

CONSTRUCTION DOCUMENTS 1/20/2023

PORT OF VALDEZ FISHERMAN'S WHARF
ELECTRICAL SITE UPGRADES

FOR THE

CITY OF VALDEZ

PREPARED BY:

RSA

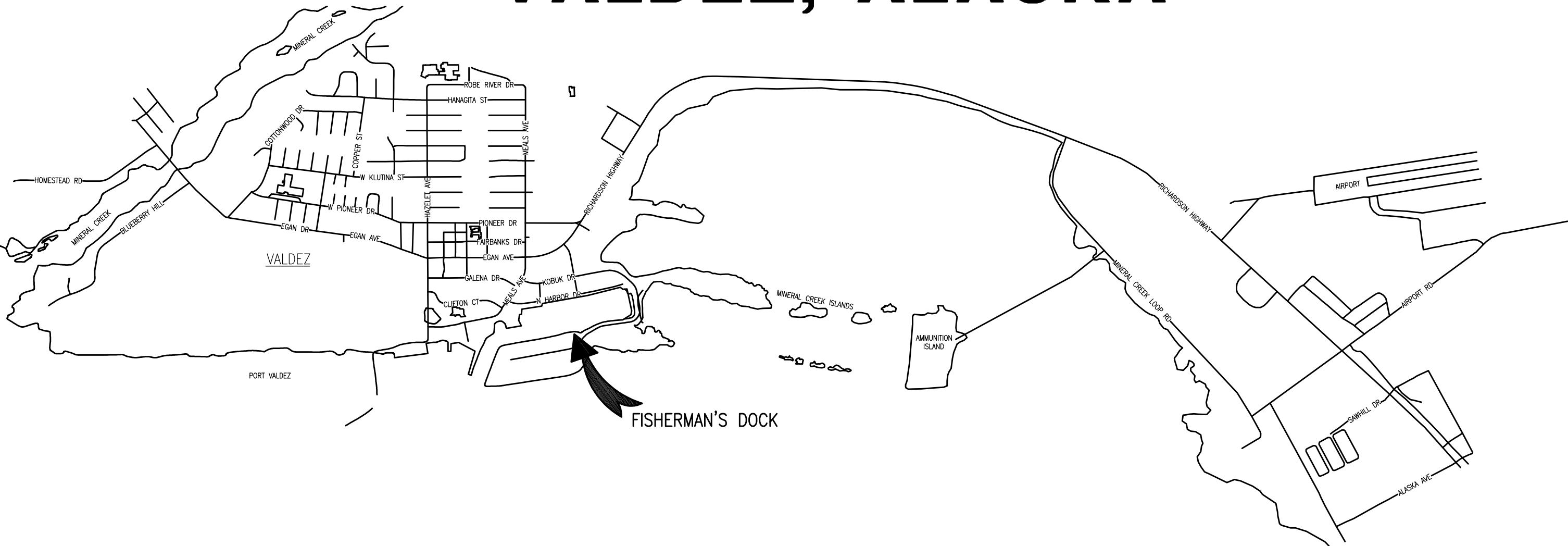
Engineering, Inc.

MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS

670 W. Fireweed Lane
Anchorage, AK 99503
Phone (907) 276-0521
Fax (907) 276-1751
CORPORATION NO.: AECC542



VALDEZ, ALASKA



INDEX TO DRAWINGS:

ELECTRICAL

- E0.1 ELECTRICAL LEGEND, LOAD CALCULATIONS, AND SHORT CIRCUIT SUMMARY
- E0.2 ELECTRICAL SPECIFICATIONS
- E1.1 POWER ONE-LINE DIAGRAMS AND GROUNDING DETAIL
- E1.2 ELECTRICAL DETAILS
- E2.1 ELECTRICAL SITE DEMOLITION PLAN
- E2.2 ELECTRICAL SITE PLAN
- E3.1 EXISTING CONDITIONS REFERENCE PHOTOS
- E3.2 EXISTING CONDITIONS REFERENCE PHOTOS

STRUCTURAL

- S1.10 DESIGN CRITERIA
- S1.11 SPECIAL INSPECTIONS
- S1.12 SPECIAL INSPECTIONS OF STEEL
- S1.13 SPECIAL INSPECTIONS OF SEISMIC RESISTING SYSTEMS
- S1.22 PILE CAP AND BASEPLATES
- S1.41 STRUCTURAL STEEL SCHEDULES AND TYPICAL DETAILS
- S2.0 PILE PLAN
- S2.1 FLOOR PLAN
- S2.2 ROOF PLAN
- S3.0 ELEVATION

SUMMARY OF WORK:

INSTALLATION OF NEW SERVICE SWITCHBOARD, EQUIPMENT SHELTER, AND SHORE POWER. REPLACEMENT BRANCH CIRCUITS FOR CRANES.

0"
1"
2"
3"

ELECTRICAL LOAD CALCULATION

EXISTING SERVICE SIZE:	400 A, 480 V, 3 PH
PEAK KW DEMAND - (SEPTEMBER, 2019):	39.1 KW
ASSUMED POWER FACTOR:	0.85 PF
EXISTING PEAK DEMAND (IN KVA):	46 KVA
125% OF PEAK LOAD (NEC 220.87)	57.5 KVA
EXISTING PEAK DEMAND (IN AMPS):	69 A
EXISTING SPARE CAPACITY:	331 A
EXISTING LOADS REMOVED (IN KVA):	
NONE	0 KVA
SUBTOTAL:	0 KVA
TOTAL LOADS REMOVED:	0 KVA
TOTAL LOADS REMOVED (IN AMPS):	0 A
NEW LOADS ADDED (IN KVA)	
SHORE POWER PEDESTAL	16.9 KVA
SUBTOTAL:	16.9 KVA
TOTAL LOADS ADDED:	16.9 KVA
TOTAL LOADS ADDED (IN AMPS):	20 A
NET LOAD CHANGE:	16.9 KVA
NET LOAD CHANGE (IN AMPS):	20 A
NEW TOTAL NEC DEMAND LOAD:	74.4 KVA
NEW TOTAL NEC DEMAND LOAD:	90 A
SPARE CAPACITY:	310 A

RESULT: THE EXISTING SERVICE HAS ADEQUATE CAPACITY FOR THE ADDITIONAL LOADS ADDED.

SHORT CIRCUIT CALCULATION SUMMARY

FAULT ANALYSIS WAS PERFORMED USING POINT-TO-POINT METHOD.
THE FOLLOWING ARE THE UTILITY CONTRIBUTION AND EQUIPMENT ASSUMPTIONS:

AVAILABLE FAULT CURRENT AT UTILITY XFMR:	INFINITE BUS
UTILITY TRANSFORMER SIZE:	75 KVA
UTILITY TRANSFORMER IMPEDENCE:	2.50 %
SERVICE LATERAL # PARALLEL RUNS:	2 EA.
SERVICE LATERAL SIZE:	#3/0 KCMIL cu
SERVICE LATERAL LENGTH:	250 FEET
SERVICE LATERAL CONDUIT TYPE:	PVC
TOTAL MOTOR CONTRIBUTIONS:	133 AMPS

AVAILABLE FAULT CURRENT AT MDP: 3763 A RMS (SYM)

NOTE: VERIFY THE ABOVE TRANSFORMER RATINGS AND SERVICE LATERAL SIZE/TYPE WITH LOCAL UTILITY PRIOR TO ORDERING EQUIPMENT.
ADJUST EQUIPMENT SHORT CIRCUIT RATINGS ACCORDINGLY BASED ON ACTUAL EQUIPMENT INSTALLED BY UTILITY. INSTALL LABEL ON SERVICE EQUIPMENT INDICATING DATE AND FINAL CALCULATION RESULTS PER NEC 110.24.

LEGEND

	CONDUIT, SEE POWER ONE-LINE DIAGRAM FOR SIZE
	UNDERGROUND ELECTRICAL CIRCUIT, SEE POWER ONE-LINE DIAGRAM FOR SIZE
	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER
	JUNCTION BOX
	MOTOR (SIZED AS NOTED)
	DISCONNECT SWITCH
	IN GRADE EXTERIOR JUNCTION BOX
	NOTE TAG (No. INDICATES NOTE)
AFG	ABOVE FINISHED GRADE
C	CONDUIT
CO	CONDUIT ONLY
E	DENOTES EXISTING ITEM
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
TYP	TYPICAL



R S A
Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0521
Corporate No.: AECC542

PORT OF VALDEZ - FISHERMAN'S
WHARF ELECTRICAL SITE UPGRADES

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

DRAWN BY: FWS
CHECKED BY: DB,TEH
DATE: 1/20/2023
JOB NUMBER: M1001
DWG FILE: M1001 - ESeries

DRAWING TITLE:
ELECTRICAL LEGEND,
LOAD CALCULATIONS, AND
SHORT CIRCUIT SUMMARY

SHEET:

E0.1

ELECTRICAL SPECIFICATIONS

26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL

- A. SCOPE OF WORK: FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT FOR A COMPLETE AND WORKABLE ELECTRICAL SYSTEM AS INDICATED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.
- B. STANDARDS, CODES AND REGULATIONS: COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, INTERNATIONAL BUILDING CODE, AND INTERNATIONAL FIRE CODE INCLUDING ALL STATE AND LOCAL AMENDMENTS TO THESE CODES. COMPLY WITH THE LATEST PUBLISHED VERSION OF THE NECA STANDARD OF INSTALLATION.
- C. DRAWINGS: THE DRAWINGS ARE DIAGRAMMATIC, NOT NECESSARILY SHOWING ALL OFFSETS OR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. UNLESS SPECIFICALLY DIMENSIONED. REVIEW THE DRAWINGS AND SPECIFICATIONS FOR EQUIPMENT FURNISHED BY OTHER CRAFTS BUT INSTALLED IN ACCORDANCE WITH THIS SECTION. BRING QUESTIONABLE OR OBSCURE ITEMS, APPARENT CONFLICTS BETWEEN PLANS AND SPECIFICATIONS, GOVERNING CODES OR UTILITIES REGULATIONS TO THE ATTENTION OF THE OWNER. CODES, ORDINANCES, REGULATIONS, MANUFACTURER’S INSTRUCTIONS OR STANDARDS TAKE PRECEDENCE WHEN THEY ARE MORE STRINGENT OR CONFLICT WITH THE DRAWINGS AND SPECIFICATIONS.
- D. RECORD DRAWINGS: MARK UP A CLEAN SET OF DRAWINGS AS THE WORK PROGRESSES TO SHOW THE DIMENSIONED LOCATION AND ROUTING OF ALL ELECTRICAL WORK WHICH WILL BECOME PERMANENTLY CONCEALED. SHOW ROUTING OF WORK IN PERMANENTLY CONCEALED BLIND SPACES WITHIN THE BUILDING. SHOW COMPLETE ROUTING AND SIZING OF ANY SIGNIFICANT REVISIONS TO THE SYSTEMS SHOWN.
- E. WORKMANSHIP: INSTALLATION OF ALL WORK SHALL BE MADE SO THAT ITS SEVERAL COMPONENT PARTS SHALL FUNCTION AS A WORKABLE SYSTEM COMPLETE WITH ALL ACCESSORIES NECESSARY FOR ITS OPERATION. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER’S RECOMMENDATIONS, INSTRUCTIONS AND/OR INSTALLATION DRAWINGS AND IN ACCORDANCE WITH NECA STANDARDS. MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM WITH APPLICABLE INDUSTRY STANDARDS, NEMA STANDARDS AND UNDERWRITERS LABORATORIES STANDARDS WHERE APPLICABLE.
- F. SUBMITTALS: PROVIDE MATERIAL AND EQUIPMENT SUBMITTALS CONTAINING A COMPLETE LISTING OF MATERIAL AND EQUIPMENT SHOWN ON THE DRAWINGS. INCLUDE CATALOG NUMBERS, WIRING DIAGRAMS,ROUGH-IN DIMENSIONS AND PERFORMANCE DATA FOR ALL MATERIAL AND EQUIPMENT. SUBMITTALS SHALL BE IN ELECTRONIC .PDF FORMAT, SEPARATE FROM WORK FURNISHED UNDER OTHER DIVISIONS. INDEX AND CLEARLY IDENTIFY ALL MATERIAL AND EQUIPMENT BY ITEM, NAME OR DESIGNATION USED ON THE DRAWINGS. SUBMITTAL REVIEW IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY AND DOES NOT RELIEVE THE CONTRACTOR FROM ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE SUBMITTALS ARE NOT CHECKED FOR QUANTITY, DIMENSION, OR FOR PROPER OPERATION. WHERE DEVIATIONS OF A SUBSTITUTE PRODUCT OR SYSTEM PERFORMANCE HAVE NOT BEEN SPECIFICALLY NOTED IN THE SUBMITTAL BY THE CONTRACTOR, PROVISIONS OF A COMPLETE AND SATISFACTORY WORKING INSTALLATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- G. OPERATION AND MAINTENANCE MANUALS: PROVIDE OPERATION AND MAINTENANCE MANUALS FOR TRAINING OF THE OWNER’S PERSONNEL. DESCRIBE THE PROCEDURES NECESSARY TO OPERATE THE SYSTEM INCLUDING START-UP, OPERATION, EMERGENCY OPERATION AND SHUTDOWN. PROVIDE INSTRUCTIONS AND A SCHEDULE OF PREVENTIVE MAINTENANCE IN TABULAR FORM FOR ALL ROUTINE CLEANING, INSPECTION AND LUBRICATION WITH RECOMMENDED LUBRICANTS. PROVIDE INSTRUCTIONS FOR MINOR REPAIR OR ADJUSTMENTS REQUIRED FOR PREVENTIVE MAINTENANCE ROUTINES. PROVIDE MANUFACTURER’S DESCRIPTIVE LITERATURE INCLUDING APPROVED SHOP DRAWINGS COVERING DEVICES USED IN ANY CONTRACTOR–PROVIDED EQUIPMENT OR SYSTEMS WITH ILLUSTRATION, EXPLODED VIEWS, ETC.
- H. WARRANTY: THE CONTRACTOR SHALL GUARANTEE ALL WORK EXECUTED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM BENEFICIAL OCCUPANCY. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE GUARANTEE PERIOD.
- I. PERMITS: SECURE AND PAY FOR ALL FEES, PERMITS, ETC. REQUIRED BY LOCAL AND STATE AGENCIES AND ALL LOCAL UTILITY COMPANIES.
- J. REFERENCE SYMBOLS: THE ELECTRICAL "LEGEND" ON THE DRAWINGS IS A STANDARDIZED VERSION, AND ALL SYMBOLS SHOWN MAY NOT BE USED. USE THE "LEGEND" AS A REFERENCE FOR THE SYMBOLS USED ON THE DRAWINGS.

26 05 05 – SELECTIVE DEMOLITION FOR ELECTRICAL

- A. DEMOLITION DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION. REPORT DISCREPANCIES TO ENGINEER BEFORE DISTURBING THE EXISTING INSTALLATION.
- B. OBTAIN PERMISSION FROM OWNER AT LEAST 24 HOURS BEFORE PARTIALLY OR COMPLETELY DISABLING SYSTEM.
- C. REMOVE, RELOCATE AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION. REMOVE ABANDONED WIRING TO SOURCE OF SUPPLY. REMOVE EXPOSED ABANDONED CONDUIT. WHERE ABANDONED CONDUIT ENTERS EXISTING SURFACES TO REMAIN, CUT CONDUIT FLUSH WITH FLOORS AND PATCH SURFACES.
- D. DISCONNECT AND REMOVE ABANDONED PANELBOARDS AND DISTRIBUTION EQUIPMENT. DISCONNECT AND REMOVE ELECTRICAL DEVICES AND EQUIPMENT SERVING UTILIZATION EQUIPMENT THAT HAS BEEN REMOVED. REMOVE BRACKETS, STEMS, HANGERS AND OTHER ACCESSORIES.
- E. CONTRACTOR TO FIELD VERIFY CONDUITS AND ELECTRICAL ITEMS TO BE DEMOLISHED PRIOR TO START OF WORK. DEMOLISH CONDUITS, BOXES, DEVICES, EQUIPMENT, ETC.

26 05 19 – WIRE AND CABLE

- A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION.
- B. MATERIALS:
1. ALL CONDUCTORS SHALL BE COPPER WITH TYPE XHHW INSULATION. MINIMUM BRANCH CIRCUIT CONDUCTOR SIZE SHALL BE 12 AWG. MINIMUM CONTROL CIRCUIT CONDUCTOR SIZE SHALL BE #18 AWG.
- C. INSTALLATION:
1. COLOR CODE WIRES BY LINE OR PHASE. COLOR CODE THE 120/208V CONDUCTORS BLACK, RED, BLUE, AND WHITE. COLOR CODE THE 277/480V CONDUCTORS BROWN, ORANGE, YELLOW AND GREY.
 2. DO NOT SHARE NEUTRAL CONDUCTORS. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL.
 3. USE PROPERLY SIZED INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS FOR ALL CONDUCTORS #8 AWG AND SMALLER. TERMINATE #6 AWG AND LARGER CONDUCTORS WITH CRIMP OR COMPRESSION TYPE CONNECTORS INSTALLED WITH TOOL RECOMMENDED BY CONNECTION MANUFACTURER AND INSULATE WITH PROPERLY SIZED 600 VOLT RATED HEAT SHRINK TUBING.
 4. INSTALLATION SCHEDULE: BUILDING WIRE IN RACEWAYS AT ALL LOCATIONS UNLESS OTHERWISE NOTED.

26 05 26 – GROUNDING AND BONDING

- A. SUBMITTALS: SUBMIT PRODUCT DATA FOR GROUND RODS.
- B. MATERIAL: SOLID GROUND RODS: COPPER-ENCASED STEEL, 3/4 INCH DIAMETER, MINIMUM LENGTH 10 FEET.
- C. INSTALLATION:
1. PROVIDE A SEPARATE, INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL NEW BRANCH CIRCUITS AND FEEDERS. TERMINATE EACH END ON A GROUNDING LUG, BUS, OR BUSHING.
 2. MECHANICAL CONNECTORS: NON-REVERSIBLE CRIMP TYPE LUGS ONLY. USE FACTORY MADE COMPRESSION LUG FOR ALL TERMINATIONS.
 3. BOND TOGETHER SYSTEM NEUTRALS, SERVICE EQUIPMENT ENCLOSURES, EXPOSED NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT, METAL RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN RACEWAYS AND CABLES, AND RECEPTACLE GROUND CONNECTORS.

