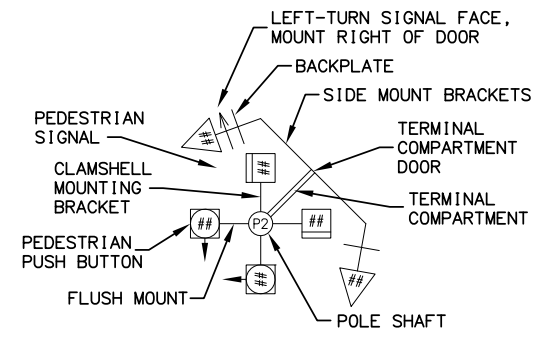
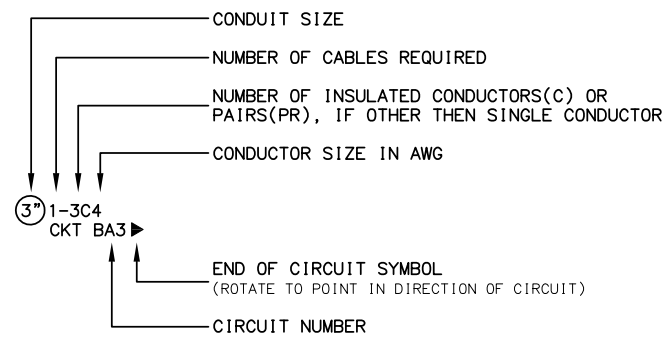


DESIGNED BY: KREFFS
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 DATE TIME: 8/2/2016 6:54 AM
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SYMBOL LEGEND

EXISTING	PROPOSED	
		LOAD CENTER
		TRAFFIC CONTROLLER
		BEACON CONTROLLER
		TYPE 1A JUNCTION BOX
		TYPE II JUNCTION BOX
		TYPE III JUNCTION BOX
		TYPE IV JUNCTION BOX
		ELECTROLIER
		HIGHTOWER
		SIGNAL POLE WITH MASTARM
		PEDESTRIAN PUSH BUTTON
		PEDESTRIAN SIGNAL
		VEHICULAR SIGNAL
		VEHICULAR SIGNAL LEFT
		VEHICULAR SIGNAL RIGHT
		OPTICAL DETECTOR
		GPS DETECTOR
		CAMERA DETECTOR
		RADAR DETECTOR
		LOOP DETECTOR
		ANTENNA, YAGI OR OMNI
		MASTARM BEACON
		RURAL BEACON
		SCHOOL ZONE BEACON
		LOOP DETECTOR CONDUIT
		SIGNAL CONDUIT
		LIGHTING CONDUIT
		SIGNAL & LIGHTING CONDUIT
		CONDUIT BORING
		CONDUIT SIZE IN INCHES
		FIBER OPTIC VAULT
		INTERCONNECT
		SIGN POST & NUMBER
		PRIVATE SIGN



POLE SHAFT LEGEND

CALL BEFORE YOU DIG!

CONTRACTOR SHALL CALL A MINIMUM OF 3 DAYS IN ADVANCE OF CONSTRUCTION

ALASKA DIGLINE...907-278-3121 OR 800-478-3121

CALL OR GO TO WWW.AKONECALL.COM/STATEWIDE.HTM
FOR MEMBER LIST OF WHO WILL BE NOTIFIED

ABBREVIATIONS

- CL - CENTERLINE
- SIG - SERVICE TO CONTROLLER
- INTX - INTERSECTION
- INTX L - INTERSECTION LIGHTING
- LTG - LIGHTING
- PRE 2 - PREEMPTION #
- PRE CON 2 - PREEMPTION CONTROLLER #
- LC - LOAD CENTER
- TC - TRAFFIC CONTROLLER
- P1 - TRAFFIC SIGNAL POLE #
- PEC - PHOTOELECTRIC CELL
- YAGI - DIRECTIONAL ANTENNA
- OMNI - OMNI DIRECTIONAL ANTENNA
- HEAD - VEHICULAR SIGNAL HEAD
- PED B 28 - PEDESTRIAN PUSH BUTTON #
- PEDI - PEDESTRIAN SIGNAL HEAD
- RMC - RIGID METAL CONDUIT
- PE - POLYETHYLENE CONDUIT
- LFNC - LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT
- AWG - AMERICAN WIRE GAUGE
- NB - NORTH BOUND
- EB - EAST BOUND
- SB - SOUTH BOUND
- WB - WEST BOUND

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
NO.	DATE	DESCRIPTION	ALASKA	0A31056/Z583890000 0001497/Z570880000	2016	H31	H38

NOTES:

FOUNDATIONS NOTES:

- STATION & C.L. REFERENCE ARE TO THE CENTER OF THE STRUCTURE, EXCEPT ON LOOPS WHICH ARE TO THE CENTER OF THE TRAILING EDGE OF THE LOOP (EDGE NEAREST INTERSECTION).
- JUNCTION BOX LOCATIONS APPROXIMATE. LOCATE J-BOXES SO THAT THEY ARE LOCATED OUT OF THE PATHWAY, SIDEWALK, CURB RAMPS, AND DRAINAGE COLLECTION AREAS.
- INSTALL LOAD CENTER AND TRAFFIC CONTROLLER FOUNDATIONS WITHIN 1-DEGREE OF PLUMB.
- INSTALL ANCHOR BOLTS IN CAST FOUNDATIONS TO BE WITHIN 1:40 OF PLUMB.
- TOPSOIL AND SEED ANY DISTURBED AREAS.

