CITY AND BOROUGH OF WRANGELL

WRANGELL DOCK LIGHTING 2016

SHEET INDEX

LEGEND

DESCRIPTION		DESCRIPTION		DESCRIPTION	
(TYP)	TYPICAL		CONTACTOR		PUSH TO TEST LED
UNISTRUT	SUPPORT CHANNEL UNISTRUT BRAND OR EQUAL	20/3	CIRCUIT BREAKER (AMPS/POLES)	▽	GROUND BUSS
GFI	GROUND FAULT INTERRUPTER		DISCONNECT	Ⓜ	UTILITY METER
GRS	GALVANIZED RIGID STEEL	PE	PHOTOCELL	LC	LIGHTING CONTACTOR
REC	RECEPTACLE		LIGHT POLE W/ LUMINAIRE	NEC	NATIONAL ELECTRICAL CODE
HOA	HAND–OFF–AUTO			NM	NON METALLIC
UHMW	ULTRA HIGH DENSITY MOLECULAR WEIGHT	STRUCTURAL	STRUCTURAL PROJECT DRAWING SPECIFICATIONS	CIVIL	CIVIL PROJECT DRAWINGS

GENERAL NOTES (APPLICABLE ALL ELECTRICAL (E) SHEETS):

1. PERFORM ALL WORK PER THE 2014 NATIONAL ELECTRICAL CODE (NEC) AND OTHER APPLICABLE NATIONAL, STATE, AND LOCAL CODES AND STANDARDS. PROVIDE EQUIPMENT AND AN INSTALLATION THAT COMPLIES WITH ARTICLE 555 OF THE NEC.
2. MOUNT ALL OF THE ELECTRICAL EQUIPMENT IN THE LOCATIONS SHOWN ON SITE PLANS.
3. MOUNT ELECTRICAL EQUIPMENT TO DOCK PER STRUCTURAL DRAWINGS.
4. PROVIDE MOUNTING EQUIPMENT AND HARDWARE AS REQUIRED TO MOUNT ELECTRICAL EQUIPMENT. SIZE MOUNTING BOLTS, BRACKETS, HARDWARE, ETC. FOR A SAFETY FACTOR OF 5 MINIMUM. ALL EQUIPMENT AND MATERIALS SHALL NOT MOVE WHEN PULLED OR PUSHED BY HAND (EXCEPT CABLES AND FLEXIBLE CONDUIT). SECURE ALL CONDUIT WITHIN 12 INCHES OF END OF CONDUIT AND AS REQUIRED PER NEC.
5. FIELD TREAT ALL HOT DIPPED GALVANIZED MATERIALS THAT ARE CUT, DRILLED, SCRATCHED OR DAMAGED. SEE CIVIL FOR FIELD TREATMENT.
6. ALL CONDUCTORS SHALL BE COPPER, ALL INSULATION SHALL BE 600V RATED, TYPE XHHW FOR CONDUCTORS NOT IN A CABLE. ALL CABLES SHALL BE THE TYPE SPECIFIED, NO SUBSTITUTIONS. USE STAINLESS STEEL STRAPS TO SECURE CONDUIT, UNLESS OTHERWISE NOTED. PROVIDE HEAT SHRINK OVER ALL CRIMP CONNECTIONS WHEN TERMINATING A CABLE. NO SPLICES IN ANY CABLES OR CONDUCTORS.
7. IF GALVANIZED THREADS ARE CHASED IN ORDER TO BE USABLE, TREAT CHASED THREADS WITH BRAKE CLEANER, THEN COAT WITH MARINE TRAILER WHEEL BEARING GREASE BEFORE APPLYING A STAINLESS STEEL WASHER AND NUT.
8. USE 316 STAINLESS STEEL BOLTS, WASHERS, ETC. TO MOUNT ELECTRICAL EQUIPMENT AND STRUT CHANNEL. ALL FASTENERS AND OTHER EXPOSED HARDWARE SHALL BE 316 STAINLESS STEEL OR HOT DIPPED GALVANIZED.
9. SEAL ALL PENETRATIONS IN ELECTRICAL EQUIPMENT WITH UL LISTED HARDWARE FOR SUCH USE. USE RUBBER OR SILICONE WASHERS IN ADDITION TO STAINLESS STEEL WASHERS. DRILL 1/4" DRAIN HOLE IN BOTTOM OF ALL EQUIPMENT AND ENCLOSURES.
10. USE 316 STAINLESS STEEL OR HOT DIPPED GALVANIZED STEEL STRUT CHANNEL (UNISTRUT) TO SUPPORT CONDUIT AND ALL OTHER ELECTRICAL EQUIPMENT UNLESS OTHERWISE NOTED. USE CABLE SUPPORTS THAT COMPLY WITH 555.13(4). USE CUSHION STRAPS WHEN SUPPORTING CABLE TO STRUT CHANNEL.
11. ROUTE CABLES IN CONDUIT ON SIDE OF DOCK. START AND STOP CONDUIT AT CORNERS OF DOCK AND AS REQUIRED TO GO AROUND DOCK STRUCTURE. PUT BELL ENDS ON CONDUIT. USE SIDE LACE CABLE GRIPS TO SUPPORT CABLE WHERE IT LEAVES AND ENTERS CONDUIT AND IN BETWEEN CONDUIT SECTIONS AS REQUIRED. ROUTE CABLE IN CONDUIT AS MUCH AS POSSIBLE. DO NOT EXCEED 8 TIMES CABLE DIAMETER FOR BENDING RADIUS. USE BOLTS TO SECURE CABLE GRIPS TO DOCK IN SAME MANNER AS SHOWN FOR SUPPORT CHANNEL MOUNTING BOLTS. USE CORRECT HARDWARE TO SECURE CABLE GRIP TO BOLT.
12. ALL CABLE TERMINATIONS AND ALL ELECTRICAL CONNECTIONS SHALL BE A MINIMUM OF 12 INCHES ABOVE THE FLOAT DECKING INCLUDING WIRING TERMINATIONS, RECEPTACLES, ETC.
13. PART NOS. ARE PROVIDED ON THE DRAWINGS IN AN EFFORT TO ASSIST THE CONTRACTOR IN UNDERSTANDING WHAT IS BEING SPECIFIED. THE PART NOS. MAY NOT BE CORRECT OR THEY MAY BE INCOMPLETE, OR ALL PART NOS NEEDED MAY NOT BE SHOWN IN ORDER TO PROCURE THE EQUIPMENT OR MATERIALS SPECIFIED. THE PART NOS. SHALL NOT BE CONSTRUED AS BEING A BILL OF MATERIALS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND PROVIDE ALL MATERIALS AND EQUIPMENT REQUIRED TO PERFORM THE WORK SHOWN ON THE CONTRACT DOCUMENTS AND TO DETERMINE AND PROVIDE THE PART NOS. FOR THE MATERIALS AND EQUIPMENT.
14. PROVIDE OXIDE INHIBITING COMPOUND ON ALL ELECTRICAL CONNECTIONS. BURNDY PENTROX TYPE A OR E AS REQUIRED.
15. ALL LUGS AND ELECTRICAL TERMINALS SHALL BE COPPER OR TIN PLATED HIGH CONDUCTIVE ALUMINUM.
16. ALL CONDUIT SHALL BE SCHEDULE 80 PVC, HEAVY DUTY FIBERGLASS, OR GALVANIZED RIGID STEEL AS NOTED.
17. MINIMUM BENDING RADIUS FOR ALL CABLES IS 8 TIMES THE DIAMETER OF THE CABLE.

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

MORRIS ENGINEERING GROUP LLC
PO Box 210049, Auke Bay, AK 99821
Phone: 907-789-3350

DESIGN: MGM CHECKED: BPN
DRAWN: LDS APPROVED: MGM
SCALE: NONE

STATE OF ALASKA 49TH — Mark G. Morris — Mar 18, 2016 — No. EE 8613 — REGISTERED PROFESSIONAL ENGINEER
DATE: 03/18/16

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

SHEET TITLE: GENERAL NOTES, INDEX, AND LEGEND

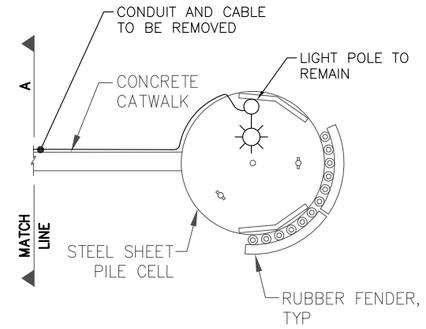
MEG PROJECT NO.: 140–02 DWG. FILE:

E1 SHEET 1 OF 12

Y:\140 CITY OF WRANGELL\02 WRANGELL DOCK LIGHTING\WORKING DRAWINGS\EB POWER HEAD DETAIL.DWG SAVED 18-Mar-16 BY LISA PLOT DATE 3/18/2016 2:22 PM

NOTES:

1. REMOVE ALL ELECTRICAL ON DOCK AND DOLPHIN EXCEPT LIGHT POLE ON DOLPHIN. NOT ALL ELECTRICAL ON DOCK SHOWN.
2. SEE STRUCTURAL FOR LIGHT POLE CONNECTIONS TO DOCK.
3. PROVIDE NEW ELECTRICAL ON DOCK AND RE-FEED LIGHT POLE ON DOLPHIN. SEE SITE PLANS.
4. PERFORM ALL WORK PER THE NATIONAL ELECTRICAL CODE.
5. USE STAINLESS STEEL OR HOT DIPPED GALVANIZED FOR ALL HARDWARE AND SUPPORTS FOR ELECTRICAL EQUIPMENT AND CONDUIT.



③ SOUTH MOORING DOLPHIN A
NO SCALE

① SITE PLAN - EXISTING
10' 20' 40'

② EQUIPMENT DETAIL
1' 2' 4' 8'

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

MORRIS ENGINEERING GROUP LLC
2375 Jordan Avenue #7, Juneau, AK 99801
Phone: 907-789-3350, License: AECL1010

DESIGN: MGM CHECKED: BPN
DRAWN: LDS APPROVED: MGM
SCALE: SCALE IN FEET 0 20 40 FT.

STATE OF ALASKA 49TH
Mark G. Morris
Nov 2, 2016
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER
DATE: 03/18/16

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

SHEET TITLE: **SITE PLAN - EXISTING**

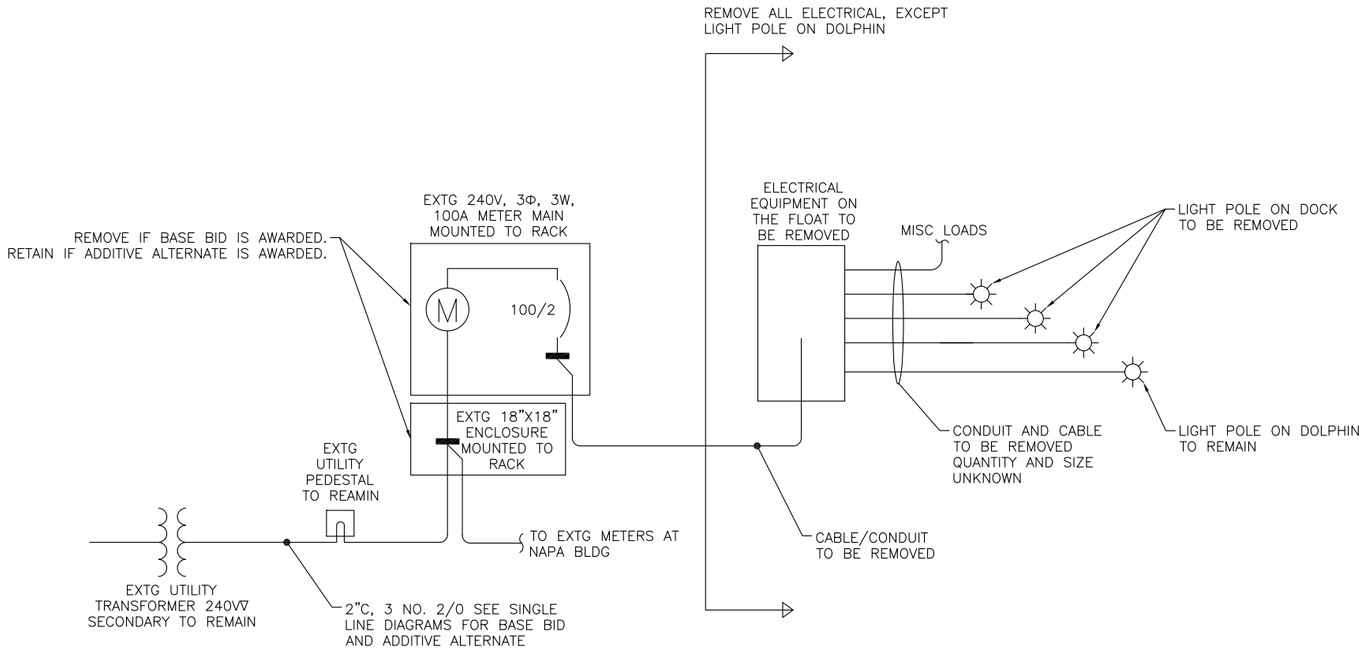
MEG PROJECT NO.: 140-02 DWG. FILE:

E2
SHEET 2 OF 12

NOTES:

1. REMOVE THE LIGHT POLES, CABLING, AND ALL OTHER ELECTRICAL EQUIPMENT AND CIRCUITS ON THE DOCK EXCEPT THE POLE ON THE DOLPHIN.