26 05 29 – HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

- A. SUBMITTALS: PROVIDE STRUCTURALLY ENGINEERED SHOP DRAWINGS (STAMPED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF ALASKA) FOR SEISMIC RESTRAINT OF ALL ELECTRICAL EQUIPMENT REQUIRED BY THE INTERNATIONAL BUILDING CODE (IBC), CHAPTERS 16, 17. STRUCTURAL DESIGN SHALL BE BASED ON THE SEISMIC USE CATEGORY AND SEISMIC DESIGN CATEGORY AS DESIGNATED IN THESE CHAPTERS.
- B. MATERIAL: SUPPORT CHANNEL SHALL BE 316 STAINLESS STEEL OR GALVANIZED STEEL. HARDWARE SHALL BE CORROSION RESISTANT AND COMPATIBLE WITH EQUIPMENT USED TO PREVENT DISSIMILAR METAL CORROSION.
- C. INSTALLATION: INSTALLATION OF EQUIPMENT SHALL BE IN ACCORDANCE WITH THE SEISMIC STRUCTURAL ENGINEER’S DRAWINGS AND DETAILED IN ACCORDANCE WITH SEISMIC GUIDELINES.

26 05 33 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

- A. SUBMITTALS: SUBMIT PRODUCT DATA FOR APPROVAL.
- B. MATERIALS
1. PVC COATED RIGID STEEL CONDUIT: ANSI C80.1. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; THREADED TYPE WITH INSULATED THROAT BUSHINGS, MATERIAL TO MATCH CONDUIT.
 2. LIQUIDTIGHT FLEXIBLE CONDUIT: FLEXIBLE METAL CONDUIT WITH PVC JACKET. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; STEEL OR MALLEABLE IRON WITH INSULATED THROAT BUSHINGS. DIE CAST FITTINGS ARE NOT ACCEPTABLE.
 3. RIGID NONMETALLIC CONDUIT: NEMA TC 2; SCHEDULE 80 PVC, RATED FOR 90° C CABLE.
- C. INSTALLATION:
1. INSTALL CONDUIT FOR ALL SYSTEMS UNLESS OTHERWISE NOTED, 1/2 INCH MINIMUM SIZE. ABOVE GRADE, EXPOSED OUTDOOR LOCATIONS, WET INTERIOR LOCATIONS, BRANCH CIRCUITS 60 AMPERES OR LARGER, AND FEEDERS SHALL BE PVC COATED RIGID STEEL CONDUIT. BELOW GRADE MAY BE NON-METALLIC PVC CONDUIT.
 2. MOTOR AND EQUIPMENT CONNECTIONS SHALL BE SHORT EXTENSIONS OF LIQUIDTIGHT FLEXIBLE CONDUIT TO ALLOW FOR VIBRATION.
 3. PROVIDE OUTLET BOXES AS SHOWN ON THE DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, DEVICE INSTALLATION AND CODE COMPLIANCE.
 4. SUPPORT BOXES INDEPENDENTLY OF CONDUIT.

26 05 53 – IDENTIFICATION FOR ELECTRICAL SYSTEMS

- A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION.
- B. MATERIALS:
1. NAMEPLATES: ENGRAVED THREE-LAYER LAMINATED PLASTIC, WHITE LETTERS ON A BLACK BACKGROUND. NAMEPLATES SHALL BE PROVIDED TO IDENTIFY ALL ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT AND LOADS SERVED.
 2. TAPE LABELS: ADHESIVE TAPE LABELS, WITH 3/16 INCH BOLD BLACK LETTERS ON CLEAR BACKGROUND MADE USING DYMO RHINOPRO 5000 OR EQUAL LABEL PRINTER.

3. WIRE AND CABLE MARKERS: CLOTH MARKERS, SPLIT SLEEVE OR TUBING TYPE.
- C. INSTALLATION:
1. GEAR: PROVIDE ENGRAVED THREE-LAYER LAMINATED PLASTIC NAMEPLATES WITH WHITE LETTERS ON A BLACK BACKGROUND TO IDENTIFY ALL ELECTRICAL DISTRIBUTION, CONTROL EQUIPMENT, LOADS SERVED, AND LOW-VOLTAGE SYSTEM PANELS.
 2. CONDUITS: MARK ALL CONDUITS ENTERING OR LEAVING PANELBOARDS WITH INDELIBLE BLACK MAGIC MARKER WITH THE CIRCUIT NUMBERS OF THE CIRCUITS CONTAINED INSIDE. LABEL FEEDER CONDUITS AND SPARE CONDUITS AT EACH END WITH SOURCE AND TERMINATION POINT.
 3. JUNCTION BOXES: MARK ALL CIRCUIT NUMBERS OF WIRING ON ALL JUNCTION BOXES WITH SHEET STEEL COVERS. MARK WITH INDELIBLE BLACK MARKER. ON EXPOSED JUNCTION BOXES IN PUBLIC AREAS, MARK ON INSIDE OF COVER. MARK ALL FIRE ALARM SYSTEM JUNCTION BOXES WITH SHEET STEEL COVERS WITH "FA." MARK WITH INDELIBLE RED MARKER. MARK ALL OTHER SPECIAL SYSTEM JUNCTION BOXES WITH SHEET STEEL COVERS.
 4. WIRE IDENTIFICATION: PROVIDE WIRE MARKERS ON EACH CONDUCTOR IN PANELBOARD GUTTERS, PULL BOXES, OUTLET AND JUNCTION BOXES, AND AT LOAD CONNECTION. MARKERS SHALL BE LOCATED WITHIN ONE INCH OF EACH CABLE END, EXCEPT AT PANELBOARDS, WHERE MARKERS FOR BRANCH CIRCUIT CONDUCTORS SHALL BE VISIBLE WITHOUT REMOVING PANEL DEADFRONT.
 5. DEVICE PLATES: LABEL EACH RECEPTACLE DEVICE PLATE OR POINT OF CONNECTION DENOTING THE PANELBOARD NAME AND CIRCUIT NUMBER. INSTALL LABEL ON THE TOP OF EACH PLATE.

26 24 13 – SERVICE SWITCHBOARDS

- A. SUMMARY:
1. THIS SECTION INCLUDES THE REQUIREMENTS FOR THE SERVICE SWITCHBOARD AND COORDINATION WITH THE LOCATION UTILITY TO OBTAIN PERMANENT ELECTRICAL SERVICE FOR THE FACILITY.
 2. MANUFACTURERS: BASIS OF DESIGN IS EATON IFS POW-R-LINE XPERT, OR APPROVED EQUAL. PROVIDE SERVICE SWITCHBOARD WITH INCOMING UTILITY CT/METERING COMPARTMENT, 277/480V DISTRIBUTION COMPARTMENT, TRANSFORMER COMPARTMENT, 120/208V DISTRIBUTION SECTION, AND LIGHTING CONTACTOR/CONTROL COMPARTMENT AS SHOWN ON THE DRAWINGS.
- B. SUBMITTALS: SUBMIT PRODUCT DATA FOR APPROVAL.
- C. MATERIALS:
1. METER: FURNISHED AND INSTALLED BY THE UTILITY COMPANY.
 2. CURRENT TRANSFORMER CABINET: NEMA 3R, UL 414 LISTED, MINIMUM SIZE AS REQUIRED BY THE LOCAL UTILITY. ALL CURRENT TRANSFORMER CABINETS AND COMPARTMENTS SHALL HAVE HINGED FRONT COVER ACCESS TO THE CURRENT TRANSFORMERS. THE HINGED FRONT COVER SHALL BE LOCKABLE AND SHALL ACCEPT A PADLOCK WITH A SHACKLE DIAMETER OF NOT LESS THAN 5/16 INCH. CURRENT TRANSFORMER CABINETS FOR SERVICES FROM 201 AMPERES TO 800 AMPERES SHALL HAVE ¼ X 20 MOUNTING STUDS ON THE ENCLOSURE BODY SPACED TO ACCEPT A CURRENT TRANSFORMER MOUNTING BASE.
 3. CURRENT TRANSFORMER: PROVIDED BY UTILITY.
 4. DEAD-FRONT CIRCUIT BREAKER PANELBOARDS: PROVIDE WITH BUS SIZE, SHORT CIRCUIT RATING, NUMBER AND SIZE OF BRANCH CIRCUITS AS SHOWN ON THE DRAWINGS. BUSSING SHALL BE COPPER. MOLDED CASE CIRCUIT BREAKERS SHALL BE BOLT-ON THERMAL MAGNETIC TRIP TYPE WITH COMMON TRIP HANDLE FOR ALL POLES
 5. ENCAPSULATED DRY TYPE TRANSFORMERS SHALL MEET ANSI/NEMA ST 20, BE FACTORY-ASSEMBLED, AIR COOLED DRY TYPE WITH RATINGS AS SHOWN ON THE DRAWINGS. INSULATION SYSTEM AND AVERAGE WINDING TEMPERATURE RISE FOR TRANSFORMERS RATED 16–500 KVA SHALL BE 115°C. LISTED FOR INSTALLATION INSIDE SWITCHBOARD. LEVELS SHALL MEET ANSI/NEMA ST 20 WITH MAXIMUM SOUND LEVELS OF 50 DB. BASIC IMPULSE LEVEL SHALL BE 10 KV. GROUND TRANSFORMER CORE AND COIL ASSEMBLY TO ENCLOSURE BY MEANS OF A VISIBLE FLEXIBLE COPPER GROUNDING STRAP. COIL CONDUCTORS SHALL BE CONTINUOUS WINDING WITH TERMINATIONS BRAZED OR WELDED. ENCLOSURE SHALL MEET ANSI/NEMA ST DEGREES C RISE ABOVE AMBIENT AT ITS WARMEST POINT. WINDING TAPS AND SOUND SHALL MEET ANSI/NEMA ST 20.
 6. LIGHTING CONTACTORS: NEMA ICS 2; MECHANICALLY HELD, 2-WIRE CONTROL WITH 120VAC COIL, 30A RATED CONTACTS, NUMBER OF POLES AS INDICATED ON THE PLANS, 10-POLES MINIMUM. ENCLOSURE SHALL BE NEMA TYPE 3R, 316 STAINLESS STEEL. PROVIDE HAND/OFF/AUTO KEY SWITCH, 2-POLE RELAY FOR 1-POLE CONTROL AND A RED PILOT LIGHT.
 7. EXTERIOR PHOTOCELLS: PROVIDE DUSK-TO-DAWN LIGHTING CONTROL WITH A DELAY ACTION. FULLY ENCLOSED WEATHERPROOF HOUSING, SONIC-WELDED POLYCARBONATE CASE AND LENS TO SEAL OUT MOISTURE, RATED FOR MOUNTING ON BUILDING EXTERIOR AND –20°F TEMPERATURE OPERATION.

- D. INSTALLATION:
2. MAKE ARRANGEMENTS WITH UTILITY COMPANY TO OBTAIN PERMANENT ELECTRIC SERVICE TO THE PROJECT.
 3. METER SOCKETS SHALL BE INSTALLED WITH THE CENTERLINE OF THE SOCKET OPENING NO MORE THAN 72 INCHES AND NO LESS THAN 60 INCHES ABOVE FINISHED GRADE. THE METER SOCKET SHALL BE INSTALLED WITH A MINIMUM 10 INCHES OF SIDE CLEARANCE TO EACH SIDE OF THE SOCKET.
 4. ALL SERVICE ENTRANCE EQUIPMENT AND PANELBOARDS SHALL HAVE SIGNAGE FOR ARC HAZARD INSTALLED. THE MARKING SHALL BE LOCATED TO BE CLEARLY VISIBLE TO QUALIFIED PERSONNEL BEFORE EXAMINATION, ADJUSTMENT, SERVICING OR MAINTENANCE OF THE EQUIPMENT. AT A MINIMUM THE 3-LINE SIGNAGE SHALL STATE THE FOLLOWING:

WARNING
ARC FLASH AND SHOCK HAZARD
APPROPRIATE PPE REQUIRED.

5. PROVIDE TYPED CIRCUIT DIRECTORIES FOR EACH PANELBOARD.
6. CHECK FOR DAMAGE AND TIGHT CONNECTIONS PRIOR TO ENERGIZING TRANSFORMER. MEASURE PRIMARY AND SECONDARY VOLTAGES AND MAKE APPROPRIATE TAP ADJUSTMENTS
7. INSTALL CONTACTOR IN ACCORDANCE WITH THE MANUFACTURER’S INSTALLATION INSTRUCTIONS.
8. PROVIDE PERMANENT LABEL TO CLEARLY INDICATE PURPOSE OF THE CONTACTOR.
9. FIELD LOCATE PHOTOCCELL FOR PROPER OPERATION AND ADJUST TO TURN FIXTURES ON AT DUSK AND OFF AT DAWN.

26 27 26 – WIRING DEVICES

- A. SUBMITTALS: SUBMIT PRODUCT DATA FOR APPROVAL.
- B. MATERIALS:
1. RECEPTACLES: CONVENIENCE AND STRAIGHT BLADE RECEPTACLES SHALL BE NEMA AND FEDERAL SPECIFICATION FS W-C-596, TYPE 5-20R, WHITE NYLON FACE. GFCI RECEPTACLES SHALL BE 20A, DUPLEX CONVENIENCE RECEPTACLE WITH INTEGRAL CLASS 'A' GROUND FAULT CURRENT INTERRUPTER AND LOCKOUT FEATURE.
 2. COVERS: LOCKABLE WEATHERPROOF COVER PLATES SHALL BE GASKETED STAINLESS STEEL WITH HINGED GASKETED DEVICE COVERS. DEVICE PLATES FOR RECEPTACLES SHALL BE "IN USE" TYPE.
- C. INSTALLATION:
1. UNLESS OTHERWISE NOTED ON THE DRAWINGS, INSTALL RECEPTACLES 24 INCHES ABOVE FINISH FLOOR. UNLESS OTHERWISE NOTED DIMENSIONS ARE TO CENTERLINE OF OUTLET.

26 27 27 – SHORE POWER EQUIPMENT

- A. SUBMITTALS: SUBMIT PRODUCT DATA FOR APPROVAL.
- B. MATERIALS:
1. MANUFACTURERS: EATON, OR APPROVED EQUAL
 2. POWER PEDESTAL: UL LISTED FOR ALL OPTIONS LISTED. CONFIGURED TO MEET NFPA STANDARDS FOR MARINAS (NFPA 303) IN ADDITION TO MEETING NEC REQUIREMENTS.
 3. WARRANTY: MANUFACTURER SHALL PROVIDE 5 YEAR WARRANTY FROM DATE OF ACCEPTANCE FROM OWNER FOR ALL EQUIPMENT.
 4. HOUSING: UL LISTED MOULDED 18-GUAGE, 316 STAINLESS STEEL HOUSING, IMPACT RESISTANT, WITH UV-RESISTANT POLYURETHANE COATING AND STAINLESS STEEL HARDWARE.
 5. RECEPTACLES: RATING AS SHOWN ON DRAWINGS. UL LISTED AND CONSTRUCTED IN CONFORMANCE WITH IEC 309-1 AND IEC 309-2. ALL RECEPTACLES SHALL BE MOUNTED AT A MINIMUM OF 35 DEGREES FROM VERTICAL AND LOCATED BEHIND A WEATHERPROOF POLYCARBONATE CORROSION AND IMPACT RESISTANT HINGED DOOR.
 6. MOLDED CASE CIRCUIT BREAKERS: NEMA AB1; PROVIDE CIRCUIT BREAKERS WITH 30MA GF PROTECTION INTEGRAL THERMAL-MAGNETIC TRIP IN EACH POLE, 10,000 AIC RATED, AND UL LISTED. ALL CIRCUIT BREAKERS SHALL BE LOCATED BEHIND A WEATHERPROOF POLYCARBONATE CORROSION AND IMPACT RESISTANT HINGED DOOR.
 7. METERS: PROVIDE SINGLE ELECTRONIC METERING FOR PEDESTALS. METERING SHALL BE FULLY ELECTRONIC DISPLAYING KILOWATT HOURS ON A NON-RESETTABLE DIGITAL COUNTER. METER SHALL MEET ALASKA DEPARTMENT OF ENERGY STANDARDS FOR REVENUE GRADE METERING.
 8. REMOTE MONITORING: PROVIDE EACH METER WITH WIRELESS REMOTE MONITORING.
- C. INSTALLATION:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER’S INSTRUCTIONS.
 2. INSTALL PEDESTAL PLUMB AND LEVEL.