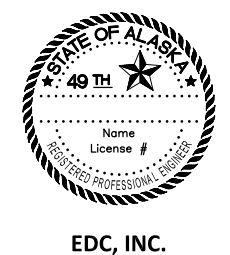
SIGNAL SYSTEM NOTES:

- FURNISH THE SIGNAL AND LUMINAIRE MASTARM LENGTHS AND DIMENSIONS SPECIFIED ON THE POLE ELEVATIONS.
- INSTALL DEVICES SUCH THAT THE DIMENSIONS SHOWN TO THE BOTTOM OF THE DEVICES ON THE POLE ELEVATIONS ARE MINIMUMS. VERTICAL DIMENSIONS TO SIGNAL HEADS ARE TO BOTTOM OF THE BACK PLATE.
- INSTALL MAST ARMS PERPENDICULAR TO THE ROADWAY CENTERLINE. ACCEPTABLE VARIANCE IS +/- 1-DEGREE.
- SALVAGE SIGNAL POLE ASSEMBLIES, SIGNS, SIGNAL FACES, AND LUMINARIES AND DELIVER TO MAINTENANCE AND OPERATIONS WITHIN 48-HOURS OF DECOMMISSIONING. COMPONENTS DAMAGED WHILE IN THE CONTRACTORS CUSTODY MUST BE REPLACED AT THE CONTRACTORS EXPENSE. REMOVE AND DISPOSE OF FOUNDATIONS.
- SALVAGE EXISTING CONTROLLER CABINET AFTER NEW CONTROLLER CABINET IS IN SERVICE AND DELIVER TO MAINTENANCE AND OPERATIONS WITHIN 48-HOURS OF DECOMMISSIONING.
- VEHICLE SIGNALS AND PEDESTRIAN SIGNALS SHALL BE LED MODULES.
- REMOVE ABANDONED OR UNUSED TRAFFIC JUNCTION BOXES UNLESS OTHERWISE NOTED.
- NEW SIGNAL HEADS THAT ARE MOUNTED BUT NOT IN OPERATION SHALL BE COVERED WITH A COMMERCIALY AVAILABLE SIGNAL-SHIRT. EACH SIGNAL SHIRT SHALL FEATURE ELASTICIZED OPENINGS THAT FIT OVER THE VISORS AND AT LEAST TWO STRAPS TO SECURE IT TO THE SIGNAL. PROVIDE SHIRTS WITH A LEGEND THAT READS "OUT OF SERVICE" AND A CENTER SECTION THAT ALLOWS AN OPERATOR TO SEE THE INDICATIONS DURING SYSTEM TESTS.
- SIGNAL HEADS ARE TO BE LOCATED PER FIGURE 4D-100, TYPICAL SIGNAL HEAD LOCATIONS, PER THE ALASKA TRAFFIC MANUAL. ACCEPTABLE VARIANCE IS +/- 1-FOOT.
- AIM SIGNALS PER TABLE 660-2, THROUGH-SIGNAL AIMING POINT, OF THE SPECIAL PROVISIONS. SIGNALS SHALL ALSO BE AIMED SO AS NOT TO BE VISIBLE FROM SIDE STREET TRAFFIC. ACCEPTABLE VARIANCE IS +/- 5 DEGREES.
- EXISTING CIRCUITS LISTED ON THE LOAD CENTER SUMMARY AND PLAN SHEETS WERE OBTAINED FROM AS-BUILT INFORMATION AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO WORK INVOLVING THOSE CIRCUITS.

PLANS-IN-HAND AUGUST 2016

PLANS DEVELOPED BY:
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 CERT. OF AUTH. NO. AECC111

PLANS DEVELOPED BY:
 EDC, INC.
 213 WEST FIREWEED LANE
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STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES

**SEWARD HWY: MP 100-105
 IMPROVEMENTS &
 HSIP: CR TRAFFIC SAFETY
 CORRIDOR LEFT TURN LANES**

TRAFFIC LEGEND AND NOTES

EQUIPMENT LEGEND/DESCRIPTION

- METERING SECTION
- LOAD SECTION
- UTILITY CONNECTION SECTION
- METER READING WINDOW (8"x8")
- METER SOCKET W/ TEST-BYPASS/DISCONNECT BLOCK AND SAFETY SOCKET FACILITIES
- HINGED METER SECTION COVER
- DEADFRONT
- STAINLESS STEEL PIN HINGE
- PADLOCKING PROVISIONS
- DISTRIBUTION PANEL
- ACCESSORY EQUIPMENT MOUNTING AREA FOR CONTACTOR, SELECTOR SWITCHES, TERMINAL STRIPS, ETC.
- SERVICE PULL SECTION
- SELECTOR SWITCH

GALVANIZED METAL FRAMING FOR MAST SUPPORT W/ PIPE CLAMPS, SPACED 36" MIN AS REQUIRED

3/4" GALVANIZED RIGID CONDUIT

TYPE LB CONDUIT BODY

#6 BARE COPPER BONDING CONDUCTOR

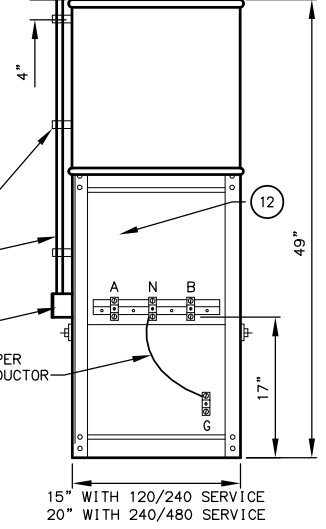
PHOTO CELL TYPICAL (INSTALL TO AVOID HINGED COVER IN ALL POSITIONS)

TWIST LOCK RECEPTACLE

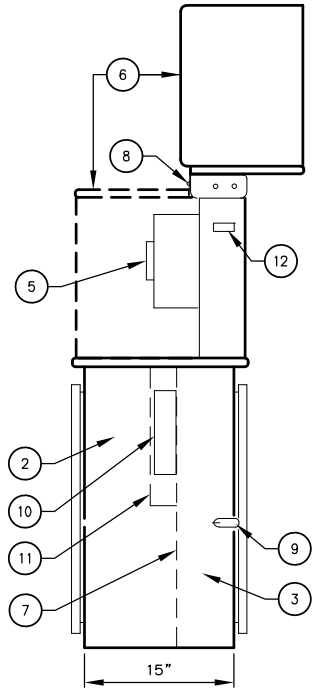
REDUCTION BUSHING 1" TO 1/2"

1" TYPE CC CONDUIT BODY (VOL. 12 IN.³)

