. MOUNTING INFORMATION: THE FRAME OF THE RECLOSER MUST BE ANCHORED TO THE PAD. THE FRAME IS EQUIPPED WITH (4) SLOTTED ANCHORING HOLES, EACH MEASURING 9/16" X 1". THE LOCATIONS OF THESE HOLES, REFERRED TO AS "FRAME MOUNTING" ARE SHOWN IN THE FRONT VIEW AND SECTION A-A. THE PAD MOUNT ENCLOSURE SHOULD BE SECURED TO THE PAD TO PROVIDE IT WITH ADDITIONAL STABILITY. EACH PAD MOUNT ENCLOSURE IS SHIPPED WITH 4 SECURING BRACKETS THAT ARE TO BE USED FOR THIS PURPOSE. THE SECURING BRACKETS CAN BE INSTALLED ANYWHERE ALONG THE INNER EDGE OF THE ENCLOSURE. SEE ENCLOSURE MOUNTING DETAIL "A" AND THE PLAN VIEW FOR MORE DETAILS ABOUT SECURING THE PAD MOUNT ENCLOSURE TO THE PAD.
7. 630A APPARATUS BUSHINGS ARE SUITABLE FOR USE WITH 600A OR 900A RATED ELBOWS.

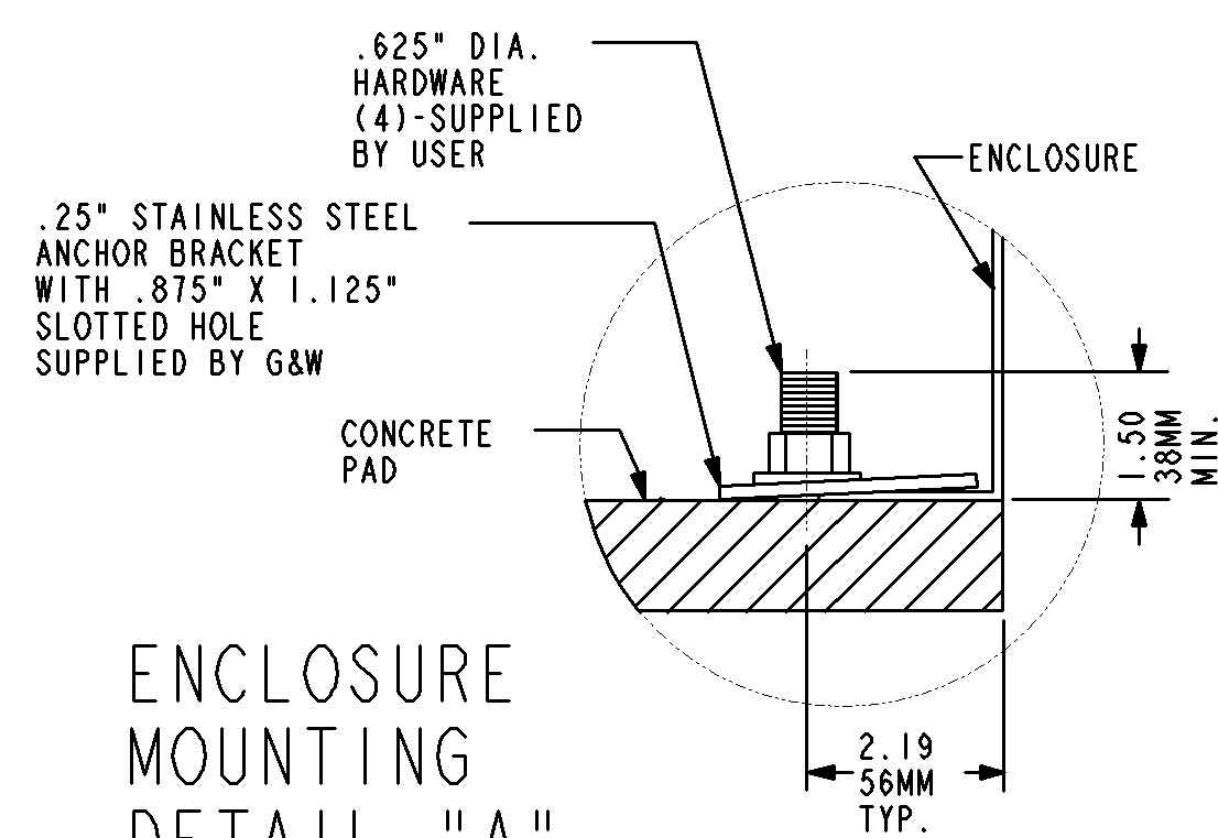
* ALL PRIMARY DIMENSIONS ARE IN INCHES.
ALL SECONDARY DIMENSIONS ARE IN MILLIMETERS.