R S A
Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Freewood Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0921
Corporate No.: AECC542

**PORT OF VALDEZ - FISHERMAN'S
WHARF ELECTRICAL SITE UPGRADES**

**CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686**

REVISIONS:

DRAWN BY: FWS
CHECKED BY: DB,TEH
DATE: 1/20/2023
JOB NUMBER: M1001
DWG FILE: M1001-ESeries

DRAWING TITLE:
ELECTRICAL
SPECIFICATIONS

SHEET:
E0.2



R S A
Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0521
Corporate No.: AECC542

**PORT OF VALDEZ - FISHERMAN'S
WHARF ELECTRICAL SITE UPGRADES**

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

DRAWN BY: FWS
CHECKED BY: DB,TEH
DATE: 1/20/2023
JOB NUMBER: M1001
DWG FILE: M1001-ESeries

DRAWING TITLE:
POWER ONE-LINE
DAIGRAMS AND
GROUNDING DETAIL

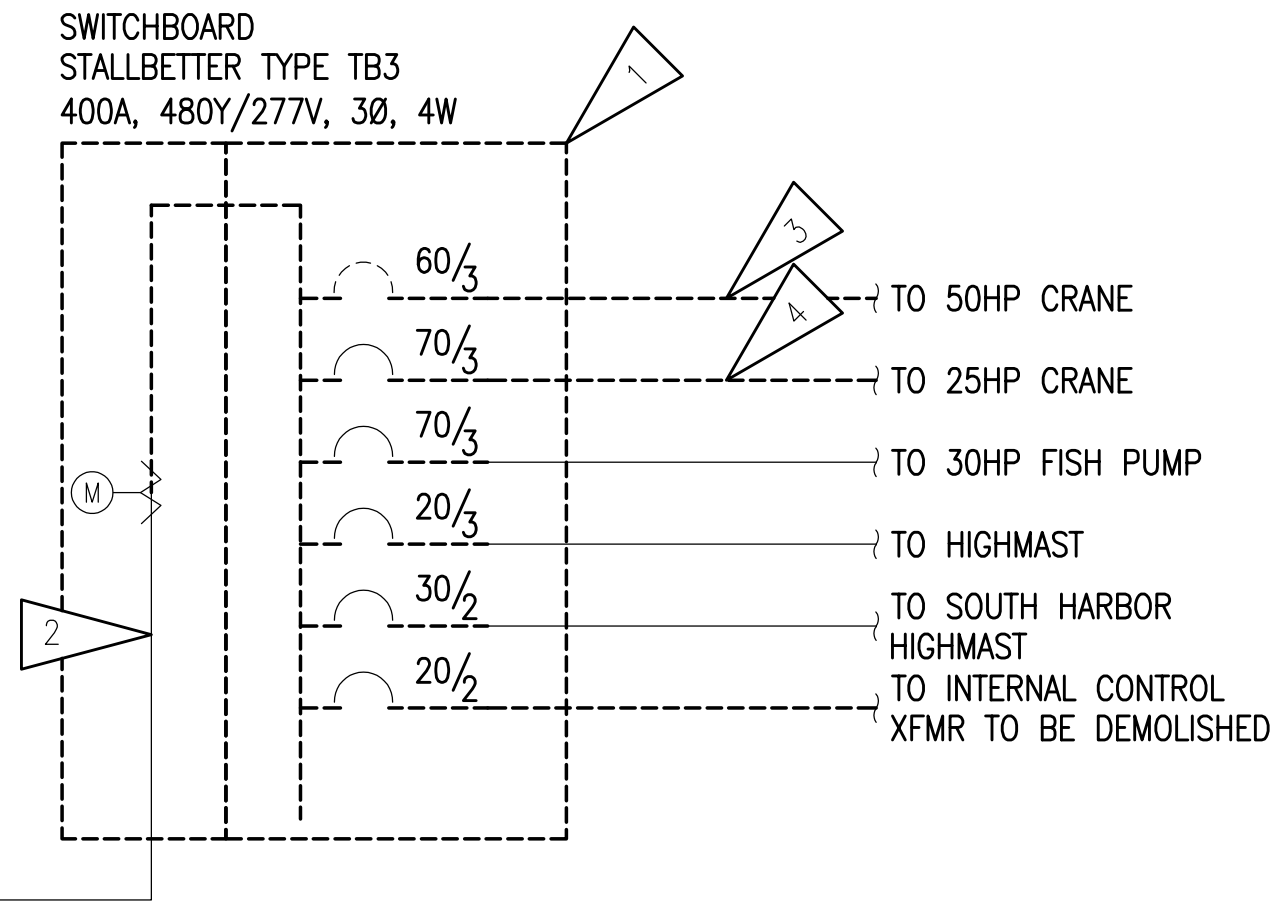
SHEET:
E1.1

GNERAL NOTES:

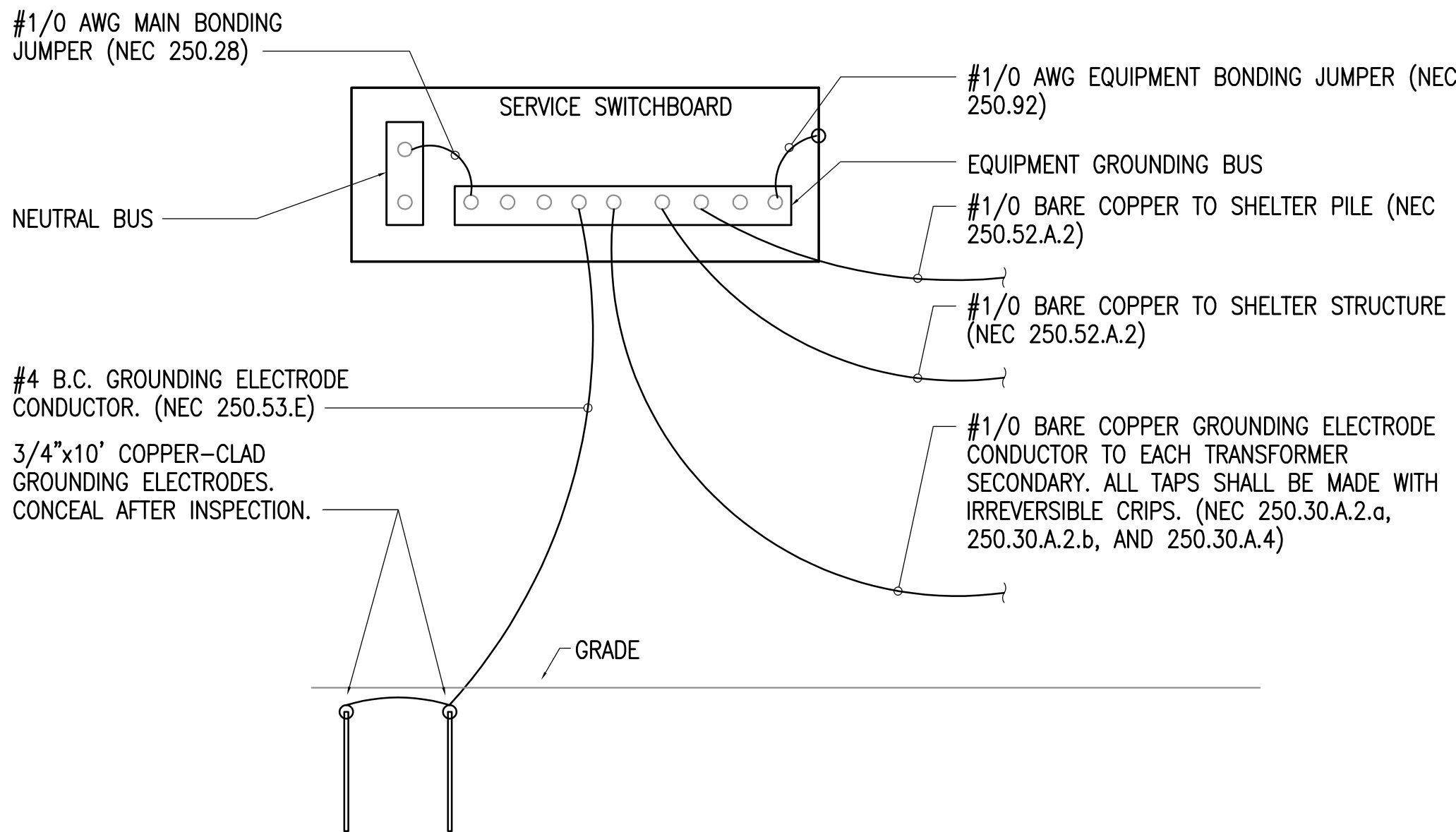
- A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS-BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.
- B. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.
- C. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
- D. ALL NEW ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE NEMA 3R TYPE 316 STAINLESS STEEL ENCLOSURES.
- E. ALL EXISTING SITE LIGHTING SHALL TO BE CIRCUITED THROUGH THE LIGHTING CONTRACTOR AND CONTROLLED VIA NORTH ORIENTATED PHOTOCELL ATTACHED TO THE STRUCTURE

SHEET NOTES:

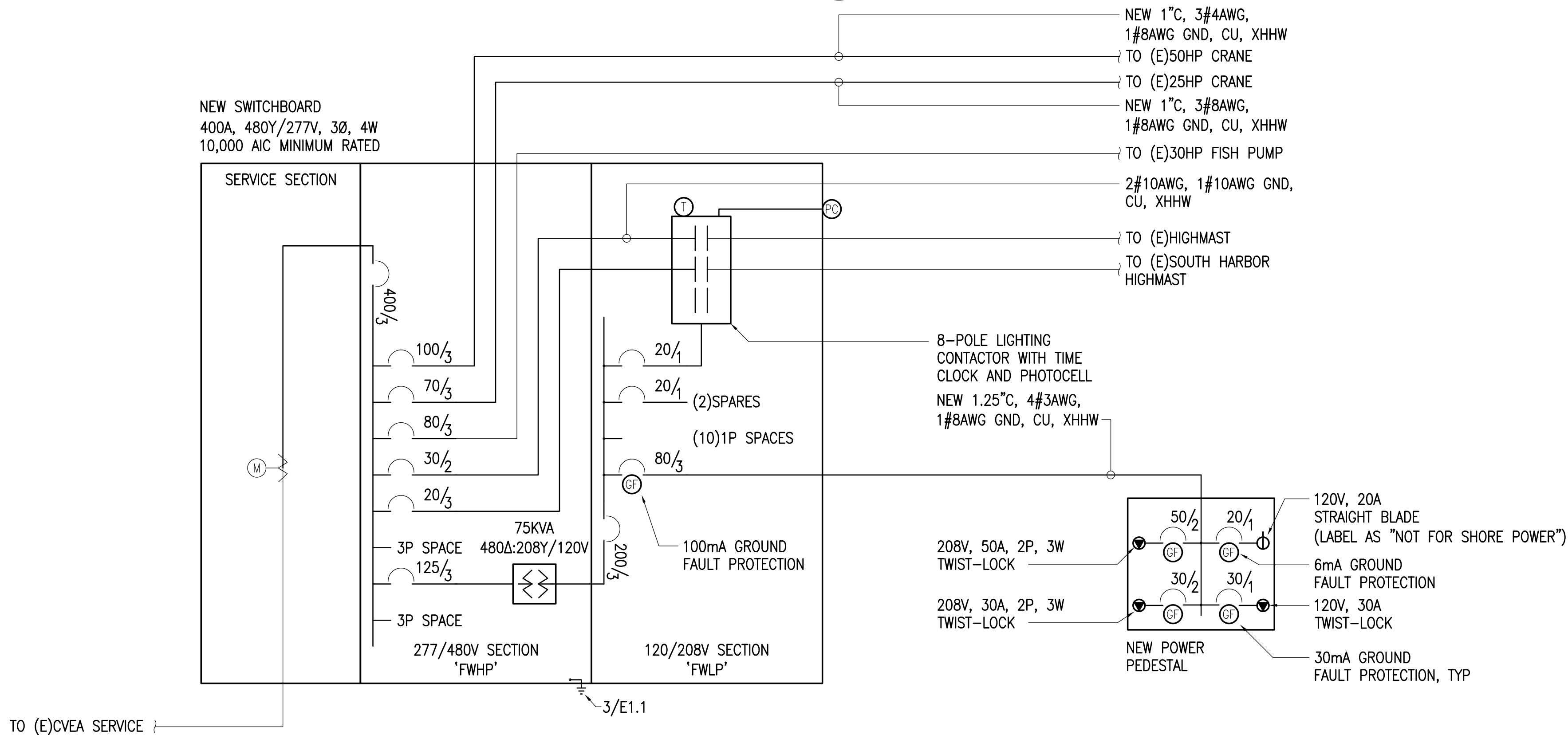
1. DEMOLISH SWITCHBOARD. UNLESS OTHERWISE NOTED, SALVAGE EXISTING CIRCUITS FOR RECONNECTION TO NEW SWITCHBOARD. REFERENCE 1/E1.2 FOR SWITCHBOARD ELEVATION DETAIL.
2. DISCONNECT AND SALVAGE INCOMING SERVICE CONDUCTORS FOR RECONNECTION TO NEW SERVICE ENTRANCE EQUIPMENT.
3. DEMOLISH ABOVE GRADE TYPE SO CORD BRANCH CIRCUIT. EXISTING TO REMAIN CRANE TO BE RE-FED UNDER GRADE.
4. DEMOLISH SURFACE RAN CONDUIT UNDER BULKHEAD. EXISTING TO REMAIN CRANE TO BE RE-FED UNDER GRADE.



1 POWER DEMOLITION ONE-LINE DIAGRAM
NO SCALE

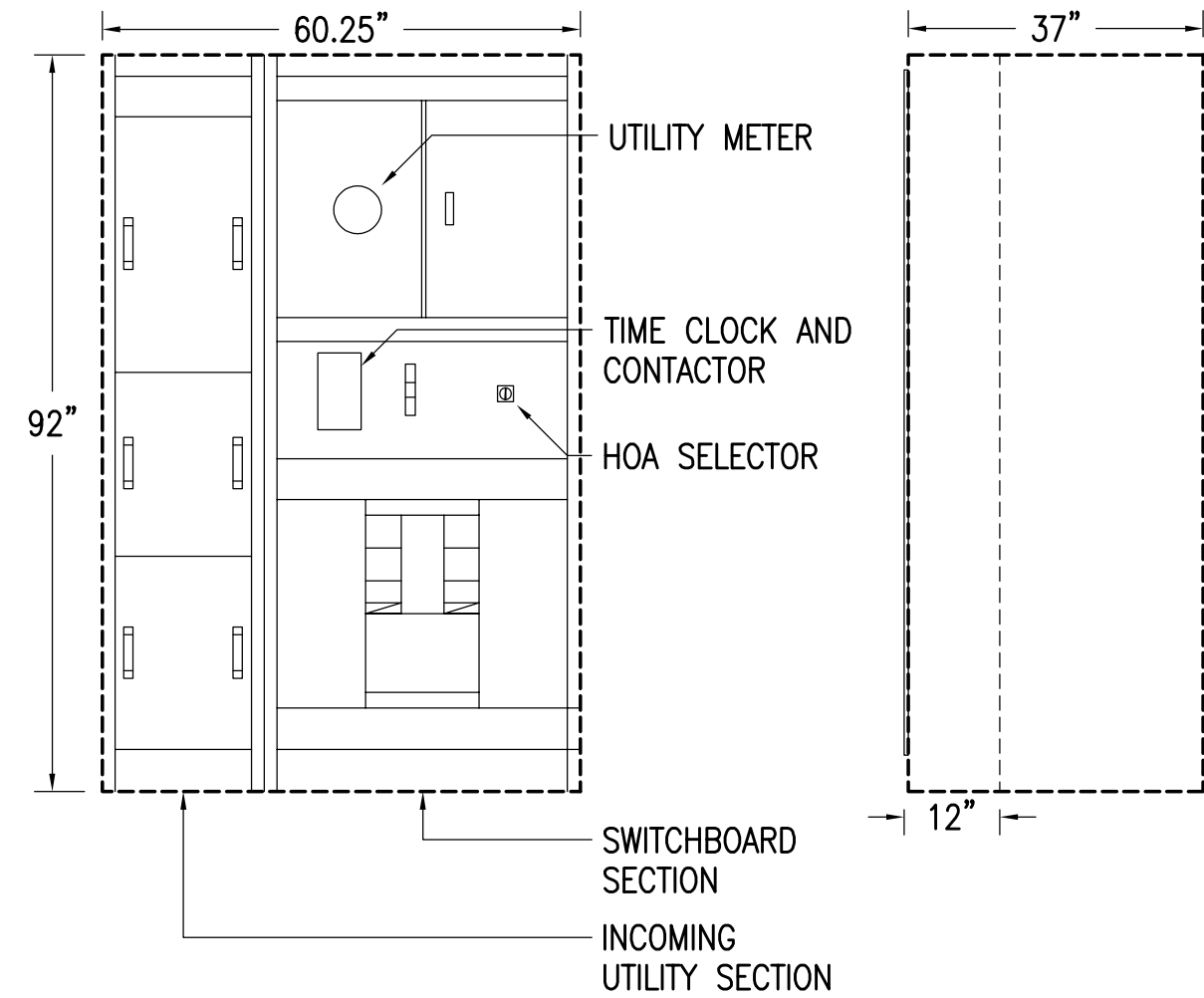


3 NEW GROUNDING DETAIL
NO SCALE



2 POWER ONE-LINE DIAGRAM
NO SCALE

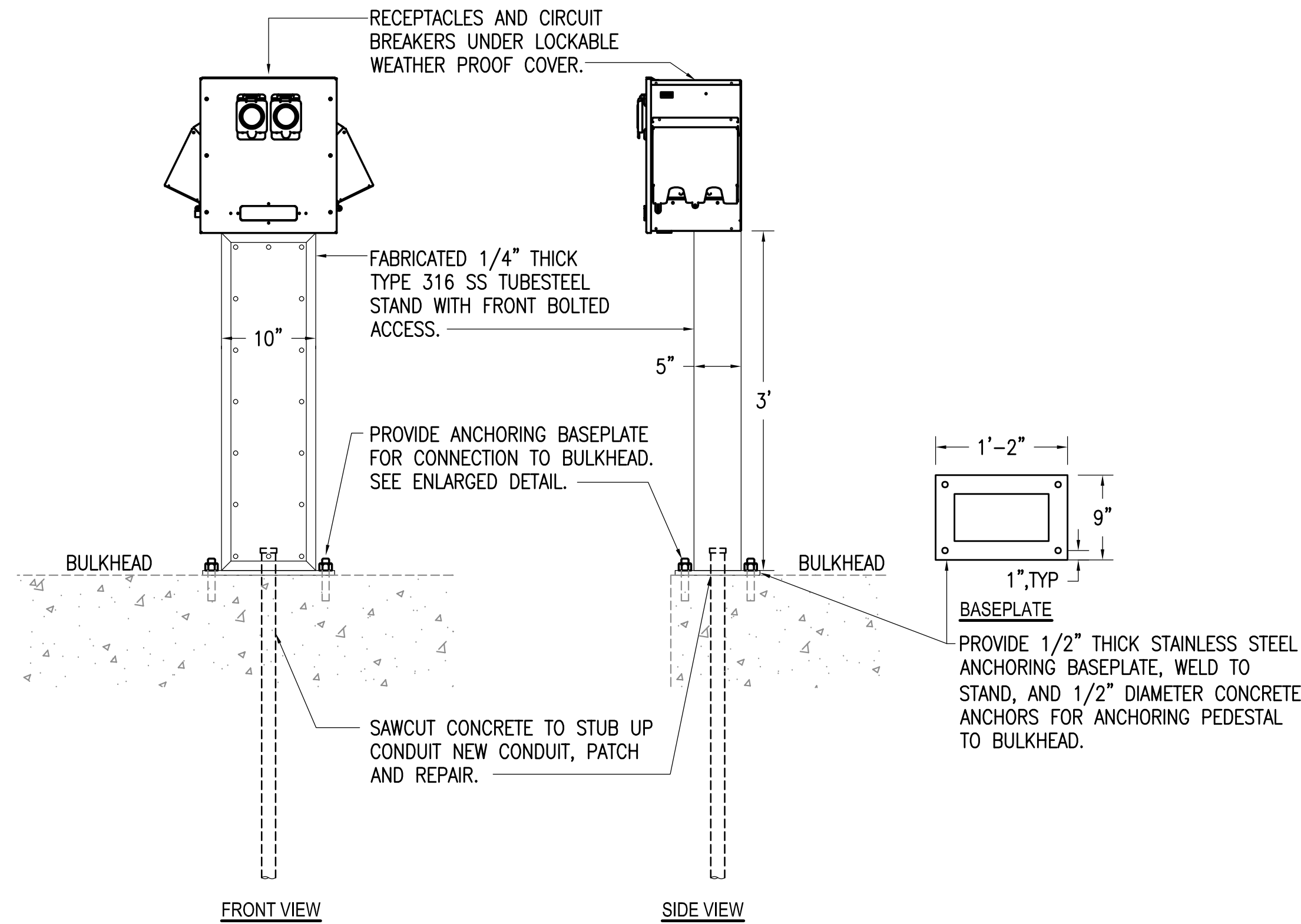
0"
1"
2"
3"