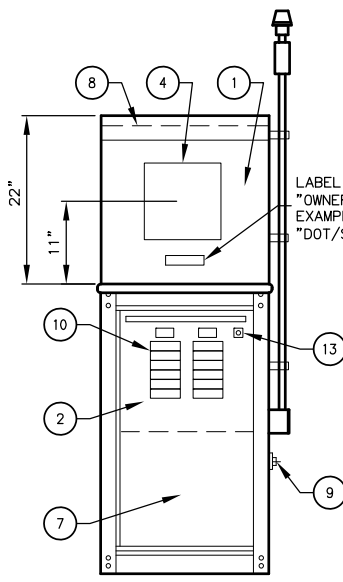
REDUCTION BUSHING 3/4" TO 1"



REAR VIEW
(W/ DOOR REMOVED)



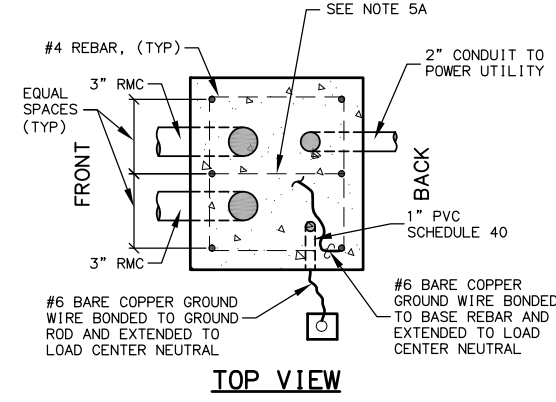
RIGHT SIDE VIEW
(W/ METER SECTION OPEN)



FRONT VIEW
(W/ DOOR REMOVED)

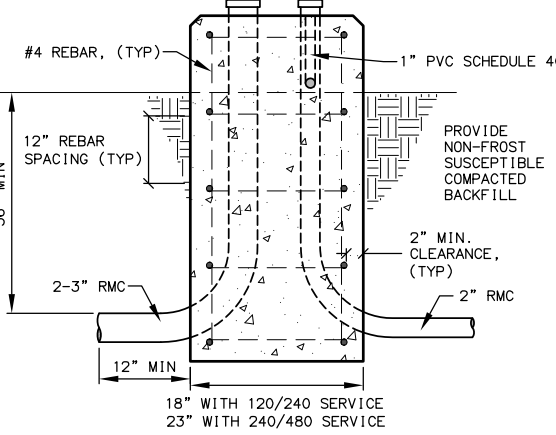
TYPE 1A CABINET DETAILS

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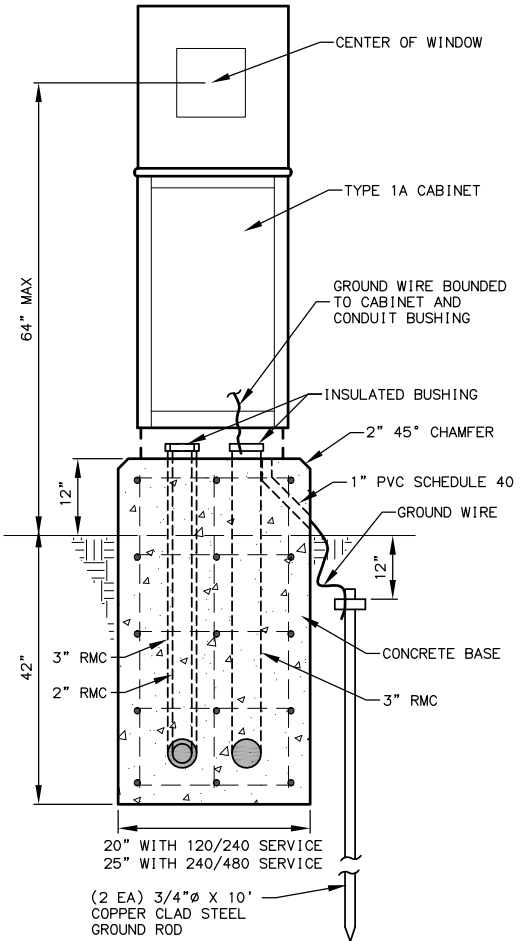


TOP VIEW

PROVIDE "J" ANCHOR BOLTS AS REQUIRED TO MOUNT LOAD CENTER CABINET IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS



RIGHT SIDE VIEW



FOUNDATION DETAILS

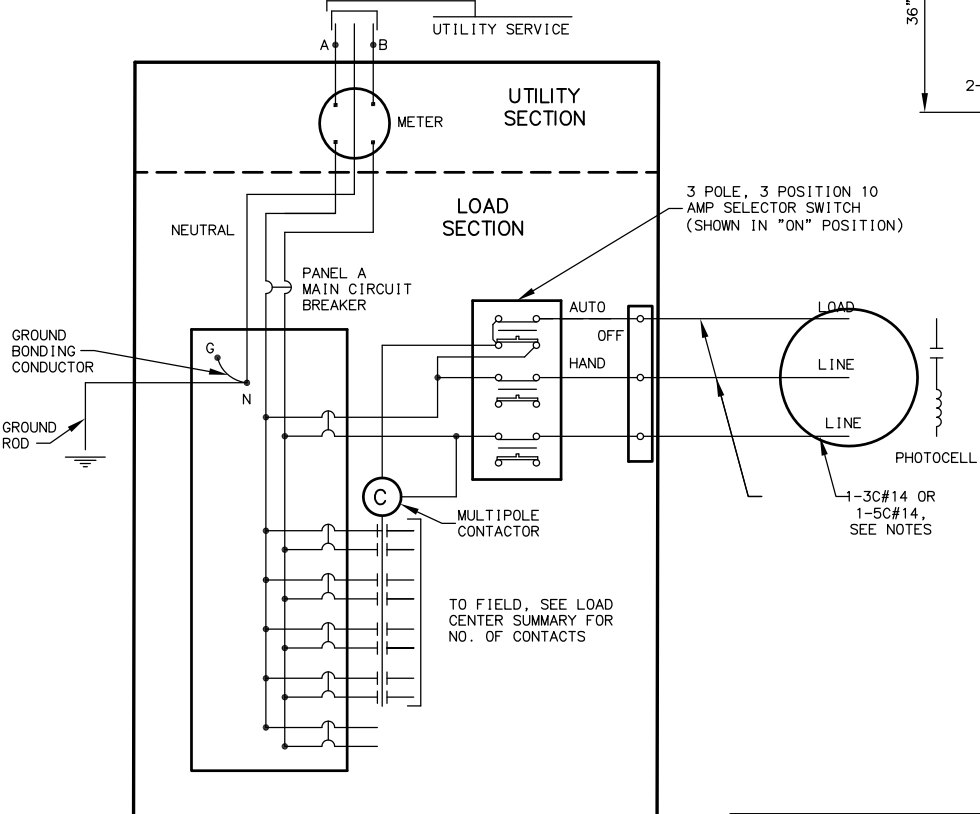
FOUNDATION NOTES:

- GRADE AWAY FROM THE BASE WITH A MINIMUM SLOPE OF 3%. USE A PRE-MOULDED BITUMINOUS JOINT BETWEEN THE BASE AND CONCRETE SIDEWALK OR PAVING, WHEN ADJACENT TO A SIDEWALK OR PATHWAY.
- PROVIDE ANCHOR BOLTS OR EXPANSION ANCHORS IN THE BASE FOR MOUNTING THE CABINET PER THE MANUFACTURER'S SHOP DRAWINGS. ANCHOR BOLTS, NUTS, AND WASHERS SHALL CONFORM TO EITHER ASTM A307 OR A449 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
- USE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM 615 AND CLASS "A" CONCRETE CONFORMING TO SECTION 501 OF THE SPECIFICATIONS WHEN CASTING THE BASE.
- IF THE BASE IS PRECAST, INSTALL TWO 3/4" FERRULE LOOP INSERTS IN TWO SIDES OPPOSITE ONE ANOTHER FOR LIFTING.

PLANS-IN-HAND AUGUST 2016

WIRING NOTES:

- FURNISH ALL EQUIPMENT NOTED IN THE LOAD CENTER SUMMARY, PLUS TWO 20-AMP 2-POLE SPARE CIRCUIT BREAKERS, AND SPACE FOR A MINIMUM OF TWO ADDITIONAL 2-POLE CIRCUIT BREAKERS IN EACH LOAD PANEL. SEE THE LOAD CENTER SUMMARIES FOR LOAD PANEL VOLTAGES, CURRENT RATINGS, AND THE NAME OF THE SERVING UTILITY.
- INSTALL GROUNDING HUBS THIRD PARTY CERTIFIED FOR WET LOCATIONS (MYERS TYPE), WHEN ATTACHING CONDUITS TO THE LOAD CENTER ENCLOSURE.
- LABEL ALL CIRCUIT BREAKERS AS TO FUNCTION AND POSITION. LABEL THE SELECTOR SWITCH "LIGHTING" AND ITS POSITIONS "ON-OFF-AUTO".
- METER BASES SHALL NOT BE MOUNTED ON MOVABLE PANELS OR DOORS.
- THE LENGTH AND TYPE OF SERVICE ENTRANCE CONDUIT INSTALLED BY THE CONTRACTOR VARIES BY UTILITY. REGARDLESS OF ITS LENGTH, INSTALL A PULL ROPE IN THE SERVICE CONDUIT AND A CAP ON THE BURIED END: MARK THE BURIED END WITH A 2"x 6" STAKE. SEE THE LOAD CENTER SUMMARIES FOR THE FOLLOWING INFORMATION.
 - STATION AND OFFSET OF THE LOAD CENTER AND POWER SOURCE.
 - WHERE THE CONTRACTOR TERMINATES THE SERVICE ENTRANCE CONDUIT.
 - THE TYPE OF SERVICE ENTRANCE CONDUIT (SUCH AS RIGID METAL CONDUIT OR LIQUID-TIGHT FLEXIBLE METAL CONDUIT).
- STORE A SCHEMATIC DIAGRAM, A CIRCUIT DIRECTORY, AND A MATERIALS LIST THAT INCLUDES THE MANUFACTURER'S NAME AND PART/CATALOG NUMBERS, ALL LAMINATED IN PLASTIC, IN A METAL POCKET ATTACHED TO THE INSIDE OF THE LOAD CENTER. INSTALL THE POCKET ON THE LOAD CENTER DOOR, PROVIDING DRAIN HOLES TO PREVENT WATER ACCUMULATION.
- SIZE THE DISTRIBUTION PANEL TO ACCOMMODATE THE CIRCUITS SHOWN ON THE LOAD CENTER SUMMARIES AND SPARE CIRCUITS AS DEFINED IN NOTE 1.
- SEPARATE THE MAIN CIRCUIT BREAKER FROM THE DISTRIBUTION PANEL.
- MOUNT PHOTOCELL RECEPTACLE TO 1/2" CONDUIT WITH SILICONE SEALANT. INSTALL A 3C#14 CABLE FROM THE LOAD CENTER TO THE TYPE CC CONDUIT BODY WHERE THE SPLICE TO THE PHOTOCELL RECEPTACLE CABLE SHALL BE MADE. IF PLANS CALL TO MOUNT PHOTOCELL AWAY FROM LOAD CENTER USE A 5C#14 CABLE FROM LOAD CENTER TO RECEPTACLE.