2. SEE SINGLE LINE DIAGRAMS FOR BASE BID AND ADDITIVE ALTERNATE WORK.



① SINGLE LINE DIAGRAM - EXISTING

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

MORRIS ENGINEERING GROUP LLC
PO Box 210049, Auke Bay, AK 99821
Phone: 907-789-3350

DESIGN: MGM CHECKED: BPN
DRAWN: LDS APPROVED: MGM
SCALE: AS SHOWN
DATE: 03/18/16

STATE OF ALASKA 49TH Mark G. Morris Mar 18, 2016 No. EE 8613 REGISTERED PROFESSIONAL ENGINEER

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

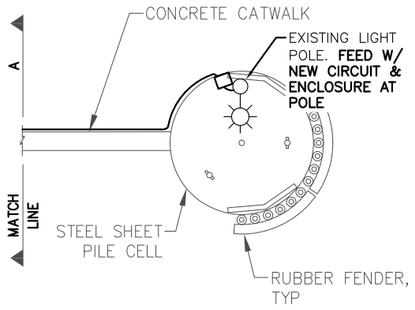
SHEET TITLE: **SINGLE LINE DIAGRAM - EXISTING**

MEG PROJECT NO.: 140-02 DWG. FILE:

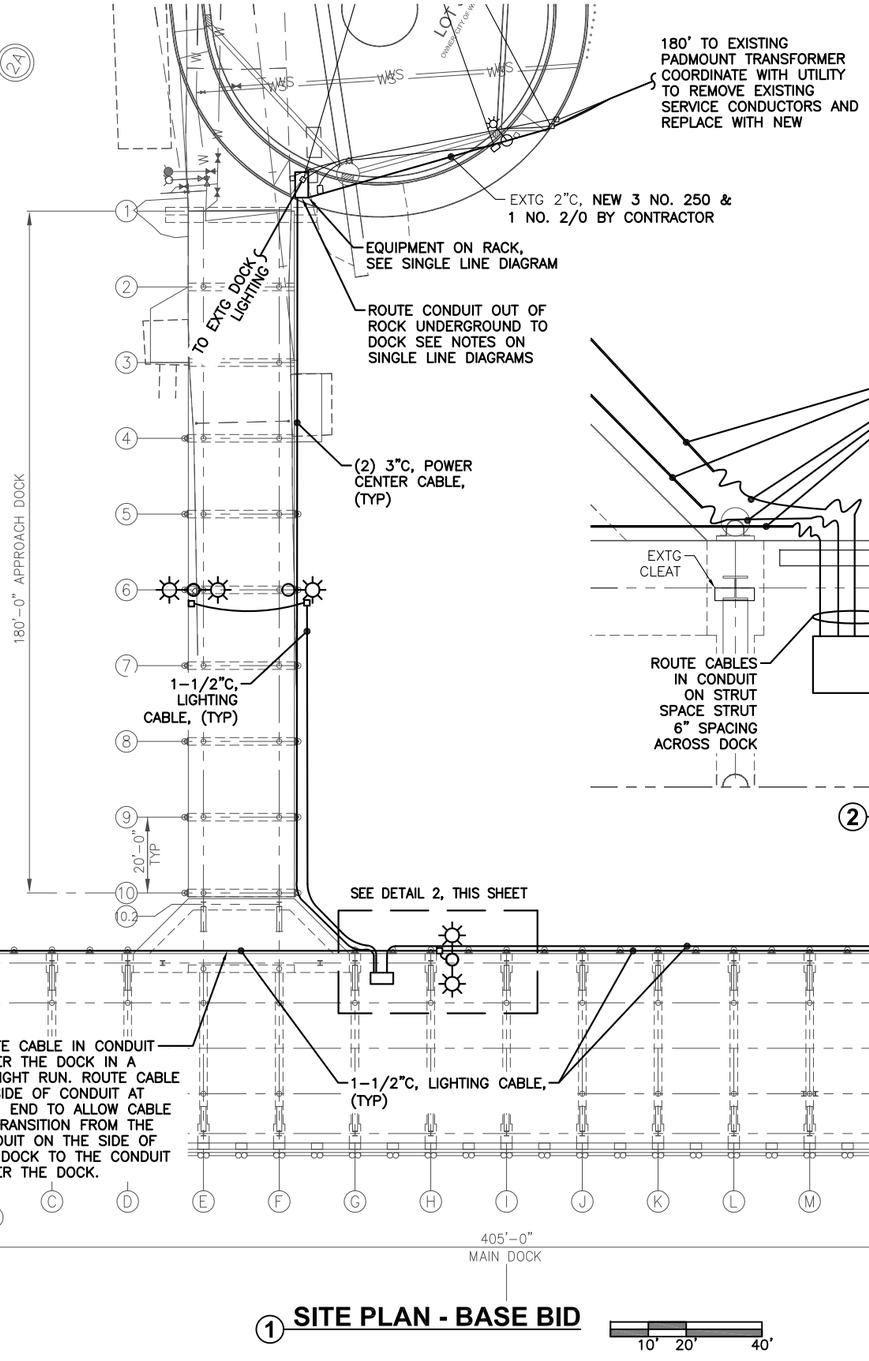
E3 SHEET 3 OF 12

NOTES:

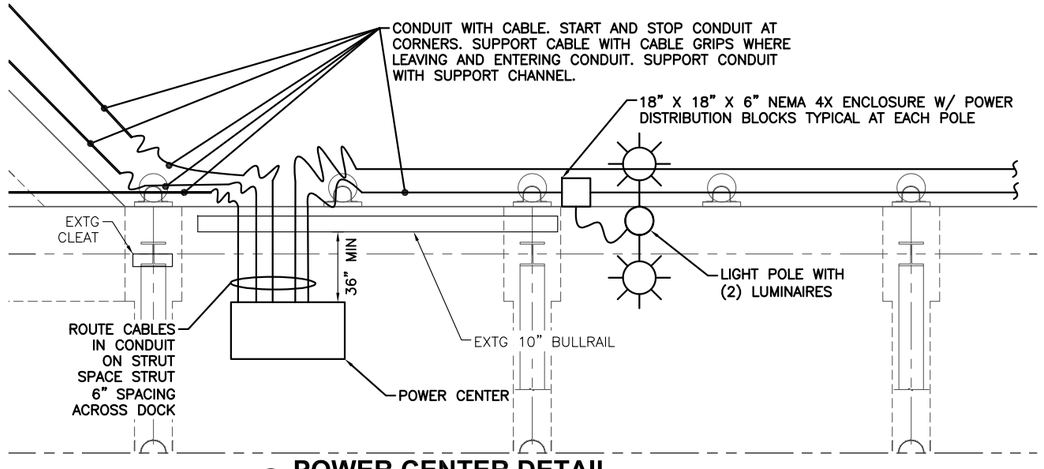
1. ON DOCK, ROUTE ALL CABLE IN SCHEDULE 80 PVC CONDUIT. START AND STOP CONDUIT AT CORNERS AND AT PORTIONS OF DOCK WHERE MULTIPLE TURNS ARE REQUIRED. ROUTE CABLE IN CONDUIT AS MUCH AS POSSIBLE. SUPPORT CABLE WITH CABLE GRIPS WHERE IT ENTERS AND LEAVES CONDUIT AND WHERE IT IS BEING ROUTED IN BETWEEN PORTIONS OF CONDUIT.
2. THE LUMINAIRES SHALL BE HOLOPHANE VIENNA GNLF21054KAS4NL3, VIENNA GLASWERKS LED 2, 1050MA, 4000K, 140W, 120–277V, QUICK LOCK STEM MOUNT, GREEN, ASYMMETRIC FULL CUTOFF LED OR EQUAL.
3. AT EACH LIGHT POLE MOUNT A 18" X 18" X 6" NEMA 4X STAINLESS ENCLOSURE WITH POWER DISTRIBUTION BLOCKS. TERMINATE CABLE IN ENCLOSURE AND FEED POLE W/ 2 NO. 10 & 1 NO. 10 GND IN 3/4" NM FLEX CONDUIT. TERMINATE FLEX CONDUIT INTO COUPLING ON POLE.
4. SEE STRUCTURAL TO CONNECT LIGHT POLES TO DOCK.
5. MOUNT CONDUIT TO DOCK WITH SUPPORT CHANNEL. SEE STRUCTURAL.
6. MOUNT CABLE GRIPS TO DOCK PER STRUCTURAL.
7. MOUNT POWER CENTER TO DOCK PER STRUCTURAL.



3 SOUTH MOORING DOLPHIN A
NO SCALE



1 SITE PLAN - BASE BID
10' 20' 40'



2 POWER CENTER DETAIL
1' 2' 4' 8'

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

MORRIS ENGINEERING GROUP LLC
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SCALE: SCALE IN FEET 0 20 40 FT.

STATE OF ALASKA 49TH
Mark G. Morris
Nov 2, 2016
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER
DATE: 03/18/16