FRONT VIEW

SIDE VIEW

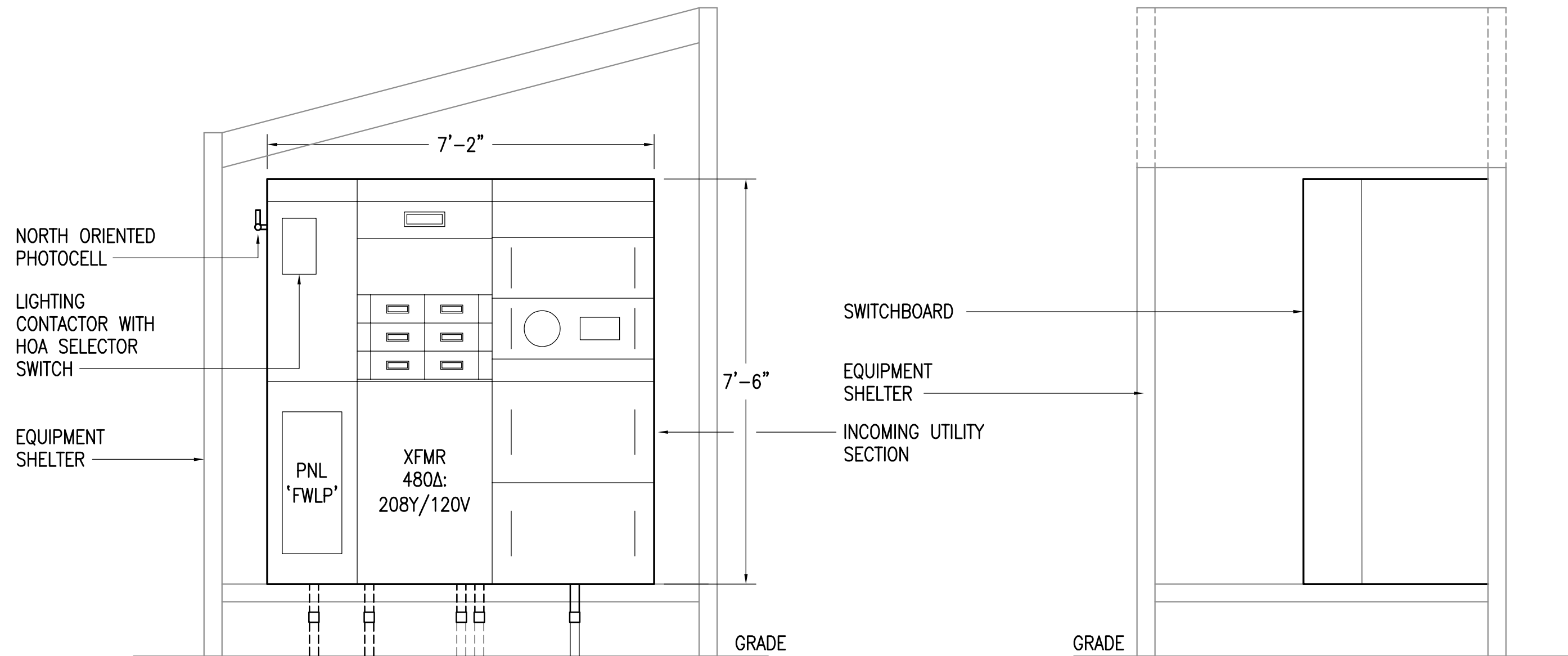
1 EXISTING ELECTRICAL EQUIPMENT ELEVATION
NOT TO SCALE



FRONT VIEW

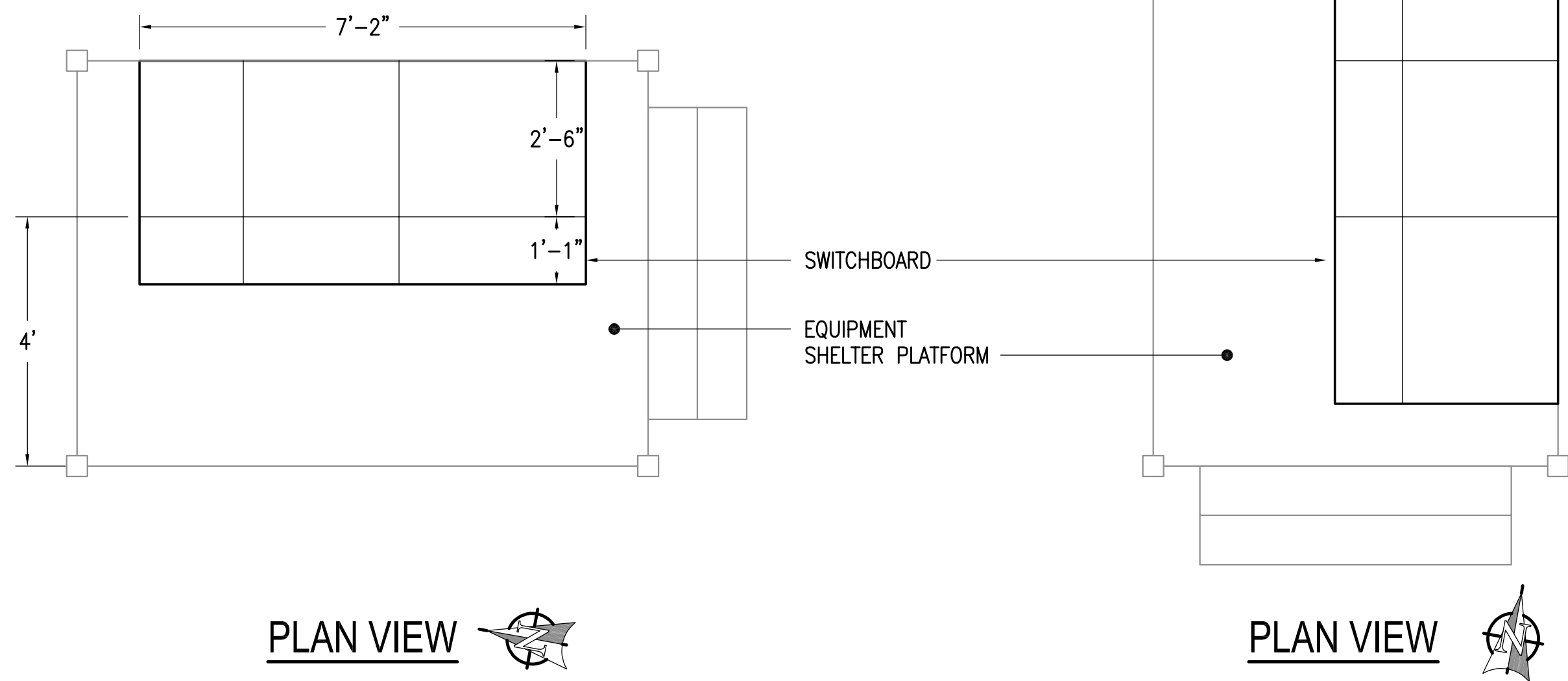
SIDE VIEW

2 NEW SHORE POWER PEDESTAL
NOT TO SCALE



FRONT ELEVATION VIEW

SIDE ELEVATION VIEW



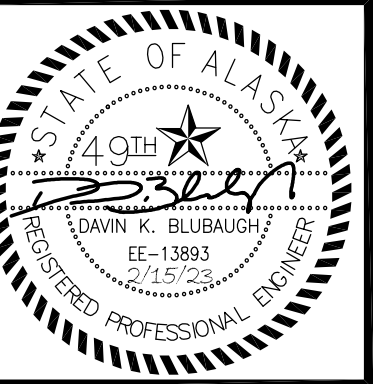
PLAN VIEW

PLAN VIEW

3 NEW ELECTRICAL EQUIPMENT DETAILS
AS SHOWN

GENERAL NOTES:

- A. SEE E1.1 FOR GENERAL NOTES.
- B. REFERENCE STRUCTURAL DRAWINGS FOR DETAILS RELATED TO PROTECTIVE CANOPY.



R S A
Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0521
Corporate No.: AECC542

PORT OF VALDEZ - FISHERMAN'S
WHARF ELECTRICAL SITE UPGRADES

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

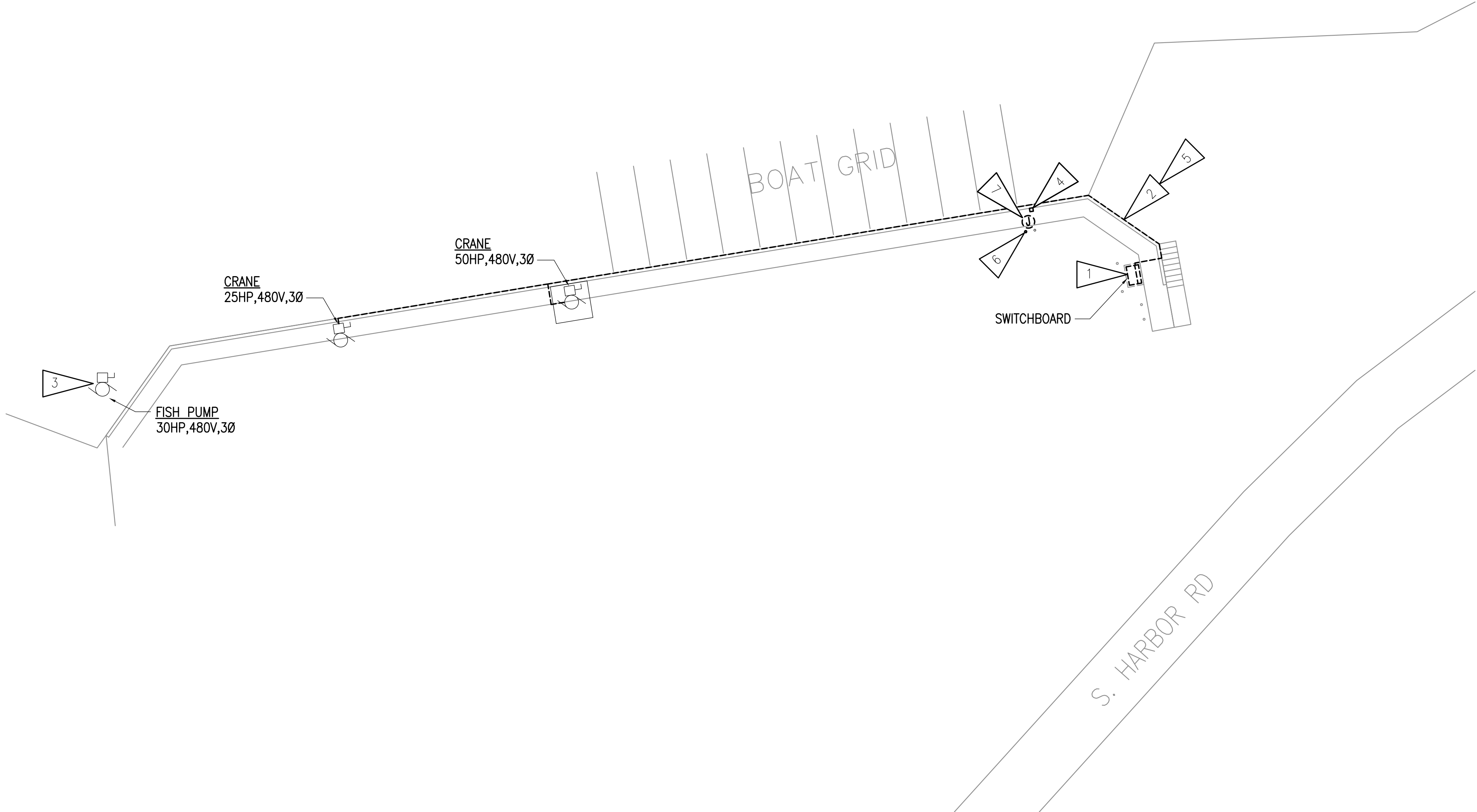
REVISIONS:

DRAWN BY: FWS
CHECKED BY: DB,TEH
DATE: 1/20/2023
JOB NUMBER: M1001
DWG FILE: M1001-ESeries

DRAWING TITLE:
ELECTRICAL DETAILS

SHEET:
E1.2

0"
1"
2"
3"



1 ELECTRICAL DEMOLITION SITE PLAN
1" = 20'-0"

GENERAL NOTES:

- A. SEE E1.1 FOR GENERAL NOTES.

SHEET NOTES:

1. DEMOLISH SWITCHBOARD AND CONCRETE PAD. SALVAGE EXISTING CIRCUITS FOR RECONNECTION TO NEW EQUIPMENT. SEE 1/E0.2 FOR ADDITIONAL DETAILS. SEE 1/E3.1 FOR EXISTING CONDITION PHOTOS.
2. DEMOLISH EXPOSED TYPE SO CORD MOUNTED UNDER BULL RAIL. EXISTING CRANE TO REMAIN FOR RECONNECTION TO NEW UNDERGROUND BRANCH FEED.
3. REPLACE CORRODED SURFACE MOUNTED BRANCH CIRCUIT CONDUIT AND COMPROMISED CONDUCTORS FOR FISH PUMP. FOR BIDDING PURPOSE, ASSUME 75FT OF 3/4"C, 3#8AWG, 1#8AWG GND, CU, XHHW WILL NEED TO BE REPLACED. PROVIDE WEATHERPROOF JUNCTION BOXES AND WEATHERPROOF SPLICE CONNECTIONS AS REQUIRED FOR RECONNECTION.
4. DEMOLISH ABANDONED AND DISCONNECTED SHORE POWER PEDESTAL. SEE 1/E3.2 FOR EXISTING CONDITIONS PHOTOS.
5. DEMOLISH BRANCH CIRCUIT FOR 25HP CRANE RAN UNDER BULKHEAD. SEE 2/E3.2 FOR REFERENCE PHOTO. PROVIDE NEW BRANCH CIRCUIT RAN IN-GRADE.
6. EXISTING BOLLARD TO BE STRAIGHTENED. SEE 1/E3.2 FOR EXISTING CONDITION PHOTO.
7. DEMOLISH ABOVE GRADE JUNCTION BOX AND UNISTRUT RACK. CUT CONDUITS BELOW ASPHALT, CAP/SEAL, AND PATCH OVER. SEE 1/E3.2 FOR EXISTING CONDITION PHOTO.



R S A
Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0521
Corporate No.: AECC542

**PORT OF VALDEZ - FISHERMAN'S
WHARF ELECTRICAL SITE UPGRADES**

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

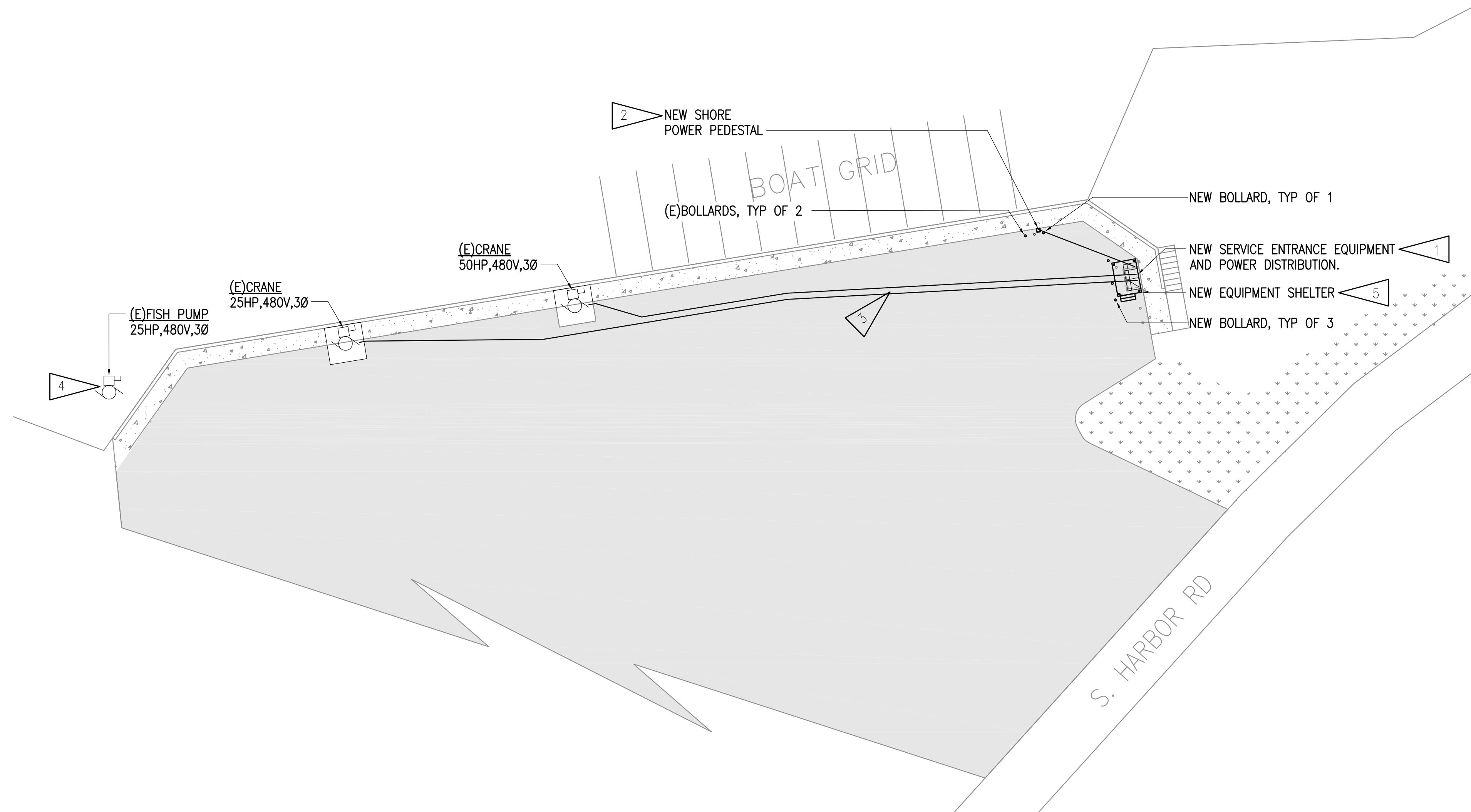
DRAWN BY: FWS
CHECKED BY: DB,TEH
DATE: 1/20/2023
JOB NUMBER: M1001
DWG FILE: M1001 - ESeries