LOAD CENTER ONE LINE DIAGRAM AND SELECTOR SWITCH WIRING

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PLANS DEVELOPED BY:
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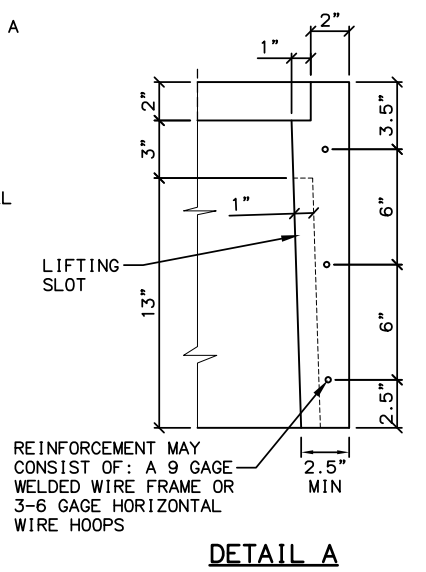
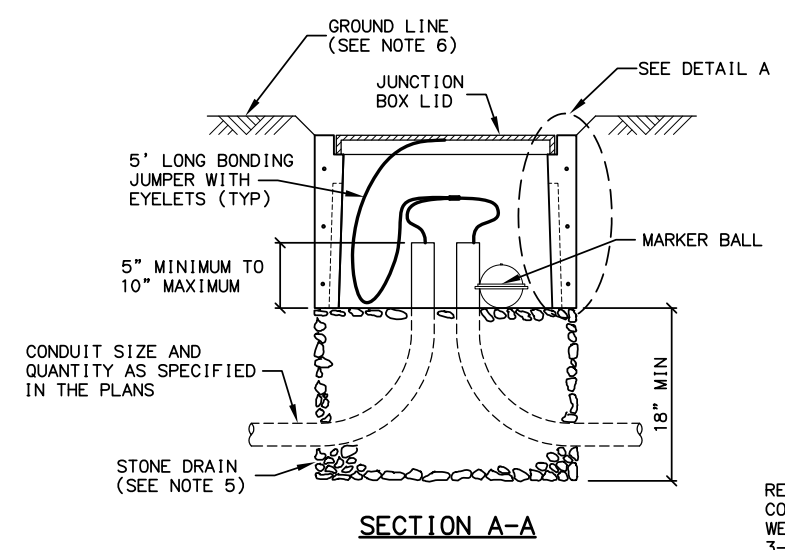
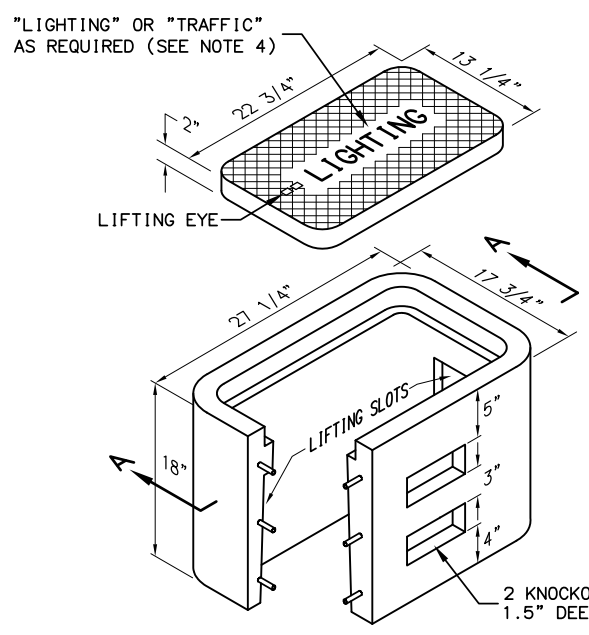
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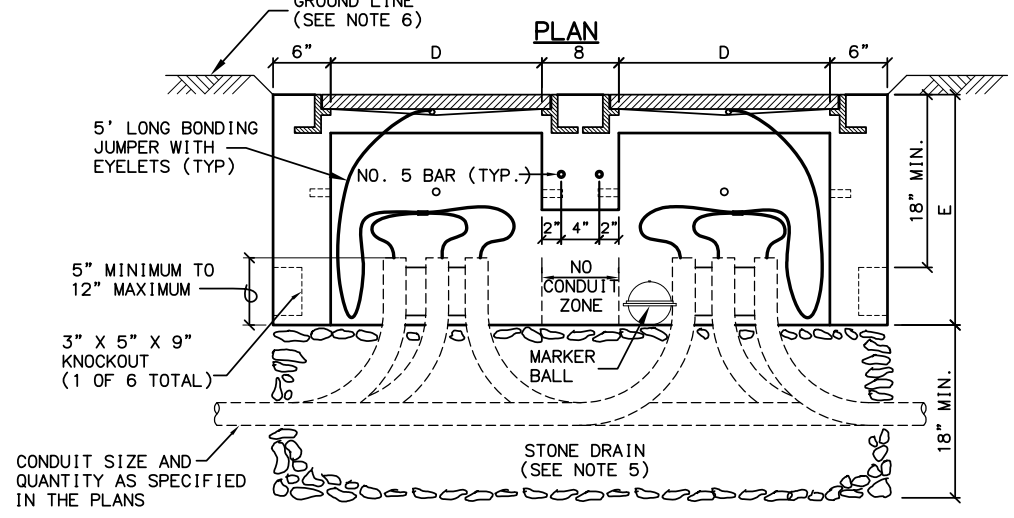
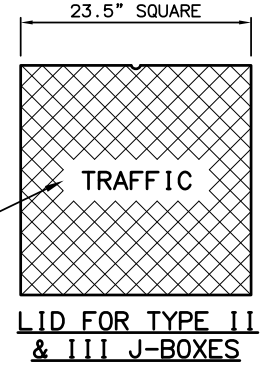
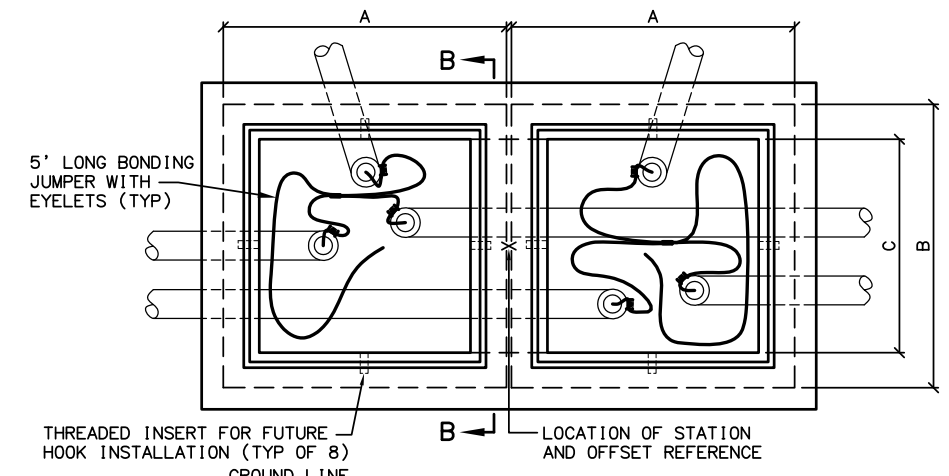
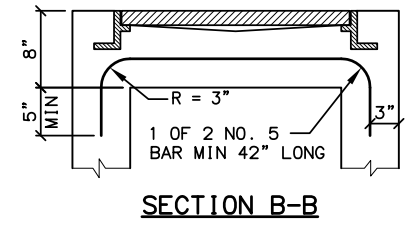
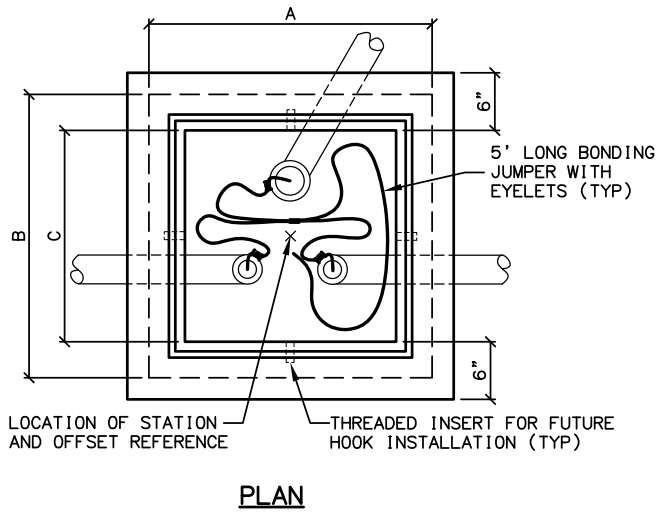
TYPE 1A LOAD CENTER