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

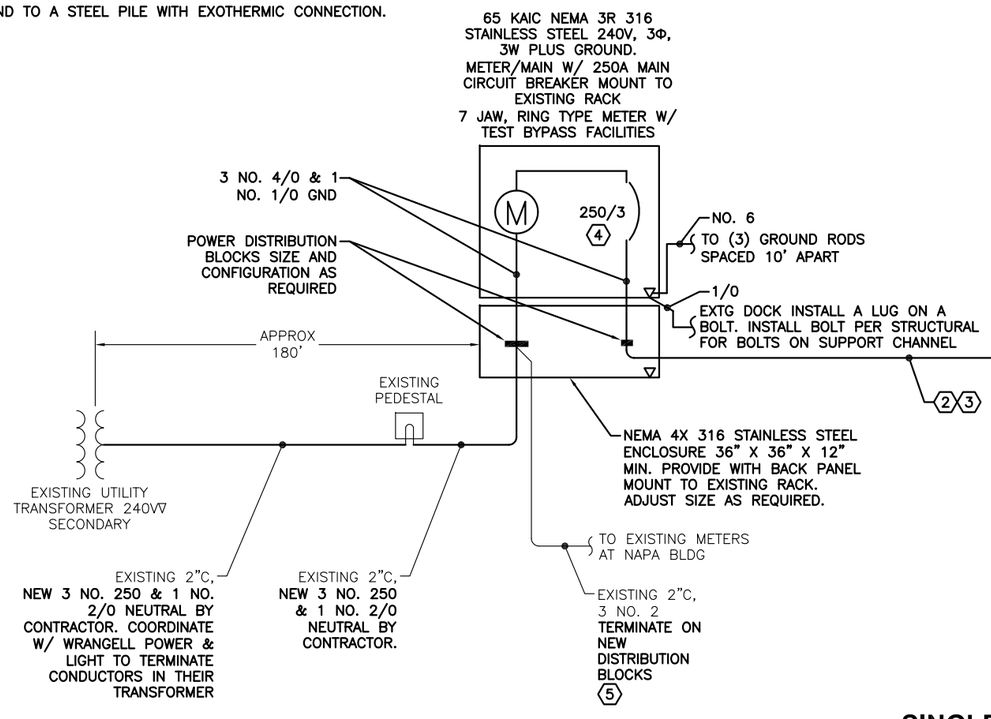
SHEET TITLE: **SITE PLAN - BASE BID**

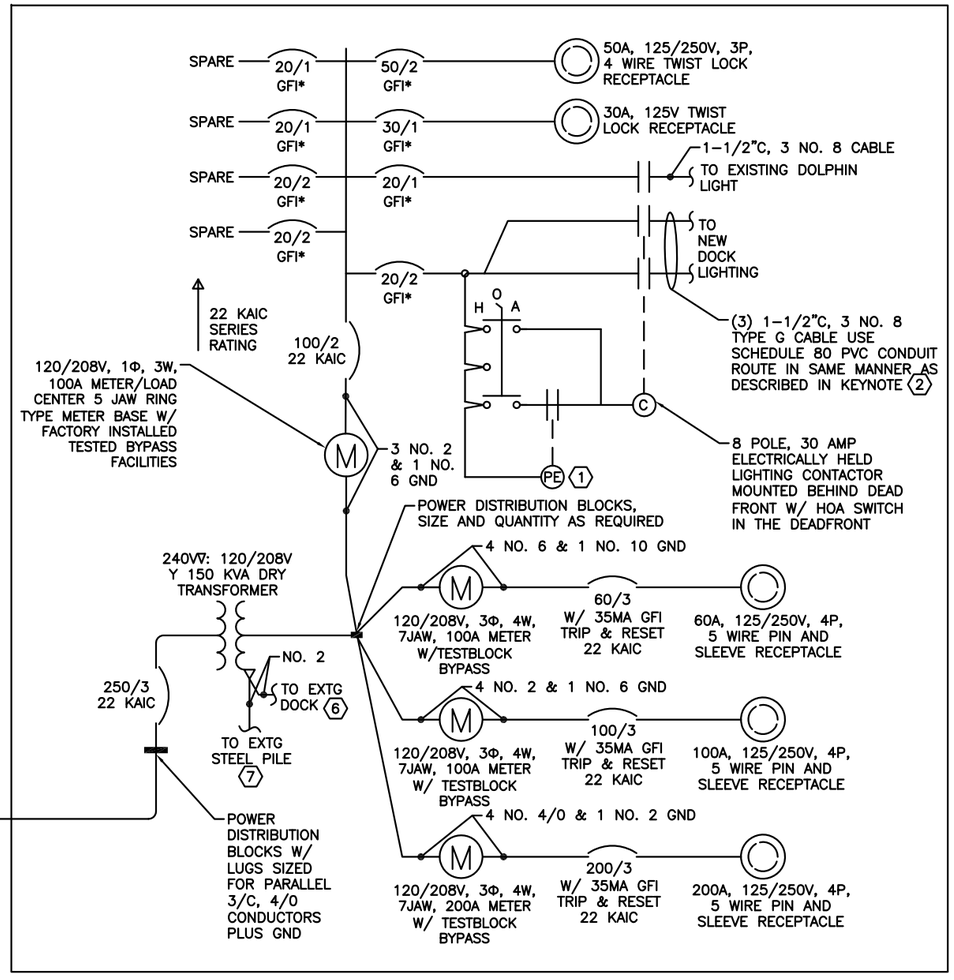
MEG PROJECT NO.: 140–02 DWG. FILE:

E4
SHEET 4 OF 12

NOTES:

1. MOUNT PHOTOCELL UNDER EVE OF POWER CENTER IN CENTER OF POWER CENTER IN SECONDARY LUGS COMPARTMENT. PROVIDE SIDE SHIELDING ON BOTH SIDES OF PE CELL SO ARTIFICIAL LIGHT WON'T ACTIVATE PHOTOCELL.
2. (2) 3/C, NO. 4/0 TYPE G–GC CABLE EACH ROUTED IN 3"C SCHEDULE 80 PVC CONDUIT. START AND STOP CONDUIT AT CORNERS AND AS REQUIRED TO GO AROUND DOCK STRUCTURE. PUT BELL ENDS ON CONDUIT. USE SIDE LACE CABLE GRIPS TO SUPPORT CABLE WHERE IT LEAVES AND ENTERS CONDUIT AND IN BETWEEN CONDUIT SECTIONS AS REQUIRED. ROUTE CABLE IN CONDUIT AS MUCH AS POSSIBLE.
3. OTHERS WILL PROVIDE THE 3" CONDUIT FROM THE RACK TO THE BEGINNING OF THE DOCK. COORDINATE WITH OWNER TO HAVE THE CONDUIT STUB UP ON THE RACK AT THE CORRECT LOCATION TO LINE UP WITH THE ENCLOSURE.
4. PROVIDE A SHUNT TRIP MAIN CIRCUIT BREAKER WITH GFI RELAY TRIP RANGE 0.1–10 AMPS WITH TEST AND RESET BUTTONS IN ENCLOSURE NEMA 4X OIL TIGHT/WATER TIGHT PUSH BUTTONS. MOUNT RELAY AND IT'S PUSH BUTTONS IN A SEPARATE NEMA 4X ENCLOSURE, 316 STAINLESS STEEL.
5. COORDINATE WITH UTILITY FOR OUTAGES TO EXISTING METERS ON NAPA BUILDING.
6. SECURE GROUND CONDUCTOR TO DOCK WITH LUGS AND BOLT. INSTALL BOLT IN SAME MANNER AS BOLTS FOR SUPPORT CHANNEL.
7. WELD GROUND TO A STEEL PILE WITH EXOTHERMIC CONNECTION.





*35MA GFI TRIP

POWER CENTER, SEE SHEETS E8–E11

1 SINGLE LINE DIAGRAM - BASE BID

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

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STATE OF ALASKA 49TH
Mark G. Morris
Nov. 2, 2016
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER
DATE: 09/18/16

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

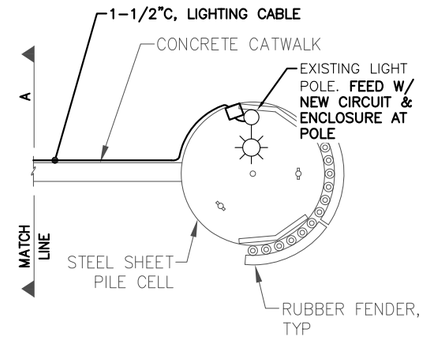
SHEET TITLE: **SINGLE LINE DIAGRAM - BASE BID**

MEG PROJECT NO.: 140–02 DWG. FILE:

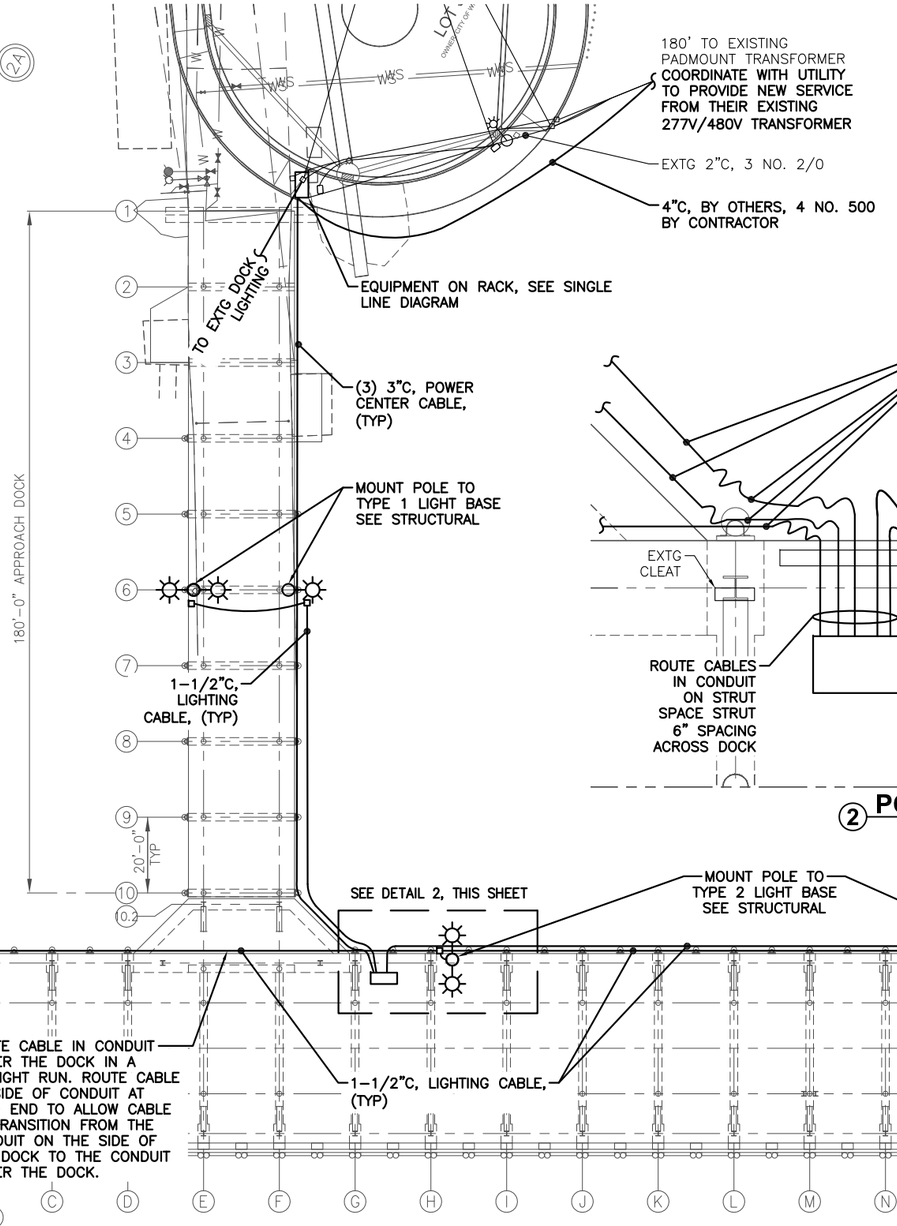
E5 SHEET 5 OF 12

NOTES:

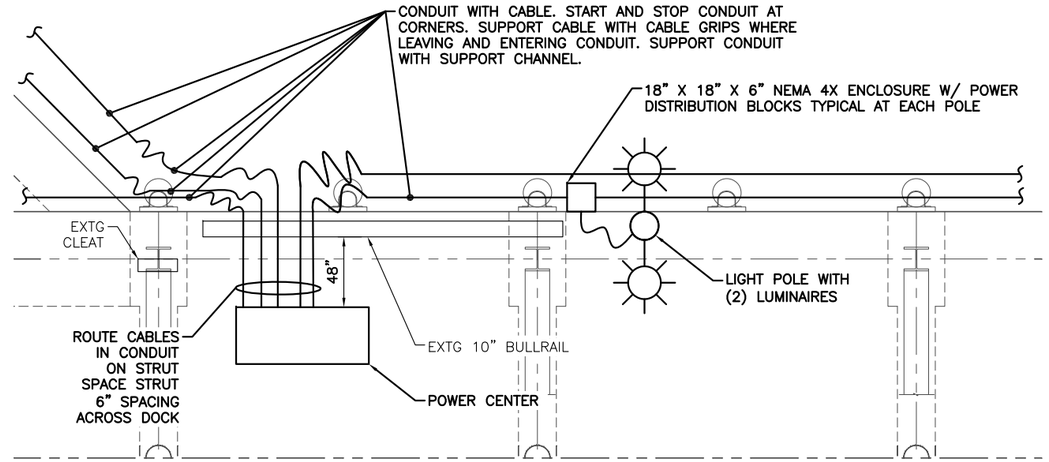
1. ROUTE ALL CABLE IN SCHEDULE 80 PVC CONDUIT. START AND STOP CONDUIT AT CORNERS AND AT PORTIONS OF DOCK WHERE MULTIPLE TURNS ARE REQUIRED. ROUTE CABLE IN CONDUIT AS MUCH AS POSSIBLE. SUPPORT CABLE WITH CABLE GRIPS WHERE IT ENTERS AND LEAVES CONDUIT AND WHERE IT IS BEING ROUTED IN BETWEEN PORTIONS OF CONDUIT.
2. THE LUMINAIRES SHALL BE HOLOPHANE VIENNA GNLF21054KAS4NL3, VIENNA GLASWERKS LED 2, 1050MA, 4000K, 140W, 120–277V, QUICK LOCK STEM MOUNT, GREEN, ASYMMETRIC FULL CUTOFF LED OR EQUAL.
3. AT EACH LIGHT POLE MOUNT A 18" X 18" X 6" NEMA 4X STAINLESS ENCLOSURE WITH POWER DISTRIBUTION BLOCKS. TERMINATE CABLE IN ENCLOSURE AND FEED POLE W/ 2 NO. 10 & 1 NO. 10 GND IN 3/4" NM FLEX CONDUIT. TERMINATE FLEX CONDUIT INTO COUPLING ON POLE.
4. SEE STRUCTURAL TO CONNECT LIGHT POLES TO DOCK.
5. MOUNT CONDUIT TO DOCK WITH SUPPORT CHANNEL. SEE STRUCTURAL.
6. MOUNT CABLE GRIPS TO DOCK PER STRUCTURAL.
7. MOUNT POWER CENTER TO DOCK PER STRUCTURAL.