DRAWING TITLE:
ELECTRICAL SITE
DEMOLITION PLAN

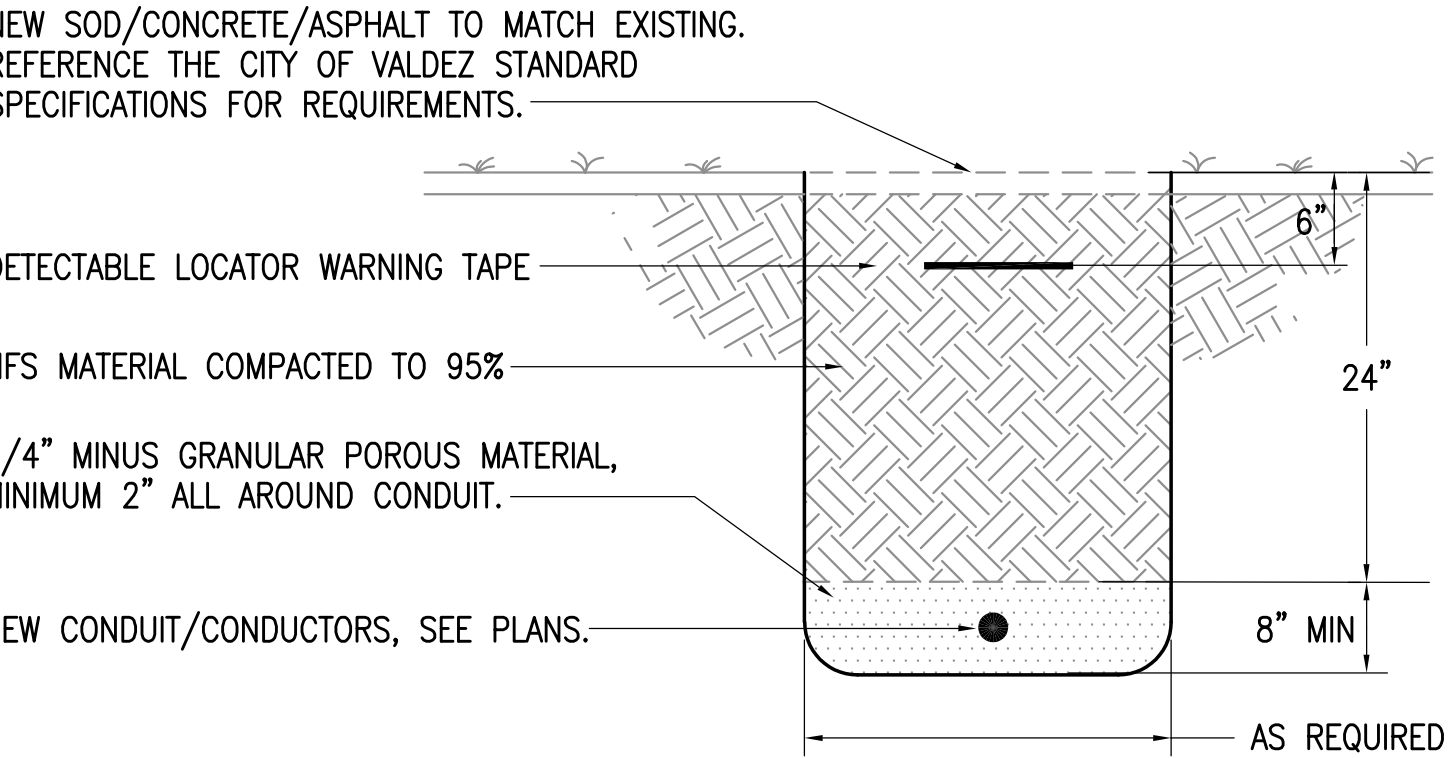
SHEET:

E2.1

0"
1"
2"
3"



1 ELECTRICAL SITE PLAN
1" = 20'-0"



2 TYPICAL TRENCHING DETAIL
NO SCALE

GENERAL NOTES:

- A. SEE E1.1 FOR GENERAL NOTES.
- B. REFERENCE THE CITY OF VALDEZ DIVISION 70 STANDARD SPECIFICATIONS FOR ALL REQUIREMENTS RELATED TO CONCRETE PIPE BOLLARDS.
- C. SEE 2/E1.1 FOR CIRCUIT SIZES.

SHEET NOTES:

- 1. SEE 2/E1.1 FOR ONE LINE DIAGRAM. SEE 3/E1.2 FOR ELEVATION DETAILS.
- 2. SEE 2/E1.2 FOR PEDESTAL ELEVATION DETAILS.
- 3. NEW UNDERGROUND BRANCH CIRCUIT. SEE 1/E2.2 FOR TRENCHING DETAIL.
- 4. REFERENCE E2.1 SHEET NOTE 3 FOR WORK.
- 5. REFERENCE STRUCTURAL DRAWINGS FOR DETAILS. PROVIDE 26-GAUGE METAL ROOF PANELS IN HARBOR BLUE FINISH.

SITE LEGEND

- CONCRETE – REFERENCE THE APPLICABLE PORTIONS OF DIVISION 20 AND DIVISION 30 OF THE CITY OF VALDEZ STANDARD SPECIFICATIONS.
- ASPHALT – REFERENCE THE APPLICABLE PORTIONS OF DIVISION 20 AND DIVISION 40 THE CITY OF VALDEZ STANDARD SPECIFICATIONS.
- SOD/GRASS – REFERENCE THE APPLICABLE PORTIONS OF DIVISION 20 AND DIVISION 75 OF THE CITY OF VALDEZ STANDARD SPECIFICATIONS.

CALL BEFORE YOU DIG

THE CONTRACTOR SHALL NOTIFY ALL AREA UTILITY COMPANIES PRIOR TO COMMENCEMENT OF EXCAVATION. THE FOLLOWING IS A PARTIAL LIST:

LOCATE CALL CENTER OF ALASKA

278-3121

COPPER VALLEY ELECTRIC ASSOCIATION

811



RSA

Engineering, Inc.

MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0521
Corporate No.: AECC542

PORT OF VALDEZ - FISHERMAN'S WHARF ELECTRICAL SITE UPGRADES

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

DRAWN BY: FWS
CHECKED BY: DB,TEH
DATE: 1/20/2023
JOB NUMBER: M1001
DWG FILE: M1001-ESeries

DRAWING TITLE:
ELECTRICAL SITE PLAN

SHEET:
E2.2

0"
1"
2"
3"



LOOKING EAST

1 EXISTING SWITCHBOARD
NO SCALE



LOOKING NORTHWEST

SALVAGE AND RECONNECT
EXISTING BRANCH CIRCUITS
FOR RECONNECTION TO NEW
SWITCHBOARD. SEE 1/E2.1 &
1/E2.2

DEMOLISH CRANE TEMP
POWER CABLING. PROVIDE
NEW UNDERGROUND BRANCH
CIRCUIT. SEE 1/E2.1 &
1/E2.2



LOOKING SOUTHEAST



LOOKING NORTHWEST

2 EXISTING CRANE
NO SCALE



LOOKING EAST

DEMOLISH CRANE TEMP
POWER CABLING. PROVIDE
NEW UNDERGROUND BRANCH
CIRCUIT. SEE 1/E2.1 &
1/E2.2



LOOKING WEST

GENERAL NOTES:

- A. REFERENCE PHOTOS ARE PROVIDED AS A COURTESY TO THE CONTRACTOR AND SHOULD NOT BE USED AS A REPLACEMENT FOR A FIELD INVESTIGATION.



RSA
Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0521
Corporate No.: AECC542

PORT OF VALDEZ - FISHERMAN'S
WHARF ELECTRICAL SITE UPGRADES

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

DRAWN BY: FWS
CHECKED BY: DB,TEH
DATE: 1/20/2023
JOB NUMBER: M1001
DWG FILE: M1001 - ESeries

DRAWING TITLE:
EXISTING CONDITIONS
REFERENCE PHOTOS

SHEET:

E3.1

0"
1"
2"
3"

ABOVE GRADE JUNCTION BOX,
UNISTRUT RACK, TO BE DEMOLISHED.

BOLLARD TO BE STRAIGHTENED.



EXISTING SHOREPOWER TO BE
DEMOLISHED. UNISTRUT RACK AND SIGN
TO REMAIN.

LOCATION OF NEW SHORE POWER
PEDESTAL. FIELD LOCATE TO MAINTAIN
ALL NEC REQUIRED WORKING SPACE.

1 EXISTING SHOREPOWER
NO SCALE



2 EXISTING CONDUIT ROUTING UNDER CONCRETE BULKHEAD
NO SCALE

GENERAL NOTES:

- A. REFERENCE PHOTOS ARE PROVIDED AS A COURTESY TO THE CONTRACTOR AND SHOULD NOT BE USED AS A REPLACEMENT FOR A FIELD INVESTIGATION.



RSA
Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0521
Corporate No.: AECC542

PORT OF VALDEZ - FISHERMAN'S
WHARF ELECTRICAL SITE UPGRADES

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

DRAWN BY: FWS
CHECKED BY: DB,TEH
DATE: 1/20/2023
JOB NUMBER: M1001
DWG FILE: M1001-ESeries

DRAWING TITLE:
EXISTING CONDITIONS
REFERENCE PHOTOS

SHEET:
E3.2

ABBREVIATIONS

AB ANCHOR BOLT
ACI AMERICAN CONCRETE INSTITUTE
AISC AMERICAN INSTITUTE OF STEEL CONSTR.
ALT ALTERNATE
APA AMERICAN PLYWOOD ASSOCIATION
ARCH ARCHITECTURAL
ASTM AMERICAN SOCIETY FOR TESTING & MATERIALS
AWS AMERICAN WELDING SOCIETY
BLKG BLOCKING
BM BEAM
BOC BOTTOM OF CONCRETE
BOD BOTTOM OF DECK
BOS BOTTOM OF STEEL
BOT BOTTOM
BTWN BETWEEN
CIP CAST IN PLACE (CONCRETE)
CJP COMPLETE JOINT PENETRATION
CLR CLEAR
COL COLUMN
CONN CONNECTION
CONT CONTINUOUS
CVN CHARPY V NOTCH
DIAM DIAMETER
DWGS DRAWINGS
(E) EXISTING
EA EACH
EL ELEVATION
ELEC ELECTRICAL
ELEV ELEVATION
EW EACH WAY
EQ EQUAL
FC CONCRETE COMPRESSIVE STRENGTH
FM MASONRY COMPRESSIVE STRENGTH
FDN FOUNDATION
FOC FACE OF CONCRETE
FT FEET
FTG FOOTING
GA GAGE OR GAUGE
GALV GALVANIZED
GLB GLUE-LAMINATED BEAM
HI HIGH
HORIZ HORIZONTAL
HS HEADED STUD
HSH HORIZONTAL SLOTTED HOLE
HSS HOLLOW STRUCTURAL SECTION
IE INVERT ELEVATION
INV INVERT
LO LOW
LVL LAMINATED VENEER LUMBER
MAX MAXIMUM
MECH MECHANICAL
MF MOMENT FRAME
MIN MINIMUM
MT MAGNETIC PARTICLE STRIP
NA NOT APPLICABLE
NFS NON FROST SUSCEPTIBLE
NIC NOT IN CONTRACT
NTS NOT TO SCALE
OC ON CENTER
OWSJ OPEN WEB STEEL JOIST
PLF POUNDS PER LINEAR FOOT
PSF POUNDS PER SQUARE FOOT
PSI POUNDS PER SQUARE INCH
REINF REINFORCING
RT RADIOGRAPHIC TEST
SDI STEEL DECK INSTITUTE
SJI STEEL JOIST INSTITUTE
SQ SQUARE
STD STANDARD
TBD TO BE DETERMINED
TEMP TEMPERATURE
TOC TOP OF CONCRETE
TOS TOP OF STEEL
TS TUBE STEEL
TYP TYPICAL
UNO UNLESS NOTED OTHERWISE
UT ULTRASONIC
VERT VERTICAL
W WIDE FLANGE DESIGNATION
WF WIDE FLANGE
WP WORK POINT
WWF WELDED WIRE FABRIC
W/ WITH

SCHEDULE OF CONSTRUCTION MATERIALS					
STRUCTURAL STEEL	APPLICATION		TYPE	GRADE	Fy
	WIDE-FLANGE BEAMS AND COLUMNS		ASTM A992	GRADE 50	50 KSI
	HSS COLUMNS		ASTM A500	GRADE C	46 KSI ROUND 50 KSI RECT
	CHANNELS, ANGLES AND OTHER SHAPES		ASTM A36		36 KSI
	PLATES		ASTM A572	GRADE 50	50 KSI
	PIPE		ASTM A53	GRADE B	35 KSI
	STRUCTURAL BOLTS		ASTM A325	GROUP A	
	ANCHOR RODS		ASTM F1554	GRADE 36	
LIGHT GAGE STEEL	APPLICATION	PROFILE/SIZE	TYPE	GRADE	GALV
	COMPOSITE DECK	1 1/2" TYPE B	ASTM A653	GRADE 33	G60

STRUCTURAL DESIGN CRITERIA SCHEDULE			
CRITERIA	DESCRIPTION	VALUE	COMMENTS
CODE	IBC 2021		
SEISMIC	ANALYSIS PROCEDURE SEISMIC DESIGN CATEGORY RISK CATEGORY SEISMIC IMPORTANCE FACTOR, IE SITE CLASS 0.2S SPECTRAL RESPONSE ACCELERATION, Ss 1.0S SPECTRAL RESPONSE ACCELERATION, S1 0.2S SPECTRAL RESPONSE COEFFICIENT, Sds 1.0S SPECTRAL RESPONSE COEFFICIENT, Sd1 STRUCTURAL SYSTEM RELIABILITY/REDUNDANCY RESPONSE MODIFICATION FACTOR, R OMEGA Cs (STRENGTH DESIGN) V (STRENGTH DESIGN)	ELF E I 1 D 1.50 0.771 1.00 0.87 1.3 1.25 1.25 0.8 2 KIPS	PER ASCE 7-16 STEEL ORDINARY CANTILEVER COLUMN SYSTEM
WIND	BASIC WIND SPEED (3 SECOND GUST) RISK CATEGORY EXPOSURE FACTOR INTERNAL PRESSURE COEFFICIENT, GCpi	125 MPH I D ±0.00	PER ASCE 7-16 BASIC WIND SPEED MAP OPEN BUILDING
	COMP. & CLADDING PRESSURES	10 Ft ² 100 Ft ² 73.8 PSF 18.2 PSF 109.3 PSF 57.2 PSF 130.5 PSF 65.6 PSF	WIND VALUES SHOWN ARE ULTIMATE LOADS MULTIPLY BY 0.6 FOR ALLOWABLE LOADS VALUES MAY BE NEGATIVE OR POSITIVE VALUES MAY BE INTERPOLATED BETWEEN 10 SQFT AND 100 SQFT ZONE 5 EXISTS FOR WALLS WITHIN 3-FT OF WALL CORNERS
	ROOF	INTERIOR - ZONE ① PERIMETER - ZONE ② CORNER - ZONE ③	
	WALL	INTERIOR - ZONE ④ CORNER - ZONE ⑤	
ROOF LIVE LOADS	GROUND SNOW LOAD SNOW LOAD EXPOSURE FACTOR THERMAL FACTOR Ct SNOW IMPORTANCE FACTOR FLAT ROOF SNOW LOAD SNOW DRIFT LOADS	160 PSF 0.9 1.2 0.8 130 PSF PER ASCE 7-16	PER VALDEZ SNOW LOAD BUILDING REGULATION
FLOOR LIVE LOADS	1ST LEVEL 16" ABOVE GRADE METAL GRATING	140 PSF	
FOUNDATIONS	ALLOWABLE SOIL BEARING PRESSURE	3000 PSF	PLUS 1/3 SHORT TERM INCREASE

DEFERRED SUBMITTALS
DEFERRED SUBMITTAL ITEMS SHALL BE REVIEWED BY THE EOR AND THEN SUBMITTED TO THE BUILDING OFFICIAL.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CALCULATION AND DRAWINGS STAMPED BY AN ALASKA REGISTERED PROFESSIONAL ENGINEER FOR THE FOLLOWING CONTRACTOR DESIGNED ITEMS:
<ul style="list-style-type: none">HELICAL PILE DESIGNSEISMIC RESTRAINT OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTSSTEEL FABRICATOR CERTIFICATE OF COMPLIANCESTEEL DECKING ATTACHMENTGRATING & ATTACHMENT

STRUCTURAL NOTES
ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS, THE SPECIFICATIONS AND NOTES LISTED BELOW. MINIMUM PROVISIONS OF THE INTERNATIONAL BUILDING CODE (IBC 2012), AND LOCAL AMENDMENTS SHALL APPLY WHERE DETAILS ARE NOT SHOWN OR DESCRIBED.

AS-BUILT DRAWINGS
CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS ON SITE, MODIFIED TO REFLECT ALL DESIGN CHANGES TO THE ORIGINAL DRAWING SET.

PND ENGINEERS INC IS NOT RESPONSIBLE FOR SAFETY PROGRAMS, METHODS, OR PROCEDURES OF OPERATION, OR THE CONSTRUCTION OF THE DESIGN SHOWN ON THESE DRAWINGS. DRAWINGS ARE FOR USE ON THIS PROJECT ONLY AND ARE NOT INTENDED FOR REUSE WITHOUT WRITTEN APPROVAL FROM PND. DRAWINGS ARE ALSO NOT TO BE USED IN ANY MANNER THAT WOULD CONSTITUTE A DETRIMENT DIRECTLY OR INDIRECTLY TO PND.

CONSTRUCTION DOCUMENTS

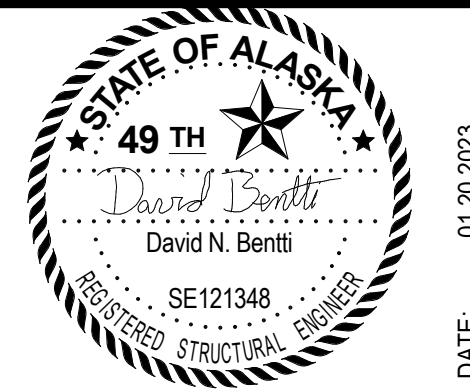
D

N

P

PND ENGINEERS, INC.

1506 West 36th Avenue
Anchorage, Alaska 99503
Phone: 907.561.1011
www.pndengineers.com
AK LIC# AEC0250



VALDEZ FISHERMAN'S WHARF
SWITCHBOARD SHELTER
VALDEZ, ALASKA

DESIGN CRITERIA

PROJECT:

TITLE:

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

REV

DATE

DESCRIPTION

DESIGNED BY: J.JL

DRAWN BY: J.JL

CHECKED BY: DNB

DATE: 01.20.2023

PROJECT NO. 221123

SHT NO.

S1.10

OF 10

STATEMENT OF SPECIAL INSPECTIONS

THE FOLLOWING SPECIAL INSPECTIONS SHALL BE PERFORMED BY QUALIFIED PERSONNEL EMPLOYED BY THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT.

SPECIAL INSPECTOR QUALIFICATIONS:
THE SPECIAL INSPECTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THEIR COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING.

INSPECTION TASKS:
INSPECTION TASKS ARE LISTED IN THE ATTACHED TABLES AND IN THE 2012 EDITION OF THE IBC CHAPTER 17.