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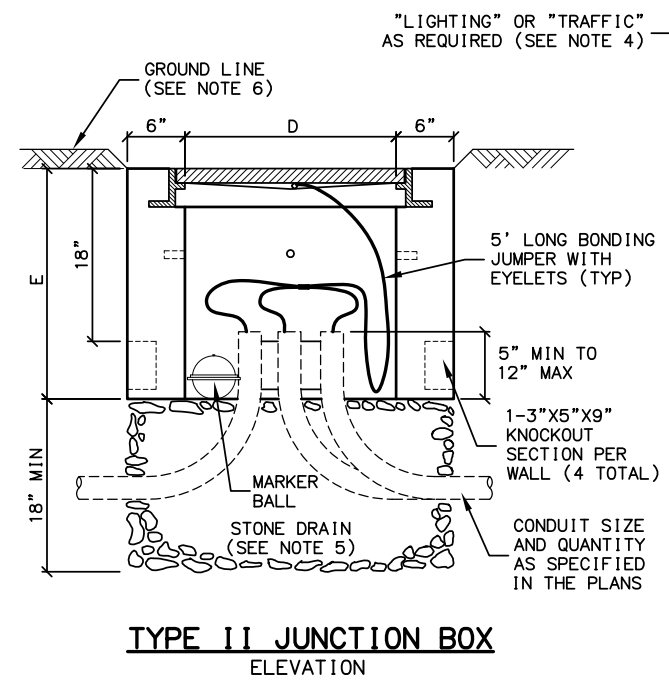
- NOTES:**
- AVOID INSTALLING TYPE IA JUNCTION BOXES IN DRIVEWAYS OR IN LOCATIONS SUBJECT TO USE BY HEAVY TRUCKS. INSTALL JUNCTION BOXES ONLY AT THE LATERAL LOCATIONS ALLOWED IN SUBSECTION 660-3.04.
 - FURNISH TYPE II, III AND IV JUNCTION BOXES WITH CAST IRON FRAMES AND LIDS THAT WEIGH A MINIMUM OF 210 POUNDS AND ARE RATED FOR HEAVY TRAFFIC LOADS IN COMPLIANCE WITH AASHTO M306. FURNISH TYPE IA JUNCTION BOXES WITH CAST IRON LIDS THAT WEIGH A MINIMUM OF 50 POUNDS.
 - CONSTRUCT JUNCTION BOXES ACCORDING TO SECTION 501 USING CLASS A CONCRETE. REINFORCE TYPE IA JUNCTION BOXES AS SHOWN. SYNTHETIC STRUCTURAL FIBER-REINFORCED CONCRETE THAT MEETS ASTM C 1116 AND CONTAINS FIBER IN PROPORTIONS AS RECOMMENDED BY THE FIBER MANUFACTURER MAY BE ADDED FOR STRENGTH.
 - FOR JUNCTION BOXES THAT CONTAIN ILLUMINATION CONDUCTORS EXCLUSIVELY, FURNISH LIDS WITH THE WORD "LIGHTING" INSCRIBED INTO THEM. FOR OTHER JUNCTION BOXES, FURNISH LIDS WITH THE WORD "TRAFFIC" INSCRIBED INTO THEM.
 - UNDER JUNCTION BOXES, INSTALL STONE DRAINS THAT CONSIST OF POROUS BACKFILL MATERIAL CONFORMING TO SUBSECTION 703-2.10.
 - SET THE TOPS OF JUNCTION BOXES WITH THE FOLLOWING DIMENSIONS BELOW THE FINISHED SURROUNDING SURFACE:
 - 1" IN PAVED MEDIANS AND ADJACENT TO PEDESTRIAN FACILITIES
 - 1/4" IN PEDESTRIAN FACILITIES
 - 2" IN ALL OTHER AREAS
 - BOND JUNCTION BOX LIDS TO THE SYSTEM OF EQUIPMENT GROUNDING CONDUCTORS ACCORDING TO SUBSECTION 660-3.06. ATTACH BONDING JUMPERS TO THE JUNCTION BOX LIDS WITH BRASS OR STAINLESS STEEL HARDWARE.
 - INSTALL LOOP DETECTOR TAILS THROUGH ONE OF THE KNOCKOUTS OF TYPE IA JUNCTION BOXES. AFTER SETTING THE BOXES TO GRADE, INSTALL GROUT IN THE GAPS THAT REMAIN IN THE KNOCKOUT.
 - INSTALL A 1/2" THICK PREFORMED BITUMINOUS JOINT MATERIAL AROUND JUNCTION BOXES INSTALLED IN PORTLAND CEMENT CONCRETE WALKWAYS.
 - INSTALL AN ELECTRONIC MARKER BALL IN ALL JUNCTION BOXES PER SUBSECTION 660-3.04.
 - PRIOR TO INSTALLATION MARK ALL JUNCTION BOX LOCATIONS WITH A WIRE STAFF VINYL FLAG. THE FLAG SHALL BE RED IN COLOR AND MINIMUM 4-INCHES TALL BY 5-INCHES WIDE. THE WIRE STAFF SHALL BE 21-INCHES IN LENGTH AND CONSTRUCTED OF MINIMUM 15.5 GAUGE STEEL.