③ SOUTH MOORING DOLPHIN A
NO SCALE



① SITE PLAN - ADDITIVE ALTERNATE
10' 20' 40'



② POWER CENTER DETAIL
1' 2' 4' 8'

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

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DATE: 03/18/16

STATE OF ALASKA 49TH — Mark G. Morris — Nov 2, 2016 — No. EE 8613 — REGISTERED PROFESSIONAL ENGINEER

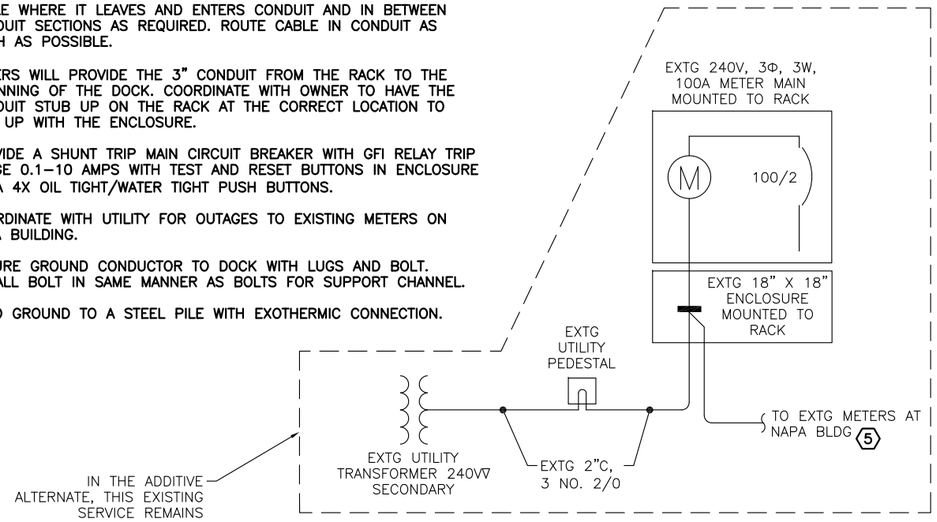
CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

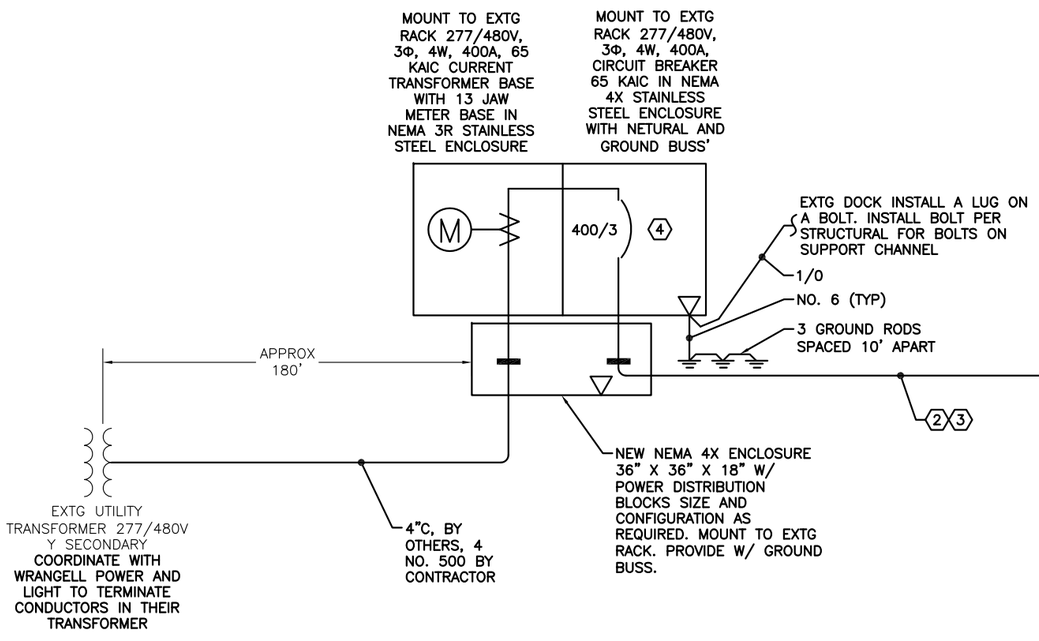
SHEET TITLE: SITE PLAN - ADDITIVE ALTERNATE
MEG PROJECT NO.: 140–02 DWG. FILE:

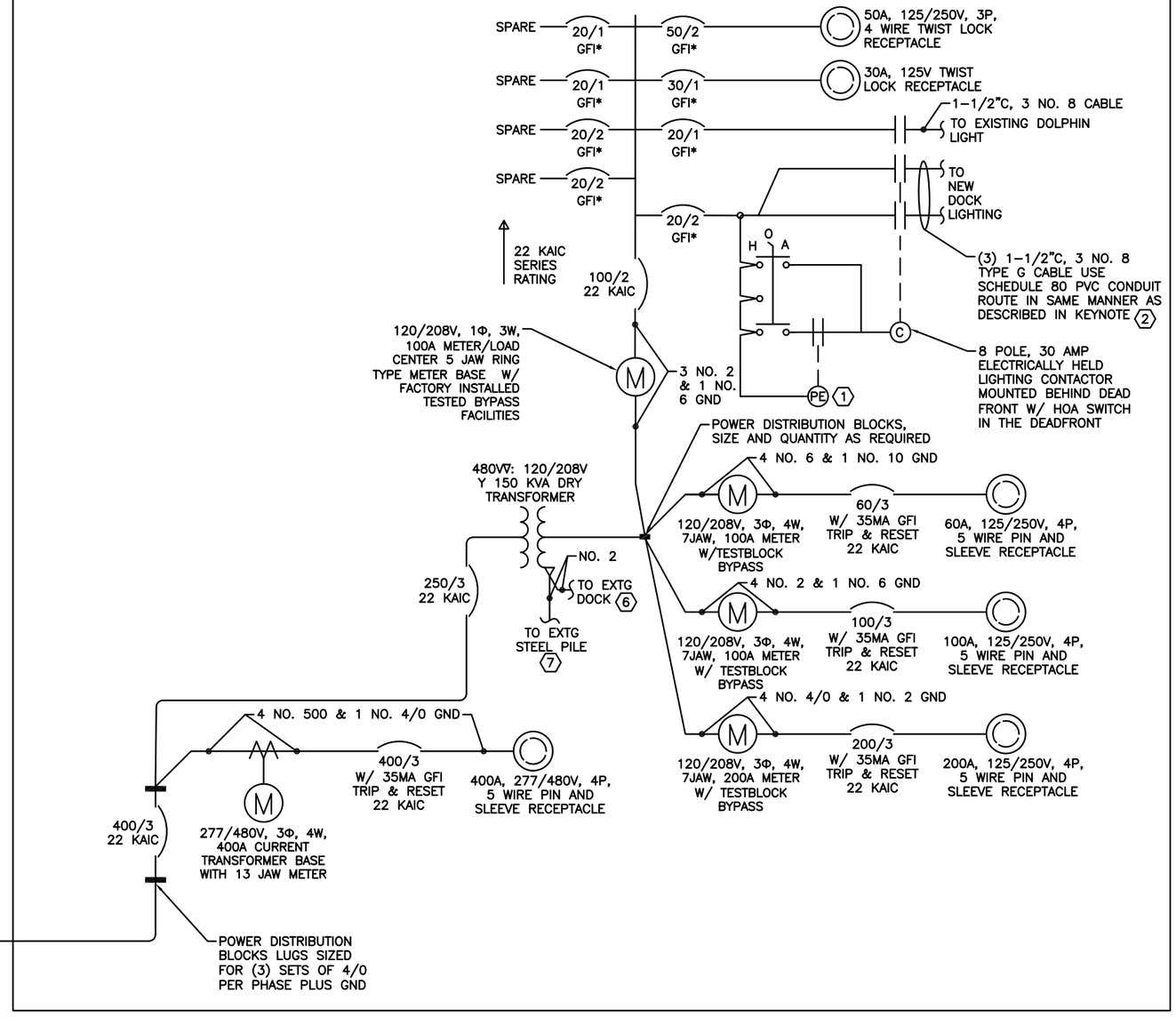
E6 SHEET 6 OF 12

NOTES:

1. MOUNT PHOTOCELL UNDER EVE OF POWER CENTER IN CENTER OF POWER CENTER IN SECONDARY LUGS COMPARTMENT. PROVIDE SIDE SHIELDING ON BOTH SIDES OF PE CELL SO ARTIFICIAL LIGHT WON'T ACTIVATE PHOTOCELL.
2. (3) 3/C, NO. 4/0 TYPE G–GC CABLE EACH ROUTED IN 3"C SCHEDULE 80 PVC CONDUIT. START AND STOP CONDUIT AT CORNERS AND AS REQUIRED TO GO AROUND DOCK STRUCTURE. PUT BELL ENDS ON CONDUIT. USE SIDE LACE CABLE GRIPS TO SUPPORT CABLE WHERE IT LEAVES AND ENTERS CONDUIT AND IN BETWEEN CONDUIT SECTIONS AS REQUIRED. ROUTE CABLE IN CONDUIT AS MUCH AS POSSIBLE.
3. OTHERS WILL PROVIDE THE 3" CONDUIT FROM THE RACK TO THE BEGINNING OF THE DOCK. COORDINATE WITH OWNER TO HAVE THE CONDUIT STUB UP ON THE RACK AT THE CORRECT LOCATION TO LINE UP WITH THE ENCLOSURE.
4. PROVIDE A SHUNT TRIP MAIN CIRCUIT BREAKER WITH GFI RELAY TRIP RANGE 0.1–10 AMPS WITH TEST AND RESET BUTTONS IN ENCLOSURE NEMA 4X OIL TIGHT/WATER TIGHT PUSH BUTTONS.
5. COORDINATE WITH UTILITY FOR OUTAGES TO EXISTING METERS ON NAPA BUILDING.
6. SECURE GROUND CONDUCTOR TO DOCK WITH LUGS AND BOLT. INSTALL BOLT IN SAME MANNER AS BOLTS FOR SUPPORT CHANNEL.
7. WELD GROUND TO A STEEL PILE WITH EXOTHERMIC CONNECTION.







*35MA GFI TRIP

POWER CENTER, SEE SHEETS E8–E11

1 SINGLE LINE DIAGRAM - ADDITIVE ALTERNATE

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

MORRIS ENGINEERING GROUP LLC
PO Box 210049, Auke Bay, AK 99821
Phone: 907-789-3350

DESIGN: MGM CHECKED: BPN
DRAWN: LDS APPROVED: MGM
SCALE: AS SHOWN
DATE: 03/18/16

STATE OF ALASKA 49TH — Mark G. Morris — Mar 18, 2016 — No. EE 8613 — REGISTERED PROFESSIONAL ENGINEER

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

SHEET TITLE: SINGLE LINE DIAGRAM - ADDITIVE ALTERNATE

MEG PROJECT NO.: 140–02 DWG. FILE:

E7 SHEET 7 OF 12

NOTES FOR POWER CENTER:

1. ALL WELDS ON THE POWER CENTER SHALL BE 316 STAINLESS. IT SHALL HAVE A CLEARCOAT FINISH. PROVIDE INTERNAL SUPPORT STRUCTURES OF 316 STAINLESS STEEL. PROVIDE REINFORCING IN FOUR CORNERS WHERE IT CAN BE BOLTED TO DOCK WITH 1/2" DIAMETER BOLTS. SEE STRUCTURAL FOR BOLTING POWER CENTER TO DOCK.