FABRICATOR APPROVAL:
SPECIAL INSPECTIONS REQUIRED BY SECTION 1705 ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION (IBC 1704.2.5.2). HOWEVER, NON DESTRUCTIVE TESTING REQUIREMENTS CANNOT BE WAIVED PER AISC 360-10 SECTION N7. THE CONTRACTOR'S FABRICATOR SHALL PERFORM OR ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM REQUIRED TESTING ON THE PREMISES OF THE FABRICATOR. TESTING DOCUMENTATION SHOWING COMPLIANCE SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION OF TESTING.

REPORT REQUIREMENTS:
REPORTS SHALL BE COMPLETED ON A DAILY BASIS AND DISTRIBUTED ON A WEEKLY BASIS. COPIES OF REPORTS SHALL BE DISTRIBUTED TO THE GENERAL CONTRACTOR, THE ENGINEER OF RECORD AND THE ARCHITECT OF RECORD. REPORTS SHALL INDICATE WHETHER THE WORK WAS OR WAS NOT COMPLETED IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR. IF THEY ARE NOT CORRECTED, DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING THE SPECIAL INSPECTIONS PERFORMED AND THE CORRECTION OF ANY DISCREPANCIES SHALL BE DISTRIBUTED AS NOTED ABOVE.

SPECIAL INSPECTION FOR WIND RESISTANCE

	VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTION	REMARKS
1	COLD-FORMED STEEL IN LIGHT-FRAME CONSTR.: NAILING, BOLTING, ANCHORING AND FASTENING OF COMPONENTS WITHIN THE MAIN WIND-FORCE RESISTING SYSTEM, DIAPHRAGMS.	PERIODIC	
2	ARCHITECTURAL COMPONENTS: ROOF AND WALL CLADDING.	PERIODIC	

SPECIAL INSPECTION FOR SEISMIC RESISTANCE

	VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTION	REMARKS
1	COLD-FORMED STEEL IN LIGHT-FRAME CONSTR.: NAILING, BOLTING, ANCHORING AND FASTENING OF COMPONENTS WITHIN THE MAIN SIESMIC-FORCE RESISTING SYSTEM, DIAPHRAGMS.	PERIODIC	
2	ARCHITECTURAL COMPONENTS: ROOF AND WALL CLADDING. INTERIOR AND EXTERIOR NON-BEARING WALLS. INTERIOR AND EXTERIOR VENEER SYSTEMS.	PERIODIC	
3	STRUCTURAL STEEL: IN ACCORDANCE WITH THE QUALITY ASSURANCE PLAN REQUIREMENTS OF AISC 341. SEE ATTACHED SCHEDULES.	PERIODIC	

REQUIRED INSPECTION OF SOILS

	VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTION	REMARKS
1	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	PERIODIC	
2	VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	PERIODIC	
3	PERFORM CLASSIFICATION AND TESTING OF FILL MATERIALS.	PERIODIC	
4	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	CONTINUOUS	
5	PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT THE SITE HAS BEEN PREPARED PROPERLY.	PERIODIC	

CONSTRUCTION DOCUMENTS

D

N

P

ENGINEERS, INC.

1506 West 36th Avenue
Anchorage, Alaska 99503
Phone: 907.561.1011
www.pndengineers.com
AK LIC# AECC250

STATE OF ALASKA
49 TH
David N. Benti
David N. Benti
SE121348
REGISTERED STRUCTURAL ENGINEER

DATE: 01/20/2023

VALDEZ FISHERMAN'S WHARF
SWITCHBOARD SHELTER
VALDEZ, ALASKA

SPECIAL INSPECTIONS

PROJECT:

VALDEZ FISHERMAN'S WHARF SWITCHBOARD SHELTER VALDEZ, ALASKA

DESIGNED BY:

JJL

DRAWN BY:

JJL

CHECKED BY:

DNB

DATE:

01.20.2023

PROJECT NO.

221123

SHT NO.

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

REV

DATE

DESCRIPTION

S1.11

OF 10

AISC 360 - STRUCTURAL STEEL - INSPECTION OF HIGH-STRENGTH BOLTING			
VERIFICATION AND INSPECTION TASK		QA	
1	VISUAL INSPECTION TASKS PRIOR TO BOLTING		2
	MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS.	PERFORM	OBSERVE
	FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS.	OBSERVE	
	PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM THE SHEAR PLANE).	OBSERVE	OBSERVE
	PROPER BOLTING PROCEDURE SELECTED FOR THE JOINT DETAIL	OBSERVE	
	CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS.	OBSERVE	OBSERVE
	PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED.	OBSERVE	
	PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS.	OBSERVE	
a. FOR SNUG-TIGHT JOINTS, PRE-INSTALLATION VERIFICATION AND TESTING AND MONITORING OF THE INSTALLATION IS NOT REQUIRED. b. FOR PRETENSIONED JOINTS AND SLIP-CRITICAL JOINTS, WHEN THE INSTALLER IS USING THE TURN-OF-THE-NUT METHOD WITH MATCH MARKING, THE DIRECT-TENSION-INDICATOR METHOD, OR THE TWIST-OFF-TYPE TENSION CONTROL BOLT METHOD, THE QA INSPECTOR NEED NOT BE PRESENT DURING THE INSTALLATION OF FASTENERS.			

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL			
VERIFICATION AND INSPECTION TASK		FREQUENCY OF INSPECTION	REMARKS
1	MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK:		
	a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	PERIODIC	APPLICABLE ASTM MATERIALS STANDARDS
	b. MANUFACTURER'S CERTIFIED TEST REPORTS	PERIODIC	
2	INSPECTION OF WELDING:		
	a. COLD-FORMED STEEL DECK:		
	1) FLOOR AND ROOF DECK WELDS	PERIODIC	AWS D1.3
	b. REINFORCING STEEL:		
	1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.	PERIODIC	AWS D1.4 ACI 318: SECTION 3.5.2
	2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	CONTINUOUS	
	3) SHEAR REINFORCEMENT.	CONTINUOUS	
	4) OTHER REINFORCING STEEL.	PERIODIC	

AISC 360 - STRUCTURAL STEEL - VISUAL WELDING INSPECTION					
VERIFICATION AND INSPECTION TASK		QA	VERIFICATION AND INSPECTION TASK		QA
1	VISUAL INSPECTION TASKS PRIOR TO WELDING		VISUAL INSPECTION TASKS DURING WELDING, CONTINUED.		
	WELDING PROCEDURE SPECIFICATION (WPSs) AVAILABLE	PERFORM	CONTROL AND HANDLING OF WELDING MATERIALS		OBSERVE
	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	PERFORM	-PACKAGING		
	MATERIAL IDENTIFICATION (TYPE/GRADE)	OBSERVE	-EXPOSURE CONTROL		
	WELDER IDENTIFICATION SYSTEM	OBSERVE	ENVIRONMENTAL CONDITIONS		OBSERVE
	FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY	OBSERVE	-WIND SPEED WITHIN LIMITS		
	-JOINT PREPARATION		-PRECIPITATION AND TEMPERATURE		
	-DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)		WELDING TECHNIQUES		OBSERVE
	-CLEANLINESS (CONDITION OF STEEL SURFACE)		-INTERPASS AND FINAL CLEANING		
	-TACKING (TACK WELD QUALITY AND LOCATION)		-EACH PASS WITHIN PROFILE LIMITS		
	-BACKING TYPE AND FIT			-EACH PASS MEETS QUALITY REQUIREMENTS	
	CONFIGURATION AND FINISH OF ACCESS HOLES	OBSERVE	NO WELDING OVER CRACKED TACKS		OBSERVE
	FIT-UP OF FILLET WELDS	OBSERVE	3 VISUAL INSPECTION TASKS AFTER WELDING		
	-DIMENSIONS (ALIGNMENT, GAPS AT ROOT)		WELDS CLEANED		OBSERVE
	-CLEANLINESS (CONDITION OF STEEL SURFACE)		SIZE, LENGTH AND LOCATION OF WELDS		PERFORM
	-TACKING (TACK WELD QUALITY AND LOCATION)		WELDS MEET VISUAL ACCEPTANCE CRITERIA		PERFORM
	CHECK WELDING EQUIPMENT	-CRACK PROHIBITION			
2	VISUAL INSPECTION TASKS DURING WELDING		-WELD/BASE-METAL FUSION		
	WPS FOLLOWED	OBSERVE	-CRATER CROSS SECTION		
	-SETTINGS ON WELDING EQUIPMENT		-WELD PROFILE AND SIZE		
	-TRAVEL SPEED		-UNDERCUT		
	-SELECTED WELDING MATERIALS		-POROSITY		
	-SHIELDING GAS TYPE/FLOW RATE		k-AREA		PERFORM
	-PREHEAT APPLIED		BACKING REMOVED, WELD TABS REMOVED (IF REQUIRED).		PERFORM
	-INTERPASS TEMPERATURE MAINTAINED		REPAIR ACTIVITIES		PERFORM
	-PROPER POSITION (F,V,H,OH)		DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER		PERFORM
	-INTERMIX OF FILLER MATERIALS AVOIDED				
	USE OF QUALIFIED WELDERS		OBSERVE		

CONSTRUCTION DOCUMENTS

D

N

P

ENGINEERS, INC.

1506 West 36th Avenue
Anchorage, Alaska 99503
Phone: 907.561.1011
www.pndengineers.com
AK LIC# AECC250

STATE OF ALASKA
49 TH
David N. Benti
David N. Benti
SE121348
REGISTERED STRUCTURAL ENGINEER

DATE: 01/20/2023

PROJECT: VALDEZ FISHERMAN'S WHARF SWITCHBOARD SHELTER VALDEZ, ALASKA

TITLE: SPECIAL INSPECTIONS OF STEEL

DESIGNED BY: J.J.L.
DRAWN BY: J.J.L.
CHECKED BY: DNB
DATE: 01/20/2023
PROJECT NO. 221123
SHT NO.

DESCRIPTION

DESIGNED BY: J.J.L.
DRAWN BY: J.J.L.
CHECKED BY: DNB
DATE: 01/20/2023
PROJECT NO. 221123
SHT NO.

S1.12

OF 10

SEISMIC FORCE RESISTING SYSTEMS	
THE FOLLOWING ELEMENTS ARE PART OF THE DESIGNATED SEISMIC FORCE RESISTING SYSTEM AND ARE SUBJECT TO INSPECTION AND TESTING IN ACCORDANCE WITH THE ATTACHED SCHEDULES AND AISC 341.	
<ul style="list-style-type: none">COLLECTORS AND DRAGS STRUTS NOTED AS W10x12 (C)	
INSPECTION AND NONDESTRUCTIVE TESTING PERSONNEL:	
<ul style="list-style-type: none">WELDING INSPECTIONS AND NDT SHALL BE CONDUCTED BY PERSONNEL QUALIFIED IN ACCORDANCE WITH AWS D1.8 CLAUSE 7.2. ULTRASONIC TECHNICIANS SHALL BE QUALIFIED IN ACCORDANCE WITH AWS D1.8 CLAUSE 7.2.4.	
INSPECTION TASKS:	
INSPECTION TASKS ARE LISTED IN THE ATTACHED TABLES AND IN AISC 341. THE FOLLOWING ENTRIES ARE LISTED TABLES.	
<ul style="list-style-type: none">OBSERVE - INSPECTOR SHALL OBSERVE THESE FUNCTIONS ON A RANDOM DAILY BASIS. OPERATIONS NEED NOT BE DELAYED PENDING OBSERVATION.PERFORM - THESE INSPECTIONS SHALL BE PERFORMED PRIOR TO FINAL ACCEPTANCE.DOCUMENT - THE INSPECTOR SHALL PREPARE REPORTS INDICATING THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.	
DISTRIBUTION OF REPORTS:	
REPORTS SHALL BE COMPLETED ON A DAILY BASIS AND DISTRIBUTED ON A WEEKLY BASIS. COPIES OF REPORTS SHALL BE DISTRIBUTED TO THE GENERAL CONTRACTOR, THE ENGINEER OF RECORD AND THE ARCHITECT OF RECORD.	

AISC 341 - SEISMIC FORCE RESISTING SYSTEMS - VISUAL WELDING INSPECTION						
VERIFICATION AND INSPECTION TASK		QA	VERIFICATION AND INSPECTION TASK		QA	
1	VISUAL INSPECTION TASKS PRIOR TO WELDING		VISUAL INSPECTION TASKS DURING WELDING, CONTINUED.			
	MATERIAL IDENTIFICATION (TYPE/GRADE)	OBSERVE	CONTROL AND HANDLING OF WELDING MATERIALS		OBSERVE	
	FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	OBSERVE	-PACKAGING			
	-JOINT PREPARATION		-EXPOSURE CONTROL			
	-DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)		ENVIRONMENTAL CONDITIONS		OBSERVE	
	-CLEANLINESS (CONDITION OF STEEL SURFACE)		-WIND SPEED WITHIN LIMITS			
	-TACKING (TACK WELD QUALITY AND LOCATION)		-PRECIPITATION AND TEMPERATURE			
	-BACKING TYPE AND FIT	OBSERVE	WELDING TECHNIQUES		OBSERVE	
	CONFIGURATION AND FINISH OF ACCESS HOLES		-INTERPASS AND FINAL CLEANING			
	FIT-UP OF FILLET WELDS		-EACH PASS PROFILE & REQUIREMENTS			
	-DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	OBSERVE	NO WELDING OVER CRACKED TACKS		OBSERVE	
	-CLEANLINESS (CONDITION OF STEEL SURFACE)					
	-TACKING (TACK WELD QUALITY AND LOCATION)					
	2	VISUAL INSPECTION TASKS DURING WELDING		3 VISUAL INSPECTION TASKS AFTER WELDING		
WPS FOLLOWED		OBSERVE	WELDS CLEANED		OBSERVE	
-SETTINGS ON WELDING EQUIPMENT			SIZE, LENGTH AND LOCATION OF WELDS		PERFORM	
-TRAVEL SPEED			WELDS MEET VISUAL ACCEPTANCE CRITERIA		PERFORM, DOCUMENT	
-SELECTED WELDING MATERIALS			-CRACK PROHIBITION			
-SHIELDING GAS TYPE/FLOW RATE			-WELD/BASE-METAL FUSION			
-PREHEAT APPLIED			-CRATER CROSS SECTION			
-INTERPASS TEMPERATURE MAINTAINED			-WELD PROFILE AND SIZE			
-PROPER POSITION (F,V,H,OH)			-UNDERCUT			
-INTERMIX OF FILLER MATERIALS AVOIDED			-POROSITY			
USE OF QUALIFIED WELDERS			OBSERVE	PLACEMENT OF REINFORCING OR CONTOURING FILLET WELDS		PERFORM, DOCUMENT
				BACKING REMOVED, WELD TABS REMOVED AND FINISHED, AND FILLET WELDS ADDED (IF REQUIRED).		PERFORM, DOCUMENT
				REPAIR ACTIVITIES		PERFORM, DOCUMENT

AISC 341 SEISMIC FORCE RESISTING SYSTEMS - INSPECTION OF HIGH-STRENGTH BOLTING			
VERIFICATION AND INSPECTION TASK		QA	
1 VISUAL INSPECTION TASKS PRIOR TO BOLTING		2 VISUAL INSPECTION TASKS DURING BOLTING	
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL	OBSERVE	FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED.	OBSERVE
PROPER BOLTING PROCEDURE SELECTED FOR THE JOINT DETAIL	OBSERVE	JOINT BROUGHT TO THE SNUG TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION.	OBSERVE
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS.	OBSERVE	FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING.	OBSERVE
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED FOR FASTENER ASSEMBLIES AND METHODS USED.	OBSERVE	BOLTS ARE PRETENSIONED PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARDS THE FREE EDGES.	OBSERVE
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS.	OBSERVE	3 VISUAL INSPECTION TASKS AFTER BOLTING	
		DOCUMENT ACCEPTED AND REJECTED CONNECTIONS	PERFORM, DOCUMENT

CONSTRUCTION DOCUMENTS

PROJECT

VALDEZ FISHERMAN'S WHARF SWITCHBOARD SHELTER VALDEZ, ALASKA

TITLE

SPECIAL INSPECTIONS OF SEISMIC RESISTING SYSTEMS

DESIGNED BY:

DRAWN BY:

CHECKED BY:

DATE:

PROJECT NO.

SHT NO.

JJL

JJL

DNB

01.20.2023

221123

REVISIONS

REV	DATE	DESCRIPTION

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

S1.13

OF 10

D

N

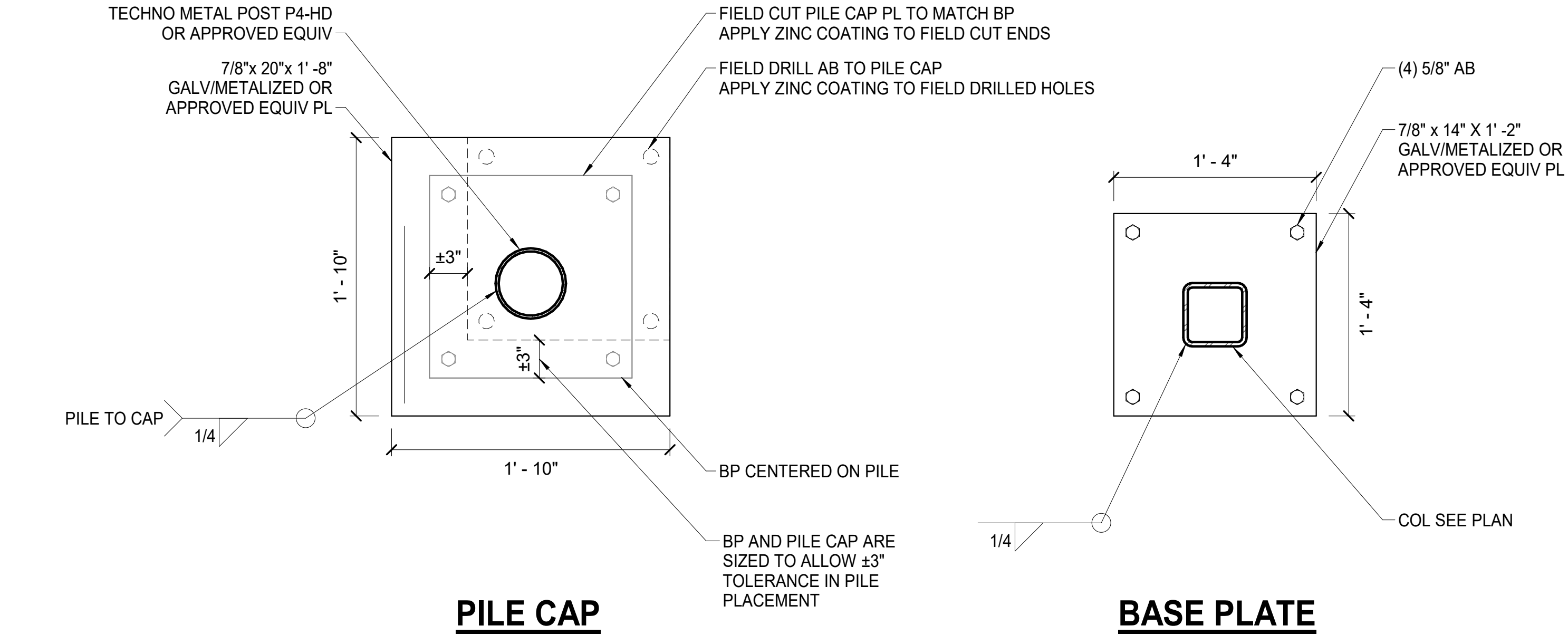
P

ENGINEERS, INC.