TYPE IA JUNCTION BOX



J-BOX TYPE	DIMENSIONS				
	A (MAX.)	B (MAX.)	C (MIN.)	D (MIN.)	E (MIN.)
II	29 1/2"	29 1/2"	22"	22"	24"
III	29 1/2"	29 1/2"	22"	22"	24"



PLANS-IN-HAND AUGUST 2016

PLANS DEVELOPED BY:
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PLANS DEVELOPED BY:
EDC, INC.
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STATE OF ALASKA
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JUNCTION BOX

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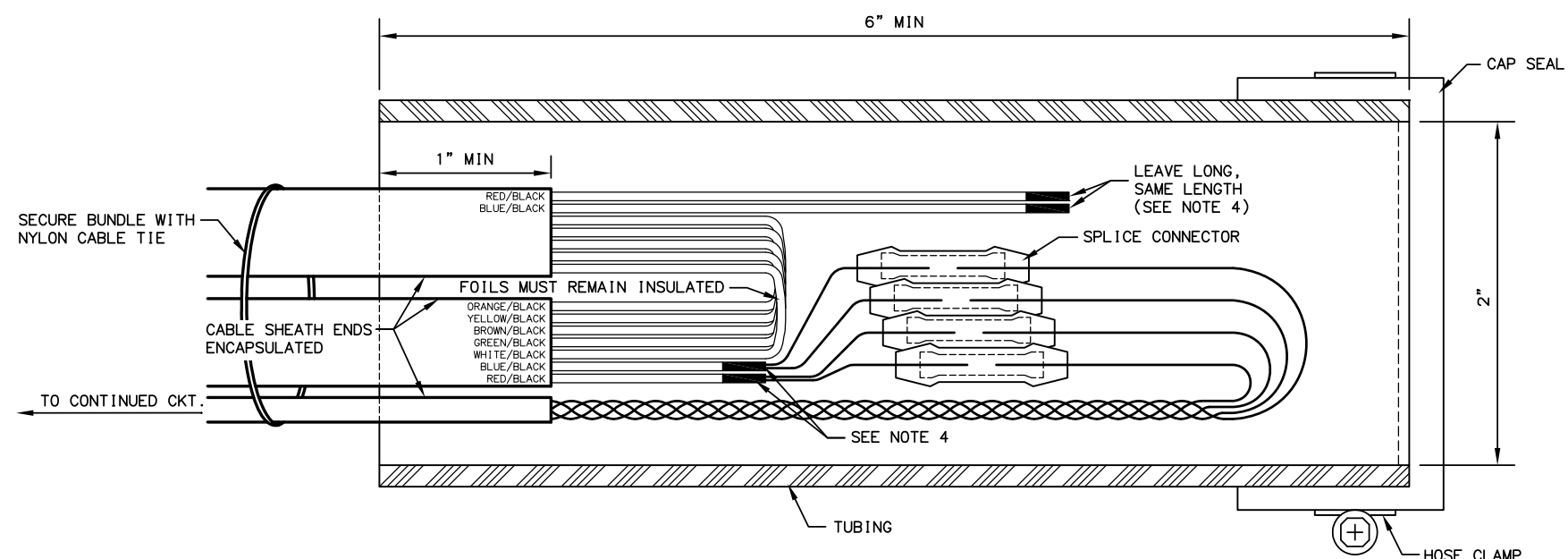
NOTES:

LOOP LEAD-IN SPLICE

1. FABRICATE LOOP LEAD-IN SPLICE IN THE FIELD AS SHOWN.
2. CAP SEAL ONE END AND COMPLETELY FILL OPEN END WITH RE-ENTERABLE ENCAPSULATION COMPOUND TO EDGE OF TUBING.
3. LEAVE A MINIMUM OF 1/2" CLEARANCE BETWEEN THE ENCLOSURE AND THE SPLICE AT BOTH ENDS OF THE TUBING.
4. EXPOSE FOIL AND DRAIN WIRES, SEAL WITH HEAT SHRINK TUBING (TYP.).
5. INSTALL SPLICE CONNECTORS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