(2) THE POWER CENTER FRAME SHALL HAVE A CONTINUOUS LIP INSIDE EACH DOOR THAT STANDS OFF AT LEAST 1/2" THAT THE DOOR CLOSES AGAINST TO PREVENT WATER INTRUSION.

3. THE POWER CENTER ENCLOSURE SHALL BE MANUFACTURED FROM NO. 12 GAUGE, MIN. NO. 316 STAINLESS STEEL. THIS INCLUDES ALL DOORS, INTERIOR PARTITIONS, DEAD FRONT COVERS, VENTS, ETC. THE DOORS SHALL HAVE PADLOCKABLE, VAULT STYLE HANDLES AND SHALL BE GASKETED. THE POWER PEDESTAL SHALL BE UL LISTED AS AN ASSEMBLY. THE DIMENSIONS SHALL BE AS SHOWN. PROVIDE AN EATON MARINE POWER CENTER OR EQUAL WITH ALL OF THE FEATURES SHOWN. ALL FASTENERS AND HARDWARE SHALL BE STAINLESS STEEL.

4. DESIGN THE POWER CENTER TO BE FED FROM (3) 3"C, WITH 3/C 4/0 TYPE G-GC CABLE ROUTED THROUGH THE SIDE OF THE POWER CENTER. PROVIDE LUGS FOR THE CABLES TO TERMINATE ON. WIRE THE LUGS TO THE MAIN CIRCUIT BREAKER. SEE SINGLE LINE DIAGRAMS.

(5) PROVIDE ACCESS DOORS SO ALL PARTS CAN BE REPLACED IN FIELD.

6. DESIGN POWER CENTER SO IT IS SELF SUPPORTED WHEN MOUNTED TO FLOAT.

7. PROVIDE THE POWER CENTER WITH THE DIMENSIONS SHOWN.

8. SEE SINGLE LINE FOR CONTENTS OF POWER CENTER.

9. PROVIDE PADLOCKABLE LATCHES FOR A FULL SIZE PADLOCK.

(10) PROVIDE A DEAD FRONT BEHIND ACCESS DOOR. CIRCUIT BREAKER HANDLE(S) SHALL PENETRATE DEAD FRONT. HINGE DEAD FRONT ON ONE SIDE. USE 1/4 TURN LATCHES TO OPEN DEAD FRONT.

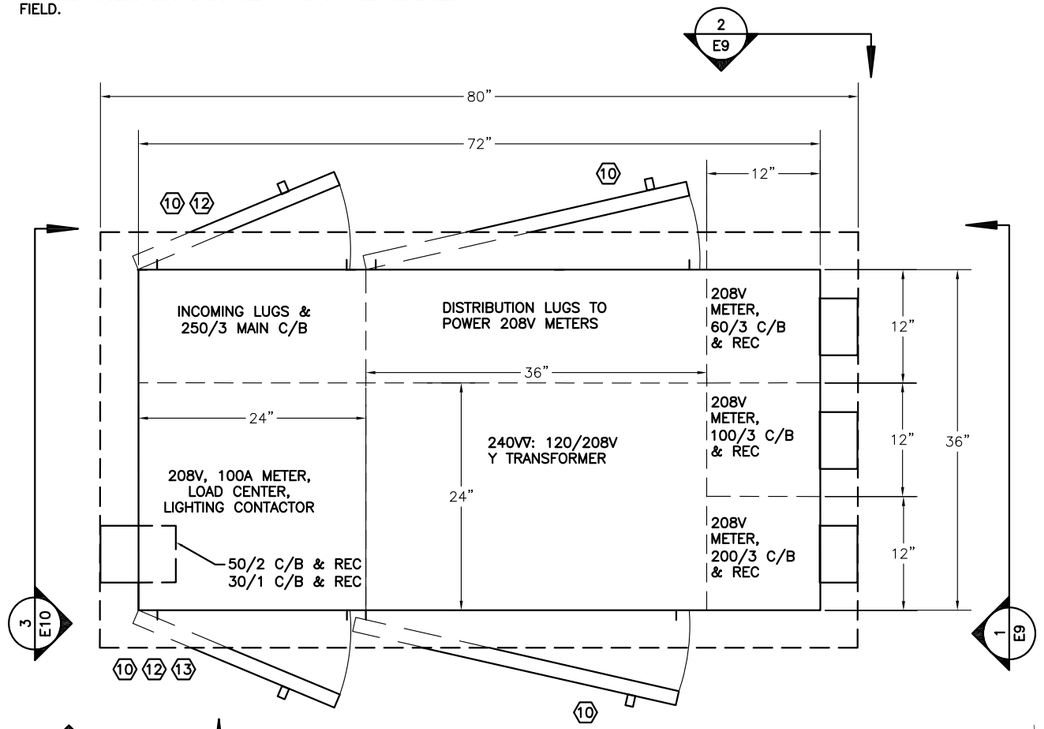
(11) MOUNT POWER CENTER ON A 1" UHMW PAD WITH SAME DIMENSIONS AS POWER CENTER.

(12) PROVIDE THE METER, HOA SWITCHES, INDICATING LIGHTS, AND CIRCUIT BREAKER HANDLES PENETRATING THROUGH DEAD FRONT.

(13) PROVIDE A WINDOW IN THE ACCESS DOOR TO BE ABLE TO READ THE METER.

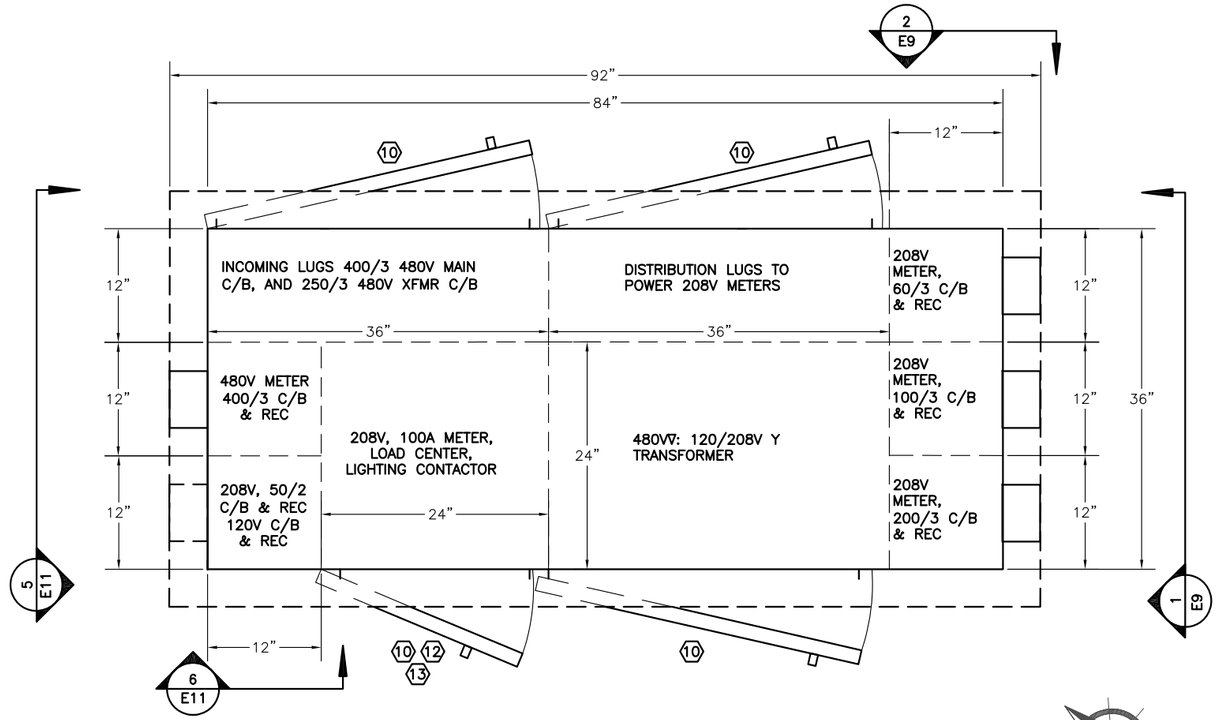
14. POWER CENTER SHALL BE A UL LISTED ASSEMBLY. SIZE CONDUCTORS PER NEC.

15. MOUNT PHOTOCELL ON POWER CENTER. SEE SINGLE LINE DIAGRAM.



(1) POWER CENTER - TOP VIEW BASE BID

2" 4" 8" 16"



(2) POWER CENTER - TOP VIEW ADDITIVE ALTERNATE

2" 4" 8" 16"

16. PROVIDE COPPER CONDUCTORS WITH XHHW INSULATION. USE OXIDE INHIBITING COMPOUND ON ALL ELECTRICAL CONNECTIONS. USE HEAT SHRINK COLOR CODED BY PHASE OVER ALL CRIMP CONNECTIONS. USE 1" MIN OVERLAP BACK ONTO CONDUCTOR AND OVERLAP AS FAR PAST CRIMP AS PRACTICAL WHERE TERMINATING INTO A RING TERMINAL OR OTHER CONNECTION.

17. LABEL ALL CONNECTIONS AND ALL CONDUCTORS. USE SPIRAL WRAP AND OTHER CONDUCTOR MANAGEMENT TECHNIQUES TO NEATLY TRAIN AND ROUTE CONDUCTORS. ROUTE CONDUCTORS PARALLEL AND PERPENDICULAR TO WALLS, FLOOR, CEILING AND PARTITIONS. PROVIDE A HIGH CRAFTMANSHIP, PROFESSIONAL APPEARANCE.

18. PROVIDE DIMENSIONED SHOP DRAWINGS WITH SECTIONS AND ELEVATIONS. PROVIDE DETAILED WIRING DIAGRAMS.

19. PROVIDE (2) SPARE PLUGS OF EACH TYPE. PROVIDE (1) SPARE OF EACH TYPE RECEPTACLE, CIRCUIT BREAKER, AND GFI RELAY.

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

MORRIS ENGINEERING GROUP LLC
PO Box 210049, Auke Bay, AK 99821
Phone: 907-789-3350

DESIGN: MGM CHECKED: BPN
DRAWN: LDS APPROVED: MGM
SCALE: AS NOTED
DATE: 03/18/16

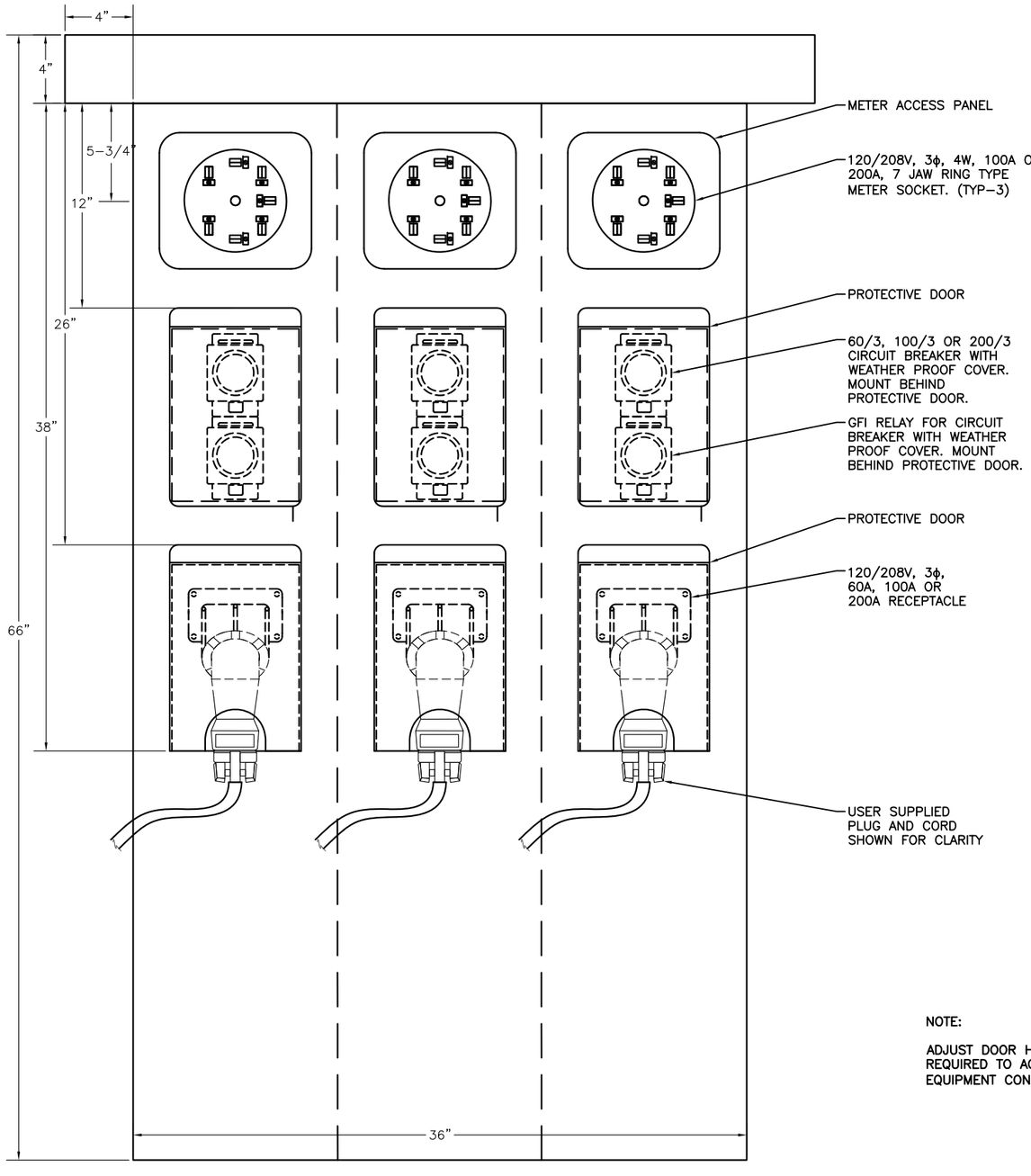
STATE OF ALASKA 49TH — Mark G. Morris — Mar 18, 2016 — No. EE 8613 — REGISTERED PROFESSIONAL ENGINEER