1506 West 36th Avenue
Anchorage, Alaska 99503
Phone: 907.561.1011
www.pndengineers.com
AK LIC# AECC250

STATE OF ALASKA
49 TH
David N. Benti
David N. Benti
SE121348
REGISTERED STRUCTURAL ENGINEER

DATE: 01/20/2023

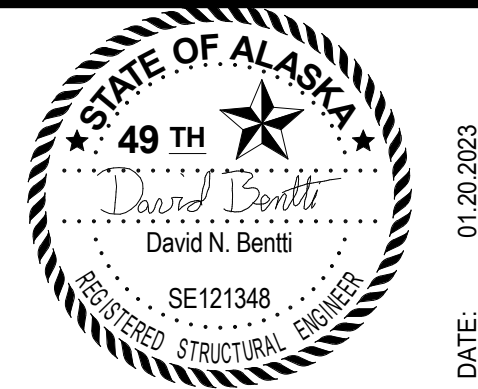


1 PILE CAP
1 1/2" = 1'-0"

CONSTRUCTION DOCUMENTS

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.			
DESIGNED BY:	JUL	REV	DATE
DRAWN BY:	JUL	DESCRIPTION	
CHECKED BY:	DNB		
DATE:	01.20.2023		
PROJECT NO.	221123		
SHT NO.			

VALDEZ FISHERMAN'S WHARF
SWITCHBOARD SHELTER
VALDEZ, ALASKA
PILE CAPS AND BASEPLATES



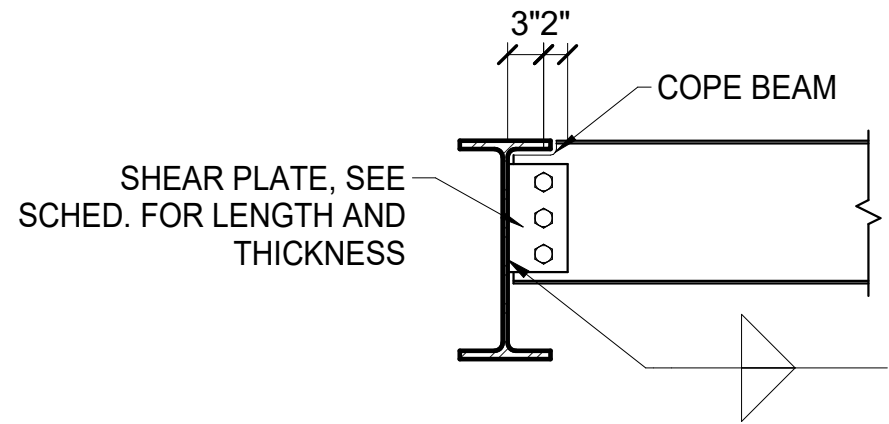
P

N

D

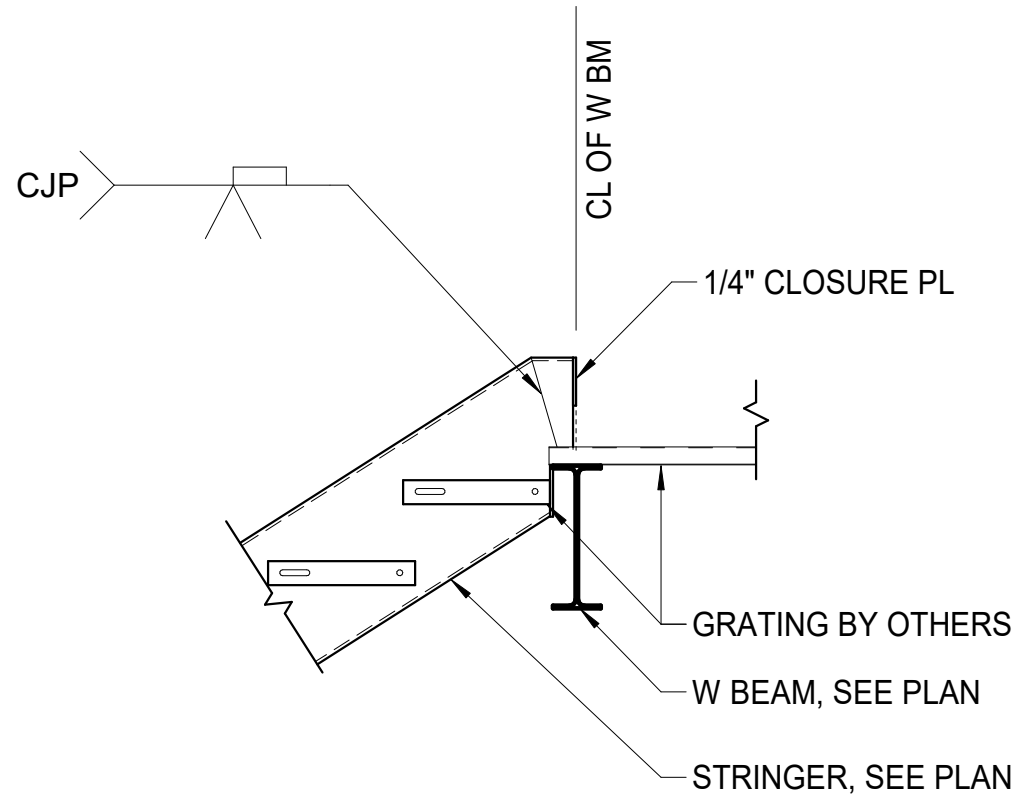
PENGINEERS, INC.

1506 West 36th Avenue
Anchorage, Alaska 99503
Phone: 907.561.1011
www.pndengineers.com
AK. LIC# AECC250



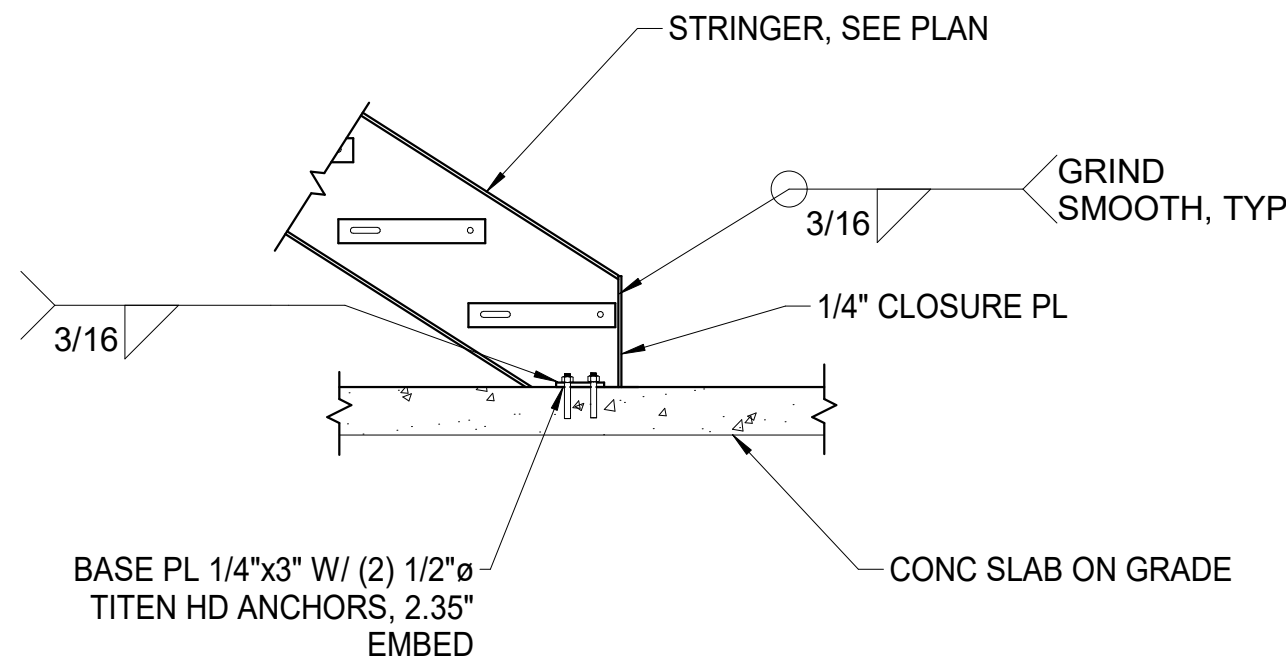
1 TYPICAL BEAM TO GIRDER CONNECTION

3/4" = 1'-0"



2 TOP STRINGER CONN. AT FLOORS

3/4" = 1'-0"

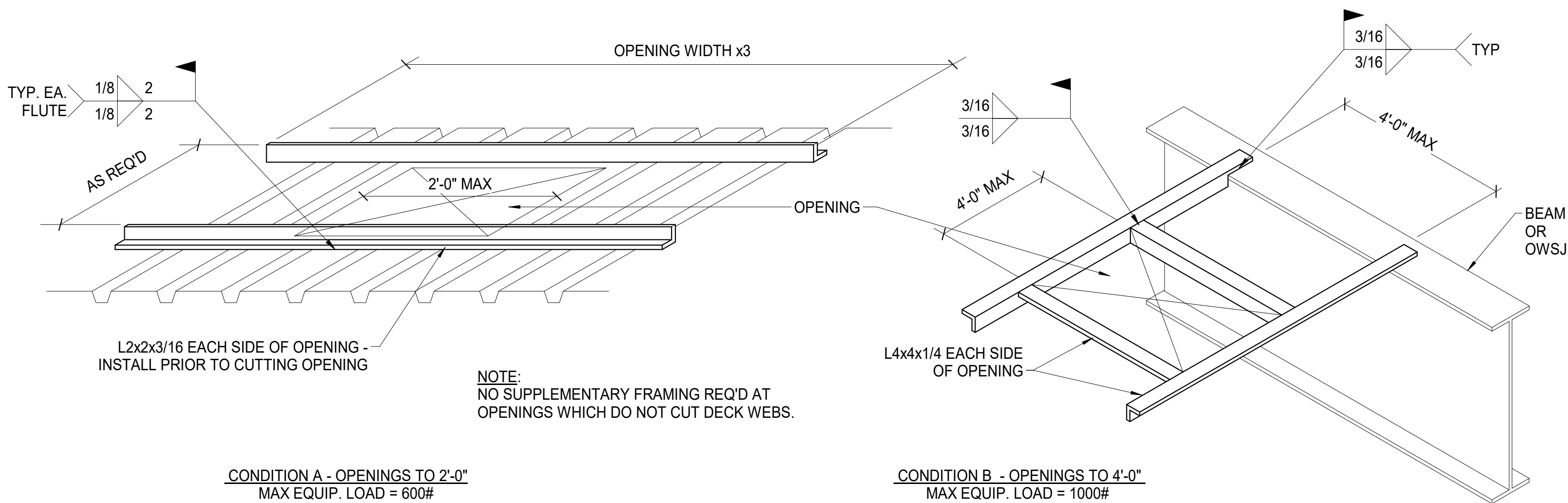


3 TREAD PAN WELDING

3/4" = 1'-0"

4 BOTTOM OF STRINGER CONN.

3/4" = 1'-0"



5 TYPICAL ROOF PENETRATIONS

3/4" = 1'-0"

SINGLE SHEAR PLATE CONNECTION SCHEDULE

BEAM SIZE	BOLT DIA.	No. OF BOLTS	HOLE TYPE	PLATE LENGTH	PLATE THICK.	FILLET WELD SIZE (WS)	CAPACITY (kips)	
							ASD	LRFD
W8's	7/8"	2	STD	5 1/2"	1/4"	3/16"	16.3	24.5
W10's	7/8"	2	STD	5 1/2"	1/4"	3/16"	16.3	24.5

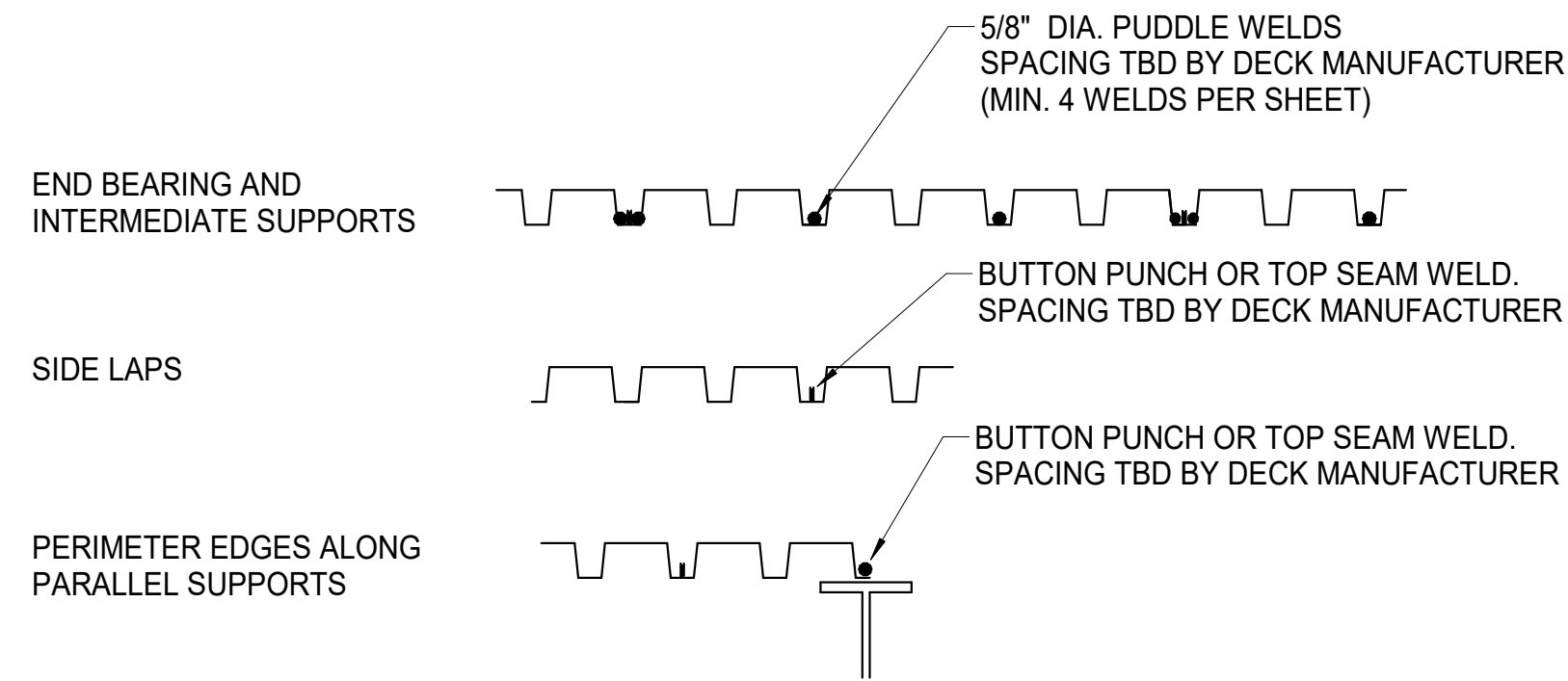
NOTES:
1. JOINT TYPE: ALL BOLTED CONNECTIONS AT SINGLE SHEAR PLATES ARE PRETENSIONED JOINTS.
2. USE SINGLE SHEAR PLATE CONNECTIONS AT ALL BEAM TO COLUMN CONNECTIONS EXCEPT COLLECTORS AND BRACED FRAME CONNECTIONS.
3. USE SINGLE SHEAR PLATE CONNECTIONS AT ALL BEAM TO GIRDER CONNECTIONS.
4. SHEAR PLATE $F_y = 36$ ksi
5. ALL BOLTS FOR SHEAR PLATE CONNECTIONS ARE GROUP A, ASTM A325 TYPE N, UNO. REFER TO THE SPECIFICATION FOR TIGHTENING AND TESTING PROCEDURES.
6. PL WIDTH IS AS SHOWN IN THE TYP DETAILS.
7. BOLT PITCH = 3". VERTICAL EDGE DISTANCE (Lev) IS 1 1/2". HORIZONTAL EDGE DISTANCE (Leh) IS 2x BOLT DIAMETER OR A MIN. OF 2". DISTANCE FROM COLUMN TO BOLT IS 3".
8. USE E70XX ELECTRODES.
9. BOLT HOLES IN SINGLE SHEAR PLATES SHALL BE STANDARD HOLES UNO.

STEEL ROOF AND FLOOR DECK SCHEDULE

LEVEL/AREA	DECK TYPE	MARK	MIN. GAGE	VERTICAL LOAD CAPACITY	DIAPHRAGM SHEAR CAPACITY	DECK FASTENING					
						SUPPORTS		PANEL PERIMETER		SIDE LAPS	
						Type	Spacing	Type	Spacing	Type	Spacing
ROOF	1 1/2" TYPE B	(A)	22	160 PSF	350 PLF	5/8" WELD	TBD	5/8" WELD	TBD	B. PUNCH	TBD

- NOTES:
1. FASTENER SPACING: "TBD" INDICATES SPACING TO BE DETERMINED BY DECKING MANUFACTURER.
2. SPOT WELD SIZES IN SCHEDULE ARE VISUAL WELD DIAMETERS.
3. CONTRACTOR MAY SUBMIT ALTERNATE FASTENING METHODS FOR APPROVAL.