ALL DRAWING CHANGES MUST BE MADE ON CAD. ANY MANUAL CHANGES WILL VOID DRAWING

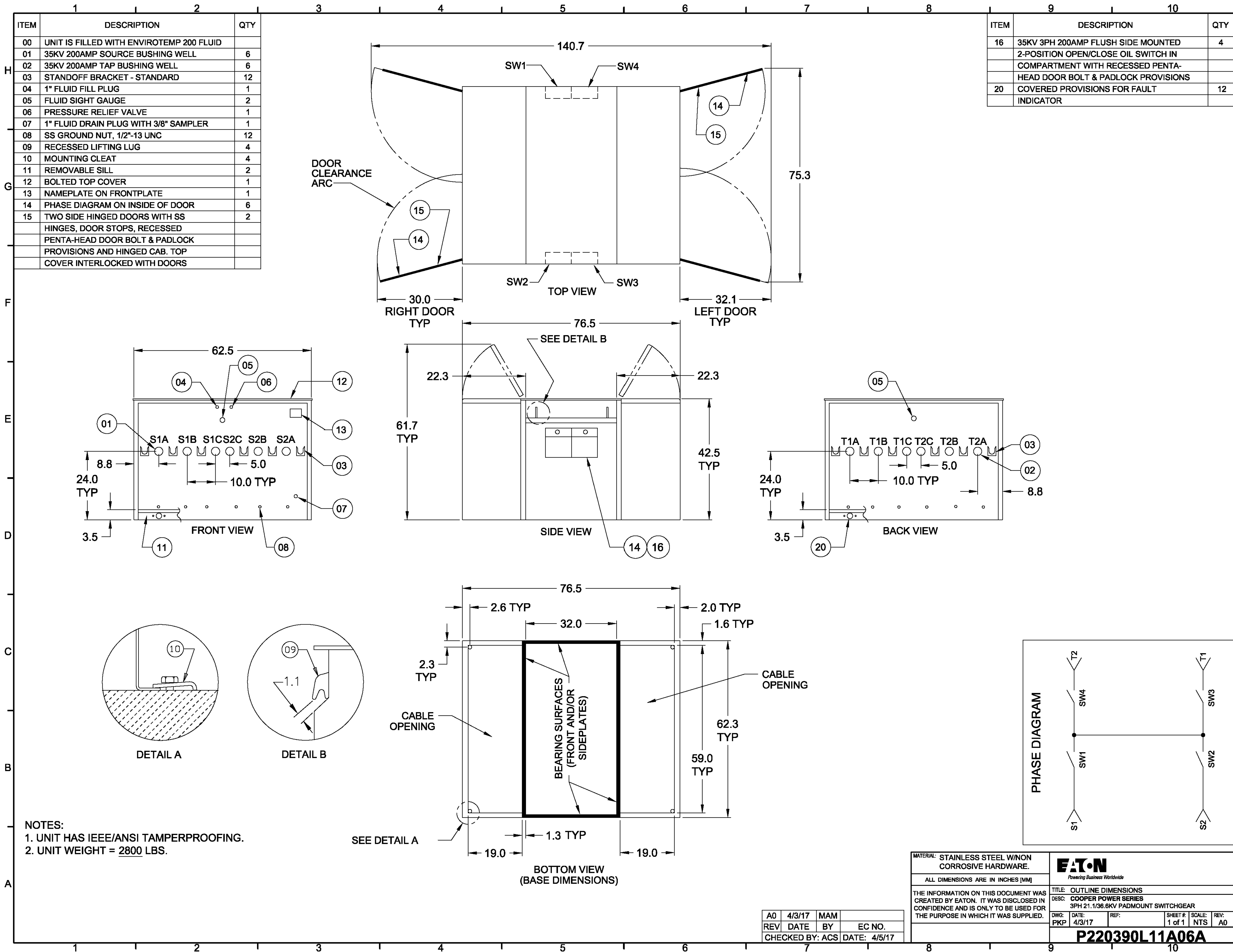
ALL DRAWING CHANGES MUST BE MADE ON CAD. ANY MANUAL CHANGES WILL VOID DRAWING.									
PME-VIP396ER-12S								 G&W ELECTRIC CO.	
38KV 630 AMP PAD STYLE SOLID DIELECTRIC RECLOSER									
CAT. NO.: PME-VIP396ER-12S				DRAWING NO.				REV	
ENG/DES: CL		CL		DATE: 4-4-17		D3676		PM3Z E00	
APPR BY:						SCALE:		SHEET: 1 of 1	