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

SHEET TITLE: POWER CENTER DETAILS

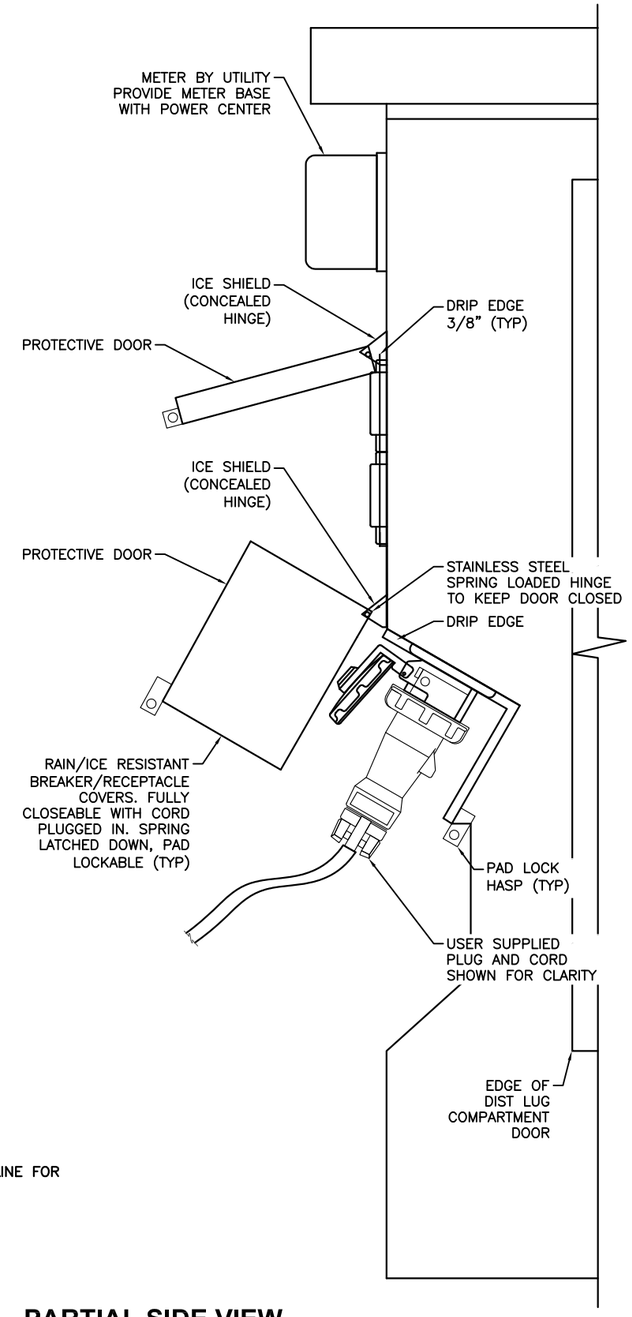
MEG PROJECT NO.: 140-02 DWG. FILE:

E8 SHEET 8 OF 12



① POWER CENTER - END VIEW
BASE BID AND ADDITIVE ALTERNATE

1" 2" 4" 8"



NOTE:

ADJUST DOOR HEIGHTS, DIMENSIONS, AND LAYOUT AS REQUIRED TO ACCOMMODATE EQUIPMENT. SEE SINGLE LINE FOR EQUIPMENT CONFIGURATION (VOLTAGE, PHASE, ETC.)

② PARTIAL SIDE VIEW
BASE BID AND ADDITIVE ALTERNATE

1" 2" 4" 8"

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

MORRIS ENGINEERING GROUP LLC
PO Box 210049, Auke Bay, AK 99821
Phone: 907-789-3350

DESIGN: MGM CHECKED: BPN
DRAWN: LDS APPROVED: MGM
SCALE: AS SHOWN

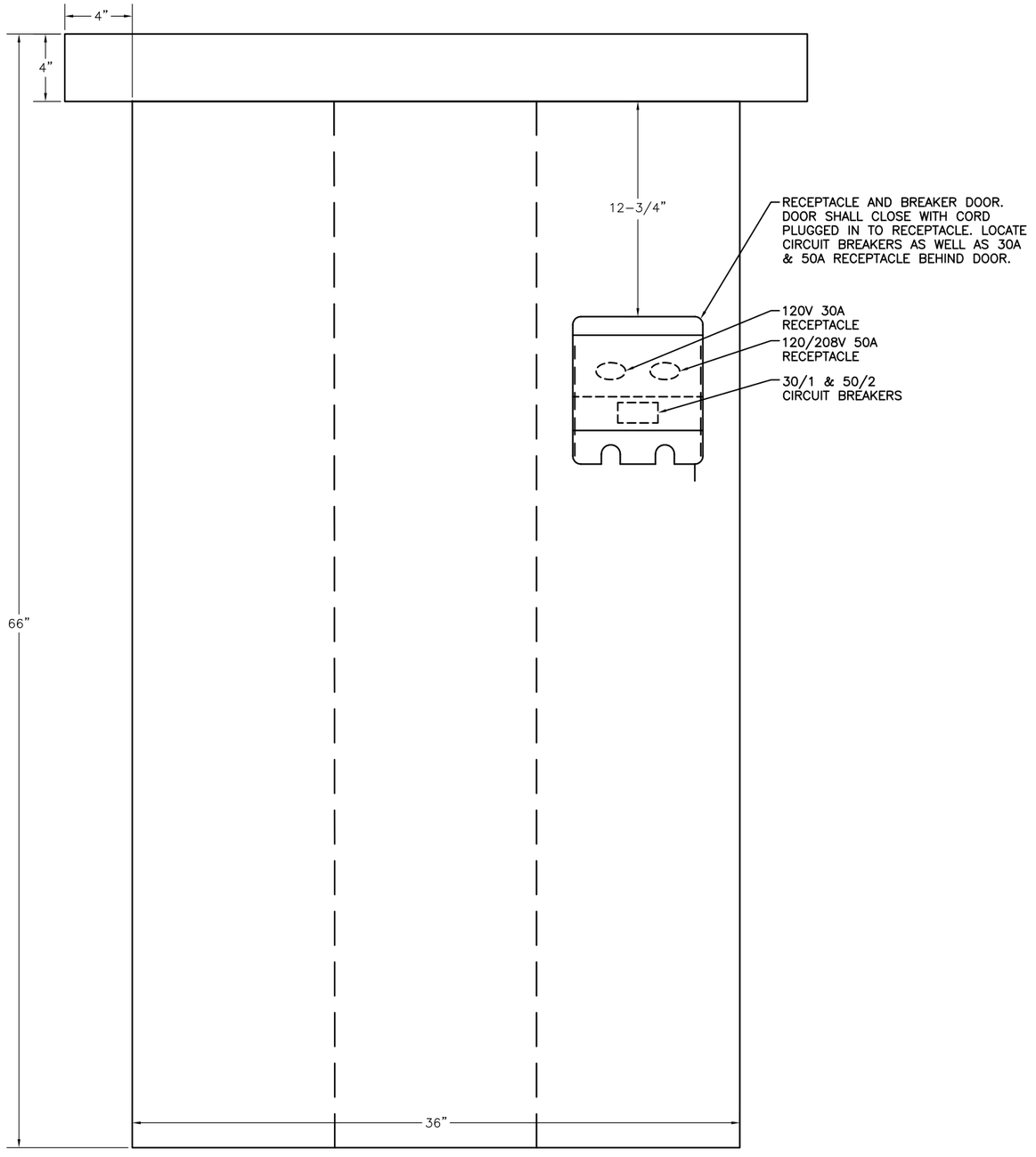
STATE OF ALASKA 49TH
Mark G. Morris
Mar 18, 2016
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER
DATE: 03/18/16

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

SHEET TITLE:
POWER CENTER DETAILS

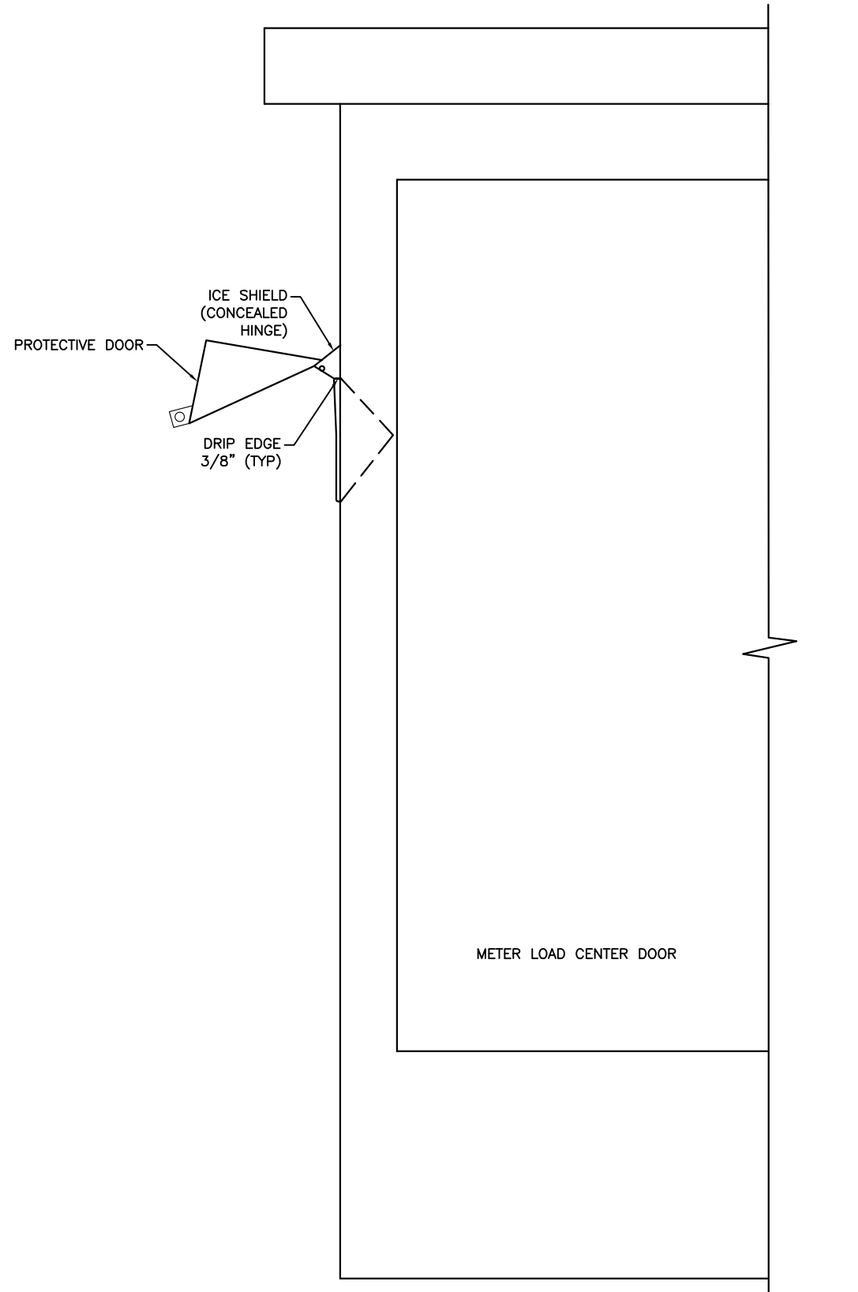
MEG PROJECT NO.: 140-02
DWG. FILE:

E9
SHEET 9 OF 12



③ POWER CENTER - END VIEW BASE BID

1" 2" 4" 8"



④ PARTIAL SIDE VIEW BASE BID

1" 2" 4" 8"

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

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DESIGN: MGM CHECKED: BPN
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DATE: 03/18/16

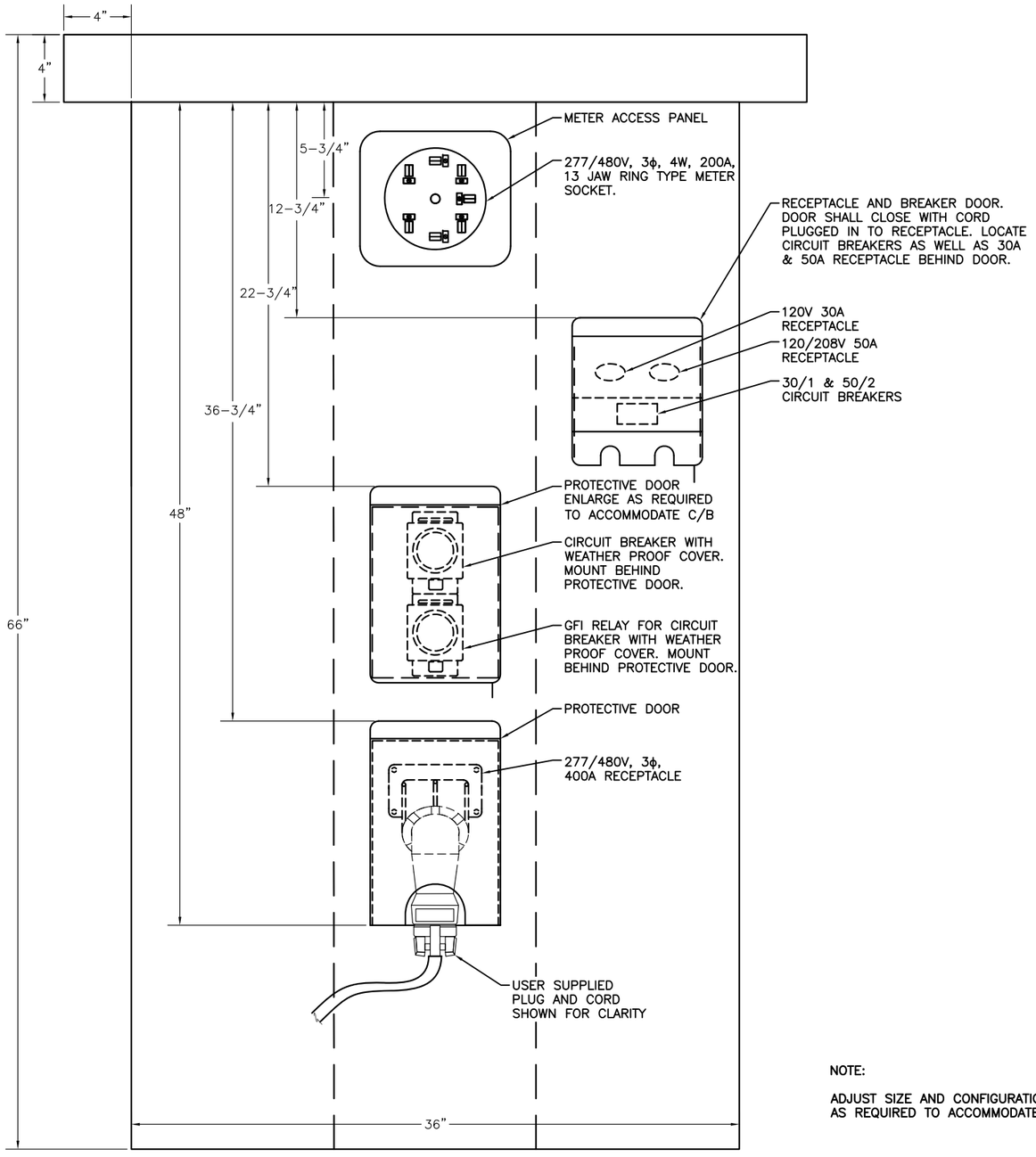
STATE OF ALASKA 49TH Mark G. Morris Mar 18, 2016 No. EE 8613 REGISTERED PROFESSIONAL ENGINEER

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

SHEET TITLE: POWER CENTER DETAILS

MEG PROJECT NO.: 140-02 DWG. FILE:

E10 SHEET 10 OF 12

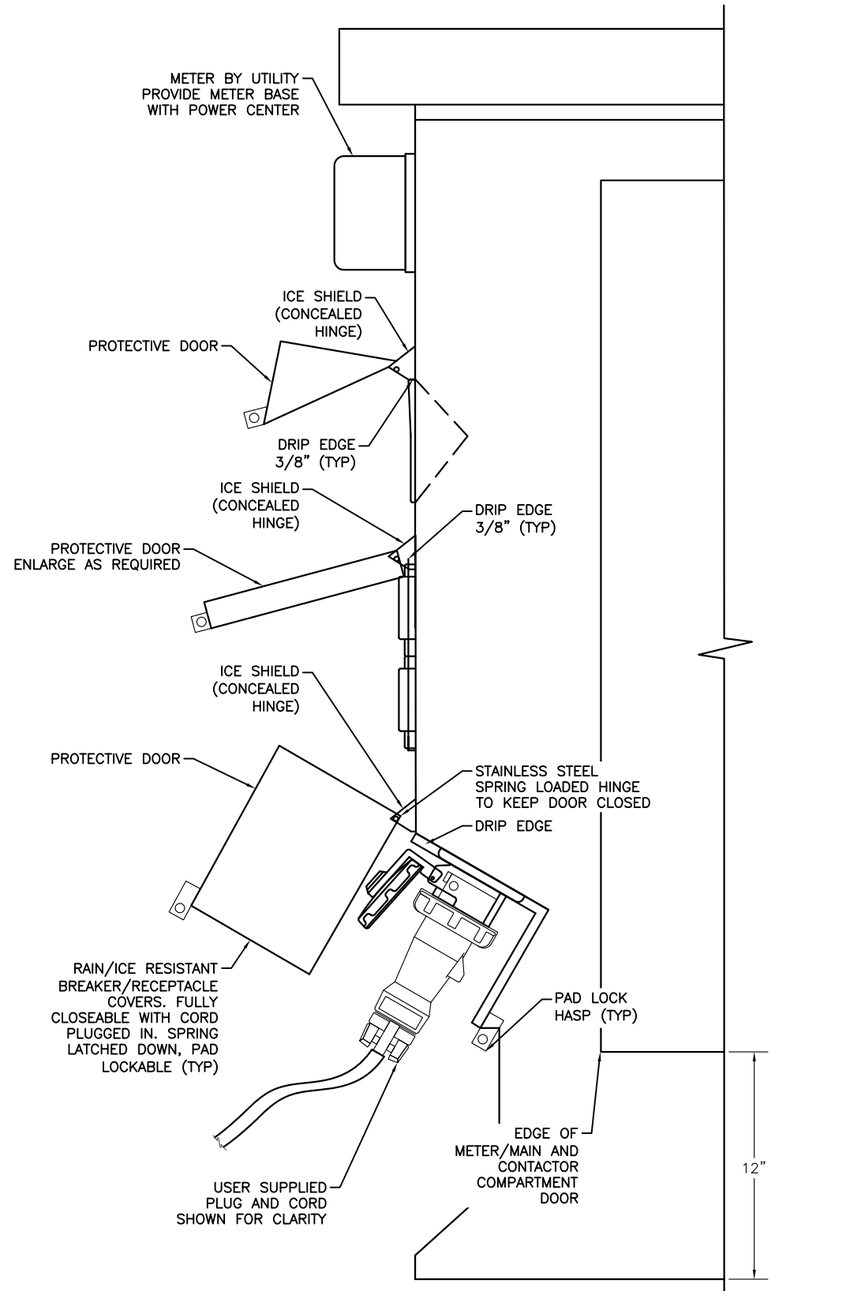


5 POWER CENTER - END VIEW ADDITIVE ALTERNATE

1" 2" 4" 8"

NOTE:

ADJUST SIZE AND CONFIGURATION OF DOORS, ETC AS REQUIRED TO ACCOMMODATE EQUIPMENT.



6 PARTIAL SIDE VIEW ADDITIVE ALTERNATE

1" 2" 4" 8"

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

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Phone: 907-789-3350

DESIGN: MGM CHECKED: BPN
DRAWN: LDS APPROVED: MGM
SCALE: AS SHOWN

STATE OF ALASKA 49TH
Mark G. Morris
Mar 18, 2016
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER
DATE: 03/18/16

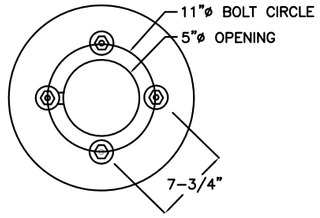
CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

SHEET TITLE:
POWER CENTER DETAILS

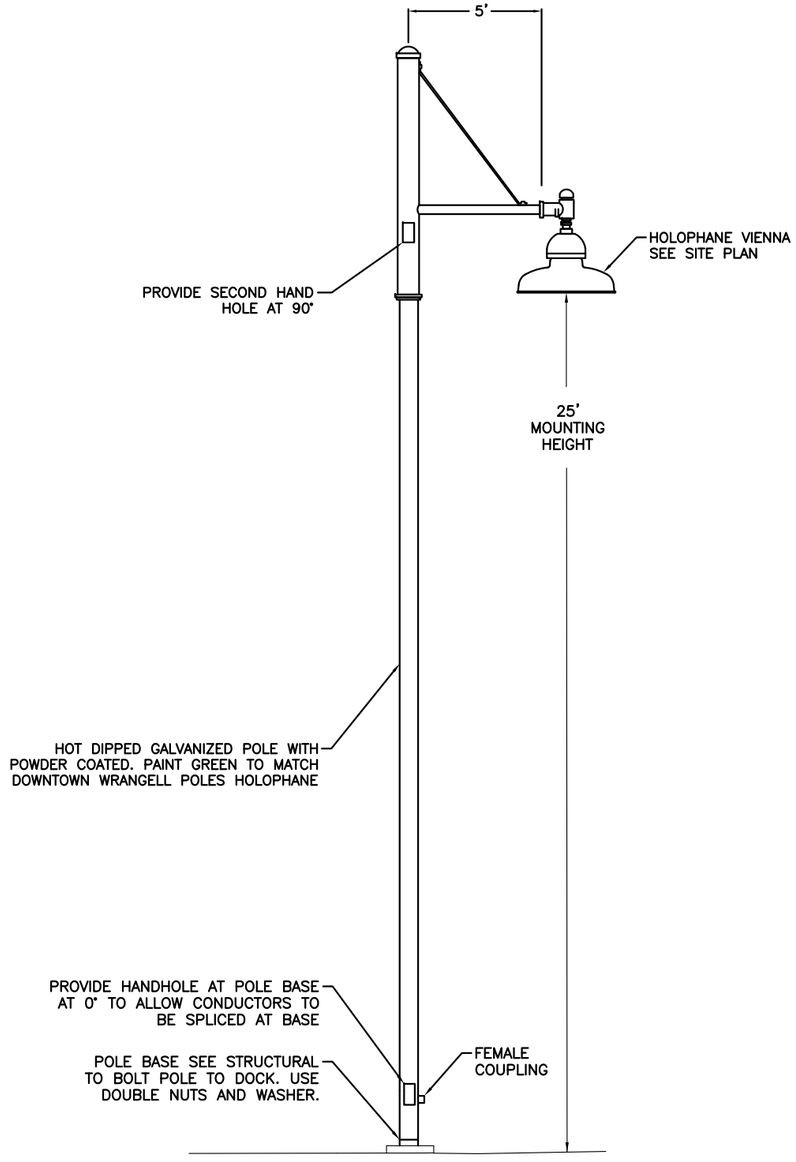
MEG PROJECT NO.: 140-02 DWG. FILE:

SHEET 11 OF 12

E11



② BOLT CIRCLE DETAIL
NO SCALE



① POLE DETAIL
NO SCALE

NOTES:

1. THIS DETAIL APPLIES TO ALL LIGHT POLES.
2. AT EACH POLE, PROVIDE A 18" X 18" X 6" NEMA 4X, 316 STAINLESS STEEL ENCLOSURE WITH POWER DISTRIBUTION BLOCKS. TERMINATE CABLES ON BLOCKS AND FEED LIGHT POLE WITH 2 NO. 10 AND 1 NO. 10 GND IN 3/4" FLEX CONDUIT.
3. PROVIDE GROUNDING BUSHINGS ON CONDUIT.
4. PROVIDE DOUBLE FUSED CONNECTOR KITS IN BASE OF POLE. SEC NO. 1791-DF OR EQUAL.
5. LOCATE LIGHT POLE WHERE SHOWN ON THE SITE PLANS.
6. SIZE POLE WITH MAST ARM AND LUMINAIRE FOR 115 MPH SUSTAINED WINDS WITH A 1.3 GUST FACTOR.
7. PROTECT ANCHOR BOLTS FROM PHYSICAL DAMAGE DURING CONSTRUCTION.
8. NO CHANGE ALLOWED FOR BOLT CIRCLE.
9. PROVIDE A HANDHOLE AT 24" ABOVE THE BASE AT 0° AND A 3/4" FEMALE COUPLING AT 180°. FEED THE POLE WITH FLEX CONDUIT AND AN LB CONDULET WITH A NIPPLE INTO THE POLE.
10. PROVIDE LUMINAIRES AT 0° AND 180° WHERE 0° FACES INTO THE DOCK AND 180° FACES THE WATER 90° TO THE BULLRAIL. SEE SITE PLAN FOR WHICH POLES HAVE 1 OR 2 LUMINAIRES.
11. MOUNT A SECOND HANDHOLD AT 90° WITHIN 12" OF CROSS ARM TO ALLOW CONDUCTORS TO BE FISHED TO LUMINAIRE.
12. PROVIDE CLAMSHELL BASES FOR THE POLES. DO NOT INSTALL THEM. FURNISH THEM TO THE OWNER AS SPARES.

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

MORRIS ENGINEERING GROUP LLC
PO Box 210049, Auke Bay, AK 99821
Phone: 907-789-3350

DESIGN: MGM CHECKED: BPN
DRAWN: LDS APPROVED: MGM
SCALE: NONE

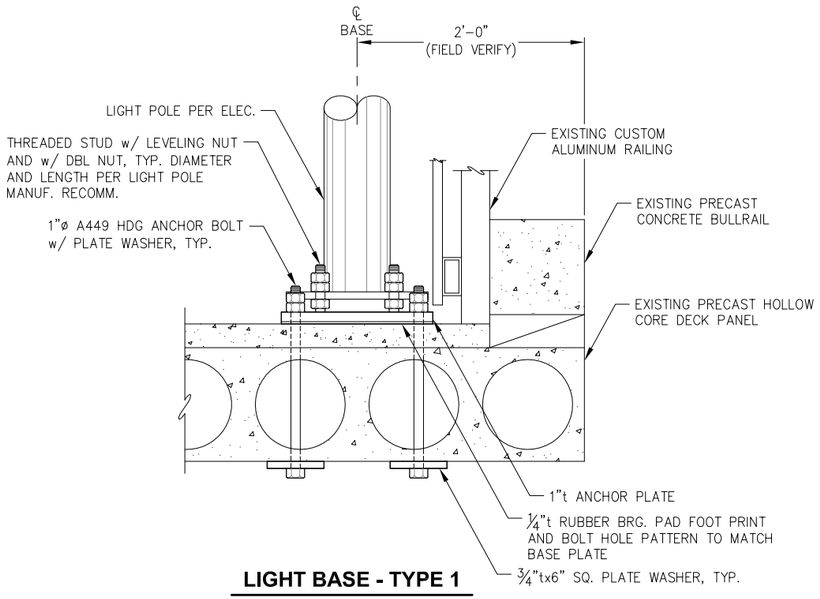
STATE OF ALASKA 49TH
Mark G. Morris
Mar 18, 2016
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER
DATE: 03/18/16

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

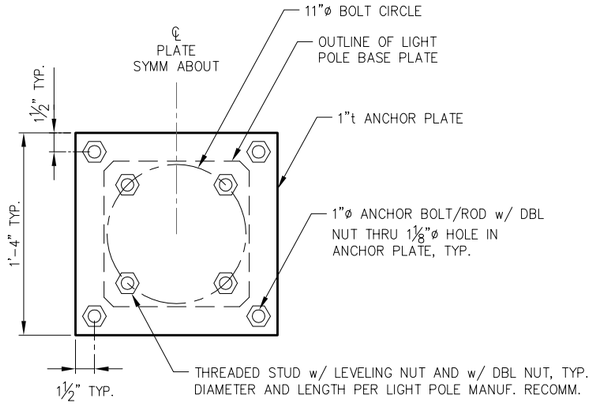
SHEET TITLE: **POLE DETAIL**

MEG PROJECT NO.: 140-02 DWG. FILE:

E12
SHEET 12 OF 12



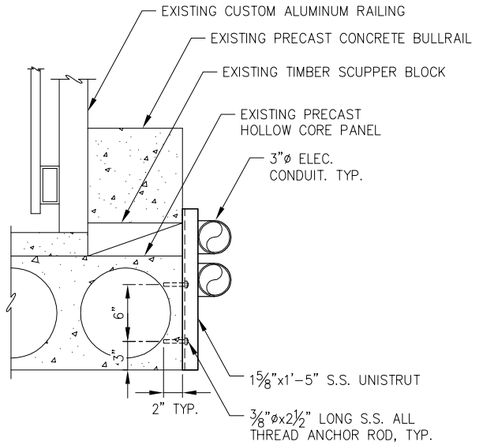
LIGHT BASE - TYPE 1



ANCHOR PLATE - PLAN

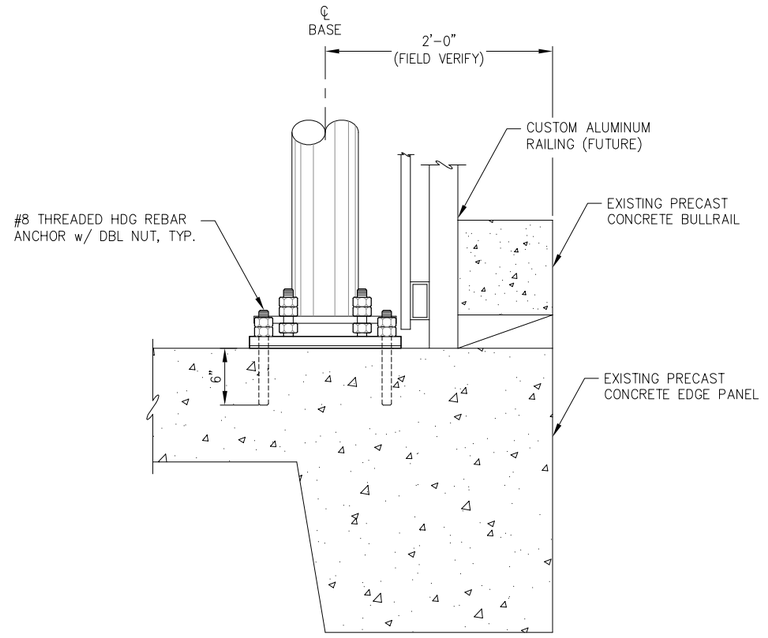
NOTES:

- ALL THREADED STUDS TO BE FULL-STRENGTH WELDED TO ANCHOR PLATE. PROVIDE NUTS w/ MATCHING PITCH. STUDS AND NUTS TO BE HDG.
- TEMPLATE SHALL BE UTILIZED IN FIELD FOR DRILLING INTO EXISTING CONCRETE.
- REBAR MAY BE ENCOUNTERED. UTILIZE APPROPRIATE DRILL BIT(S) AS NECESSARY TO OBTAIN REQUIRED HOLE SIZE AND DEPTH.
- ALL-THREAD ANCHOR RODS AND EYE BOLTS SHALL BE INSTALLED w/ EPOXY ADHESIVE PER SPECIFICATIONS.



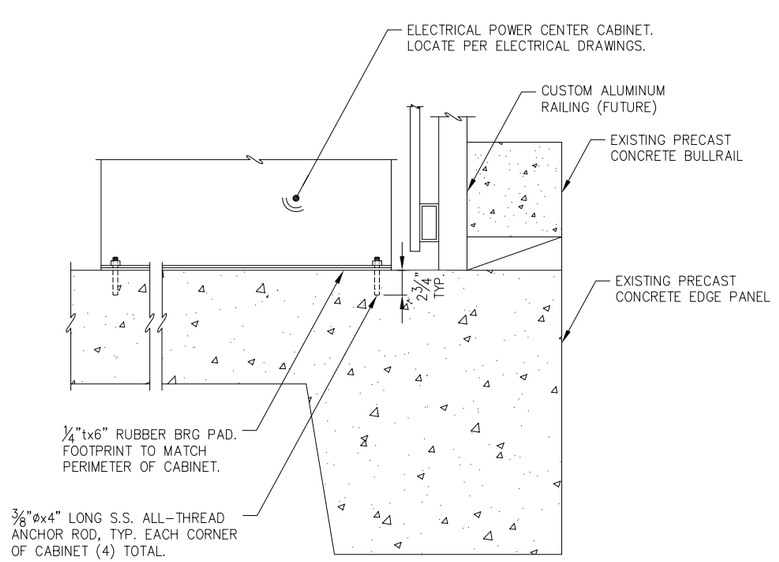
CONDUIT SUPPORT

(APPROACH DOCK)

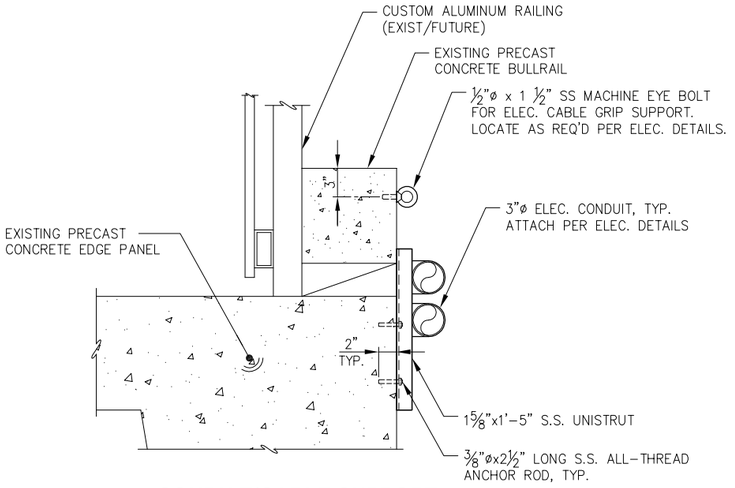


LIGHT BASE - TYPE 2

NOTE: DETAILS NOT SHOWN SIMILAR TO TYPE 1 DETAIL



POWER CENTER ANCHORING



CONDUIT/CABLE SUPPORT

(MAIN DOCK)

NOTE: DETAILS FOR MOUNTING OF UNISTRUT TO OTHER LOCATIONS ON THE DOCK TO BE SIMILAR TO DETAILS SHOWN.

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REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Suite 100
Juneau, Alaska 99801
Phone: 907-586-2093
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www.pnd-anc.com

DESIGN: JLD CHECKED: CRS
DRAWN: JLD APPROVED: CRS
SCALE:

STATE OF ALASKA 49TH — John L. DeMuth CE-8847 — REGISTERED PROFESSIONAL ENGINEER
DATE: 03/18/16

CITY AND BOROUGH OF WRANGELL, ALASKA
WRANGELL DOCK LIGHTING

SHEET TITLE: ELECTRICAL SUPPORT DETAILS
PND PROJECT NO.: 162011 DWG. FILE:

ES1
SHEET 1 OF 1