DECK FASTENING DETAILS



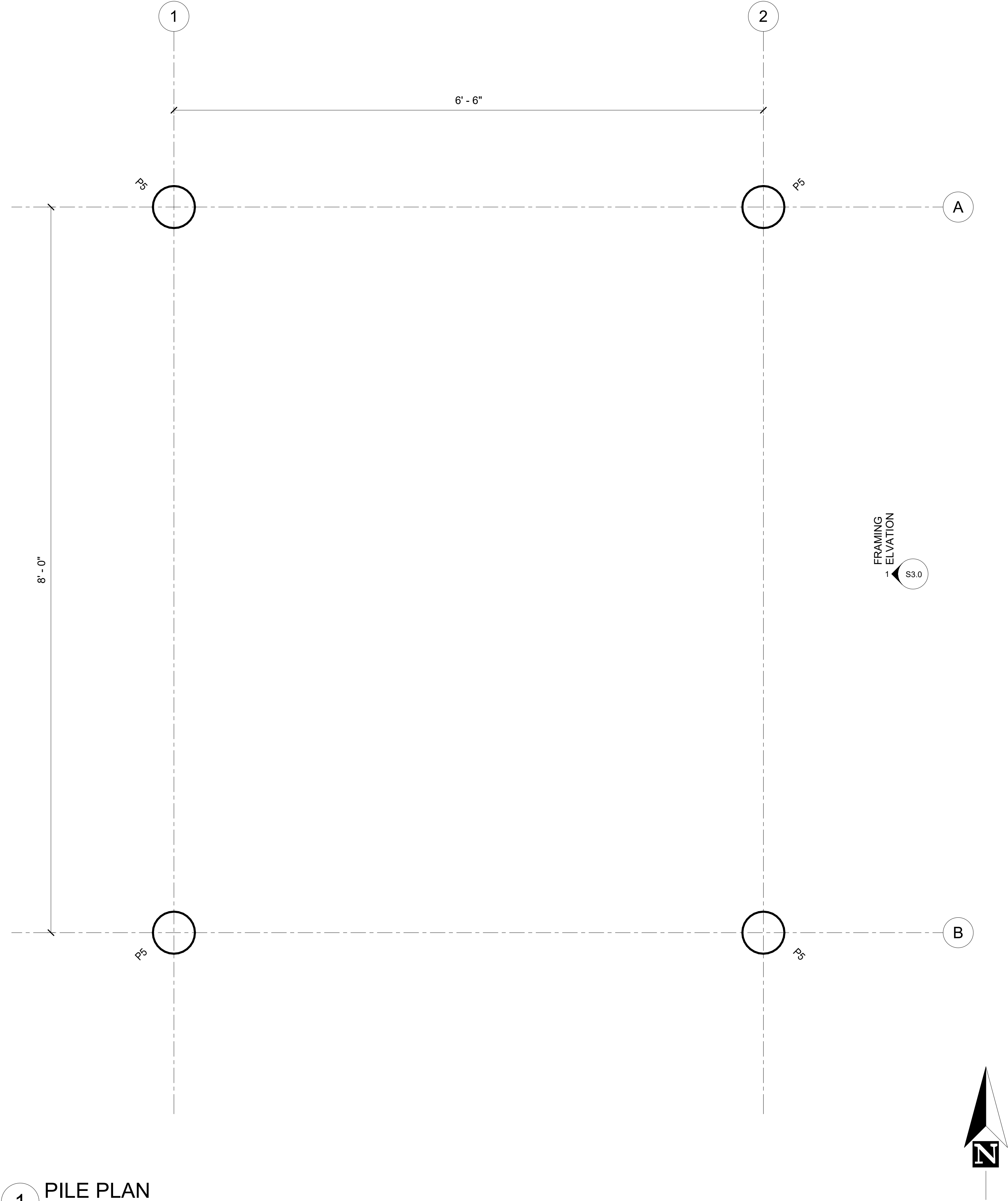
VALDEZ FISHERMAN'S WHARF SWITCHBOARD SHELTER VALDEZ, ALASKA

STRUCTURAL STEEL SCHEDULES AND TYPICAL DETAILS

CONSTRUCTION DOCUMENTS

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.	
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	
PROJECT NO.	
SHT NO.	

S1.41



1 PILE PLAN
1 1/2" = 1'-0"

CONSTRUCTION DOCUMENTS

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

DESIGNED BY:	JJL
DRAWN BY:	JJL
CHECKED BY:	DNB
DATE:	01.20.2023
PROJECT NO.	221123
SHT NO.	

S2.0

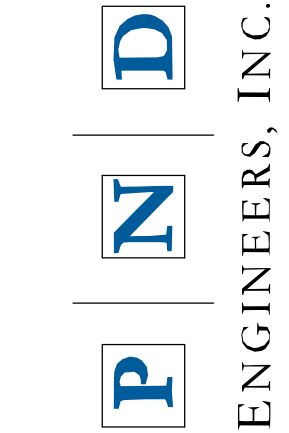
OF 10

VALDEZ FISHERMAN'S WHARF
SWITCHBOARD SHELTER
VALDEZ, ALASKA

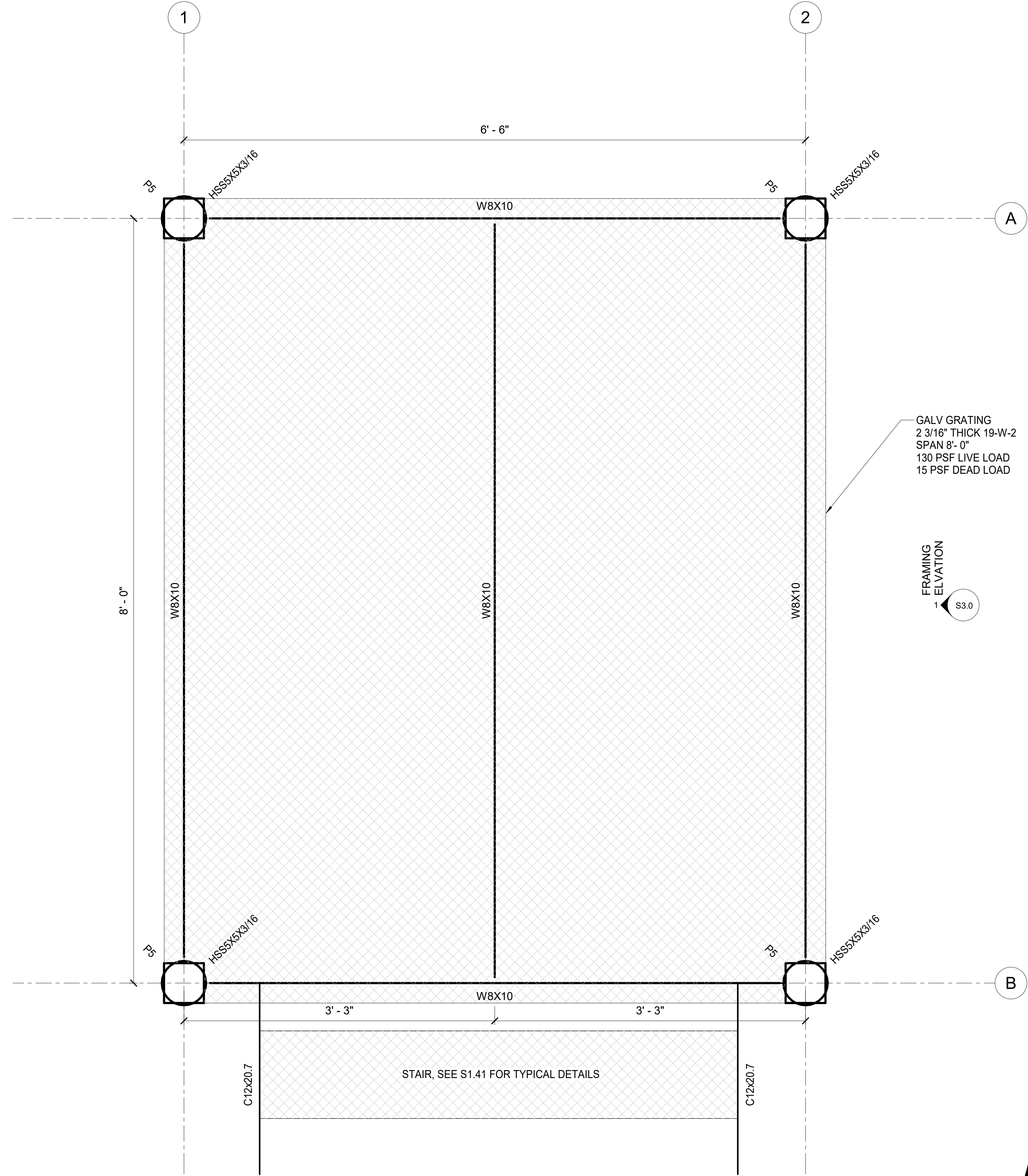
PILE PLAN



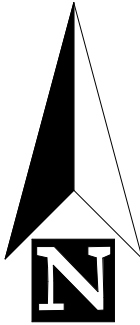
DATE: 01.20.2023



1506 West 36th Avenue
Anchorage, Alaska 99503
Phone: 907.561.1011
www.pndengineers.com
AK. LIC# AECC250



1 FLOOR PLAN
1 1/2" = 1'-0"



CONSTRUCTION DOCUMENTS

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

DESIGNED BY:	JUL
DRAWN BY:	JUL
CHECKED BY:	DNB
DATE:	01.20.2023
PROJECT NO.	221123
SHT NO.	

S2.1

OF 10

VALDEZ FISHERMAN'S WHARF
SWITCHBOARD SHELTER
VALDEZ, ALASKA

FLOOR PLAN

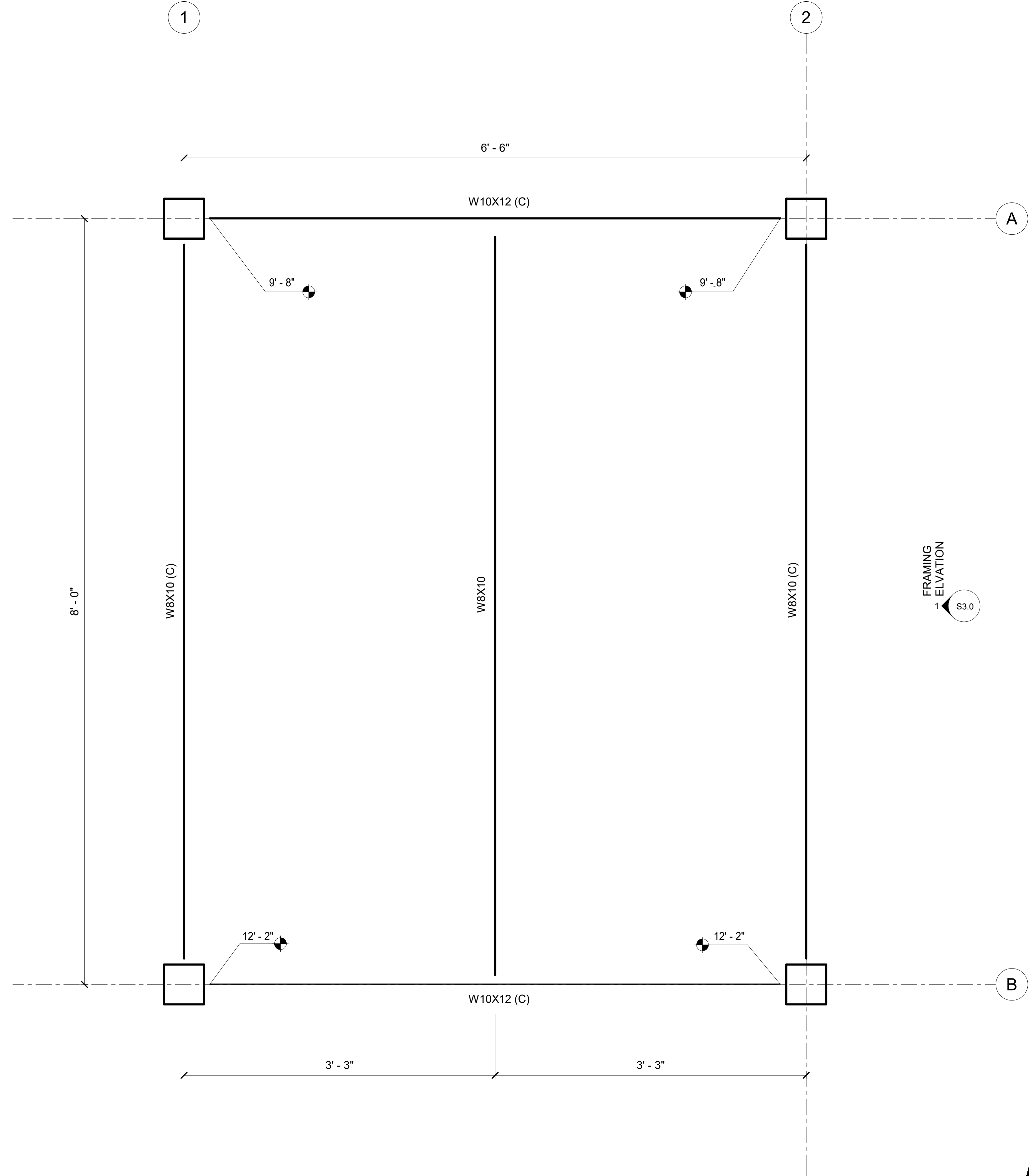


DATE: 01.20.2023

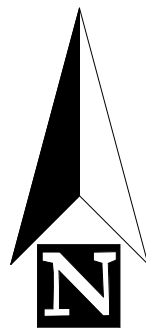
1506 West 36th Avenue
Anchorage, Alaska 99503
Phone: 907.561.1011
www.pndengineers.com
AK LIC# AECC250



ENGINEERS, INC.



1 ROOF PLAN
1 1/2" = 1'-0"



FRAMING
1 ELVATION
S3.0

CONSTRUCTION DOCUMENTS

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

DESIGNED BY:	JUL
DRAWN BY:	JUL
CHECKED BY:	DNB
DATE:	01.20.2023
PROJECT NO.	221123
SHT NO.	

S2.2

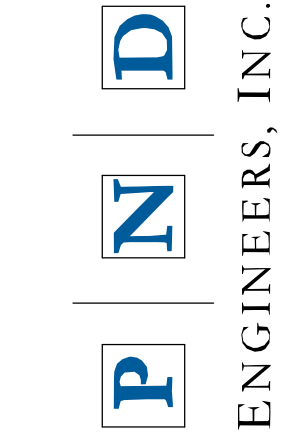
OF 10

VALDEZ FISHERMAN'S WHARF
SWITCHBOARD SHELTER
VALDEZ, ALASKA

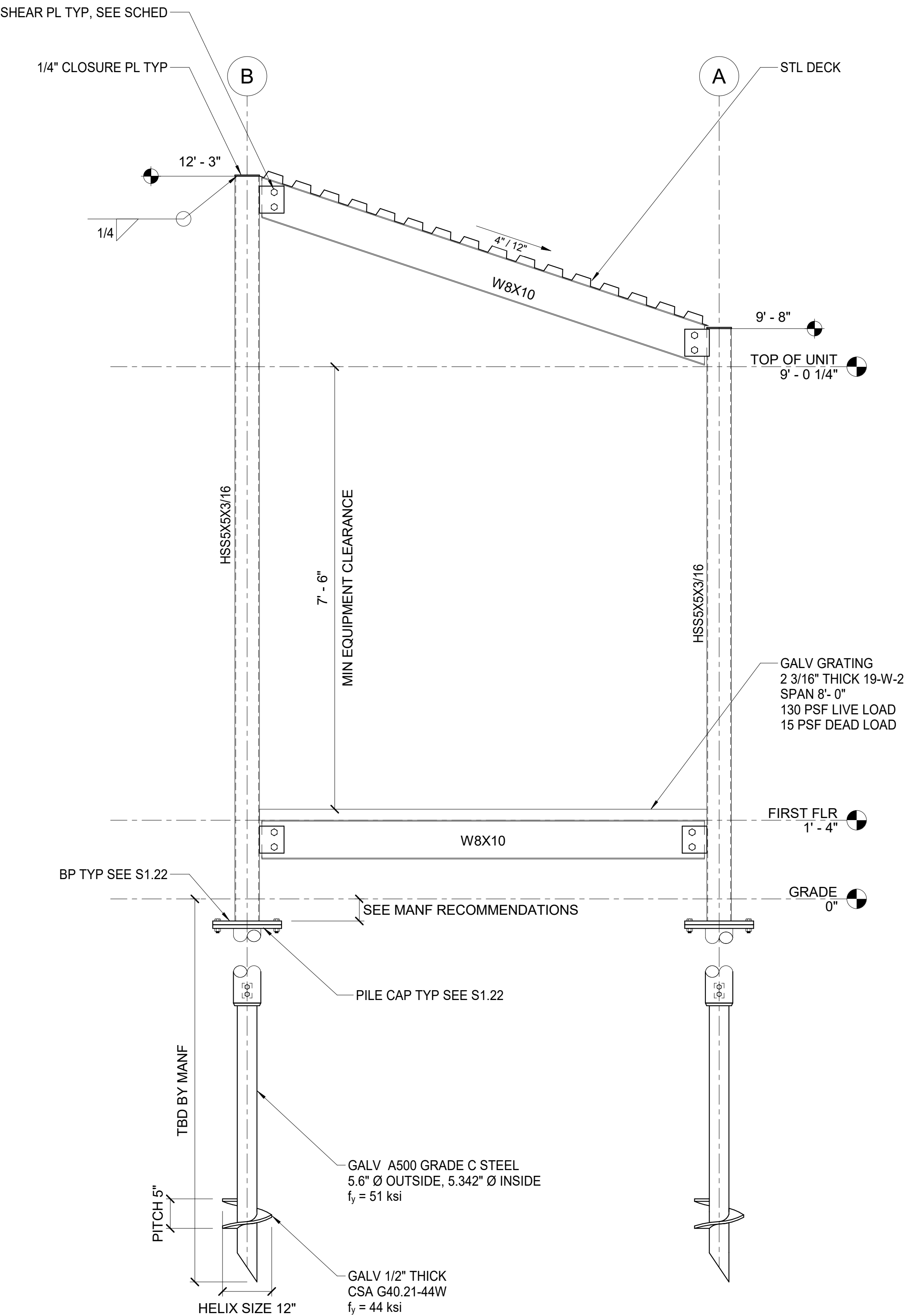
ROOF PLAN



DATE: 01/20/2023



1506 West 36th Avenue
Anchorage, Alaska 99503
Phone: 907.561.1011
www.pndengineers.com
AK LIC# AECC250



1 FRAMING ELVATION
3/4" = 1'-0"

CONSTRUCTION DOCUMENTS

VALDEZ FISHERMAN'S WHARF
SWITCHBOARD SHELTER
VALDEZ, ALASKA

ELEVATION

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

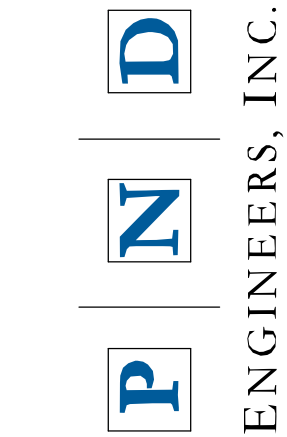
DESIGNED BY:	JUL
DRAWN BY:	JUL
CHECKED BY:	DNB
DATE:	01.20.2023
PROJECT NO.	221123
SHT NO.	

S3.0

OF 10



DATE: 01.20.2023



1506 West 36th Avenue
Anchorage, Alaska 99503
Phone: 907.561.1011
www.pndengineers.com
AK LIC# AEC0250