NOTES:

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ENCLOSURE
MOUNTING
DETAIL "A"



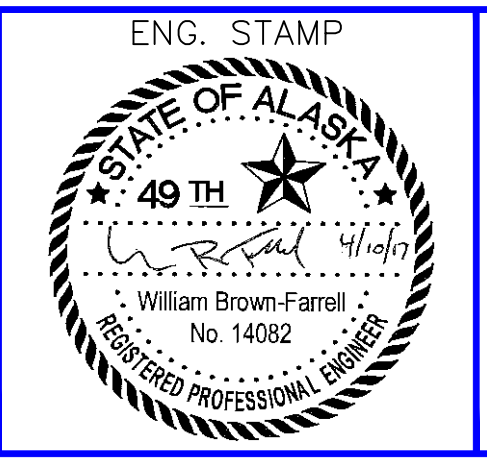
NOTES:

- SWING-UP DOORS ARE PROVIDED WITH DOOR STAYS AND FITTED WITH STAINLESS STEEL HINGES. ON UNIT WIDER THAN 46 INCHES, SPLIT DOORS ARE PROVIDED TO ALLOW EASY OPERATION BY ONE PERSON. BOTH SOURCE AND TAP DOORS CAN BE FULLY OPEN AT THE SAME TIME. EACH DOOR HAS A FLOATING LOCK AND POKET WITH PADLOCK PROVISIONS AND PENTAHEAD STAINLESS STEEL DOOR BOLT.
- DATA PLATE INDICATES VOLTAGE AND AMPERAGE RATINGS, CATALOG NUMBER, SERIAL NUMBER, AND UNIT WEIGHT.
- EASY-TO-READ ONE-LINE DIAGRAMS ARE PROVIDED ON BOTH SOURCE AND TAP SIDES.
- SIDE MOUNTED LOADBREAK SWITCH (SHOWN WITH OPTIONAL KEY LOCKING ACCESSORY) HAS POSITION INDICATOR. SWITCH IS OPERABLE BY HOTSTICK OR OPTIONAL HAND-OPERATED "T" HANDLE. FRONTPLATE-MOUNTED SWITCH ARE AVAILABLE AS AN OPTION.
- DIMENSIONS ARE FOR REFERENCE ONLY AND ARE NOT FOR CONSTRUCTION. CONTRACTOR TO VERIFY FINAL DIMENSIONS OF OWNER FURNISHED EQUIPMENT PRIOR TO ORDERING VAULT AND LID.

NOTES:

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DESIGNER/PROJECT ENGINEER: WILLIAM FARRELL/EARL GEORGE - EPS			
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electric Power Systems Inc.
Consulting Engineers

TEL: (907) 522-1953
FAX: (907) 522-1182
WEB: WWW.EPSINC.COM

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:

**WESTWARD SEAFOODS
UNALASKA UTILITY INTERTIE DESIGN
COOPER FOUR WAY SWITCH**

REF DWG(S):

DRAWING NO:

EQ1.03

SHEET 30 OF 30