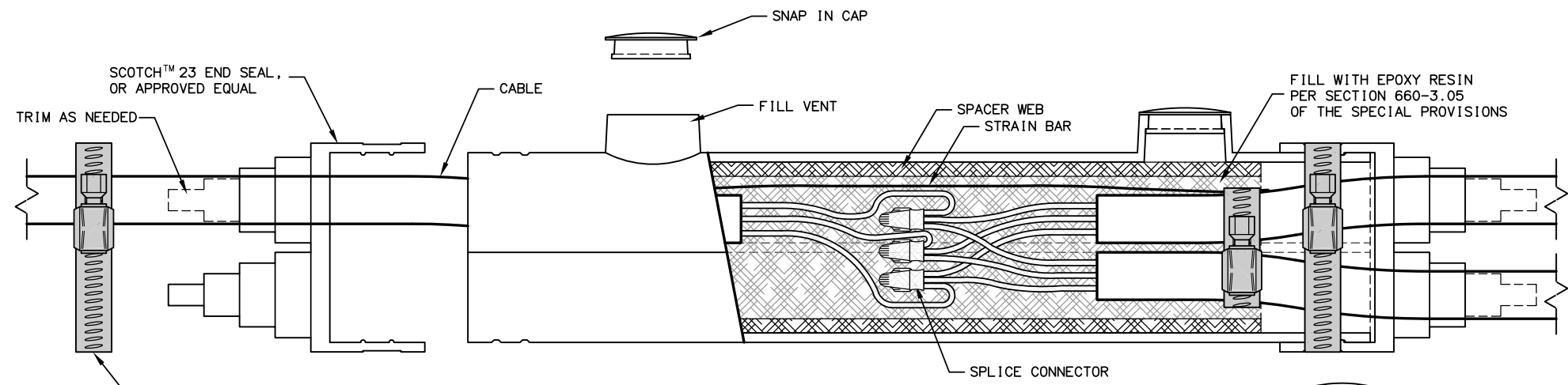
POWER CABLE SPLICE

6. SECURE CABLE/CONNECTOR BUNDLE WITH HOSE CLAMPS AS SHOWN.

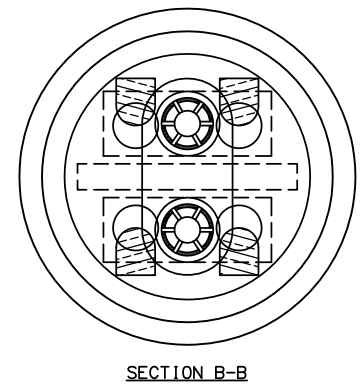
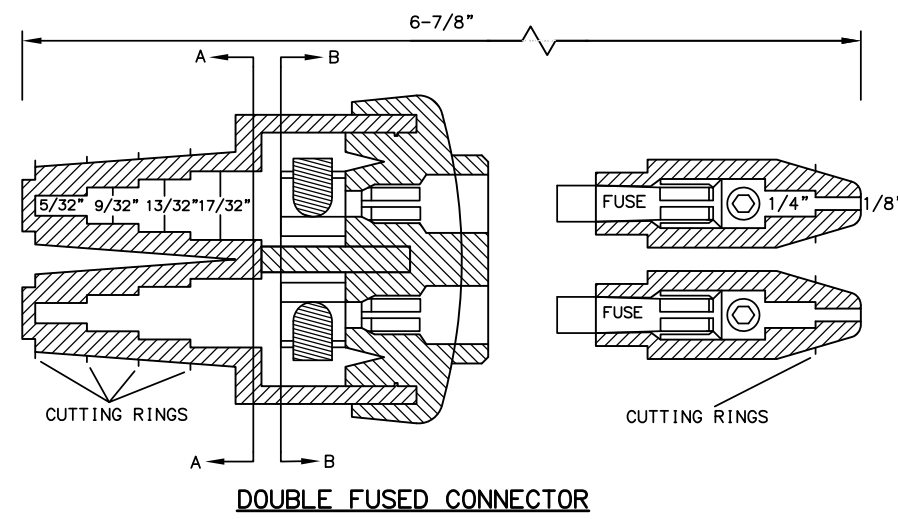
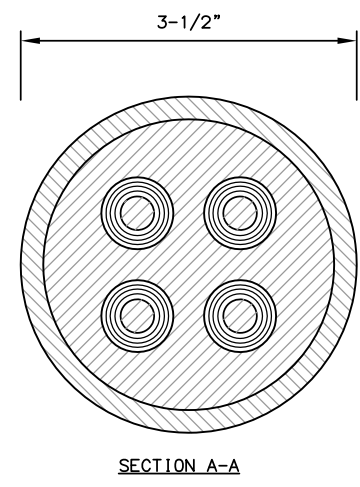


LOOP LEAD-IN SPLICE

MATERIAL PROPERTIES	
LOOP LEAD-IN SPLICE	
TUBING	2" CORE FLOW
CAP SEAL	FERNCO QWIK CAP #QC-102, OR APPROVED EQUAL
HOSE CLAMP	STAINLESS STEEL
SPLICE CONNECTOR	ML56-16, OR APPROVED EQUAL
COMPOUND	RE-ENTERABLE ENCAPSULATION
POWER CABLE SPLICE	
SPLICE KIT	3M MODEL 78R, OR APPROVED EQUAL
SPLICE CONNECTOR	SCOTCHLOCK G, R, OR Y SPRING CONNECTOR, OR APPROVED EQUAL
HOSE CLAMP	(4)- STAINLESS STEEL
EPOXY RESIN	PER SECTION 660-3.05 OF THE SPECIAL PROVISIONS
DOUBLE FUSED CONNECTOR	
DOUBLE FUSED CONNECTOR	SEC-1791-DF-1, OR APPROVED EQUAL
FUSES	(2) - COMPATIBLE 10-AMP



POWER CABLE SPLICE



SECTION B-B

PLANS-IN-HAND AUGUST 2016

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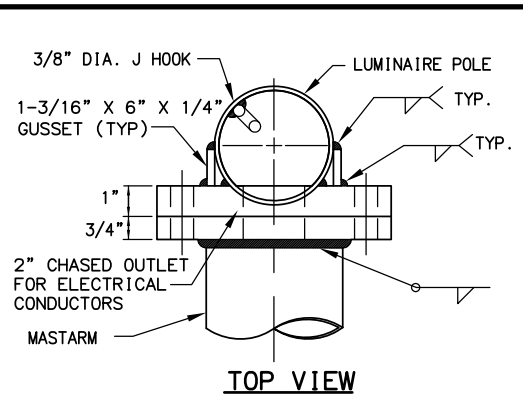
STATE OF ALASKA
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 HSIP: CR TRAFFIC SAFETY
 CORRIDOR LEFT TURN LANES**

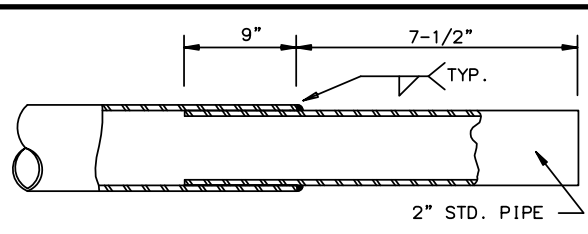
SPLICE DETAILS

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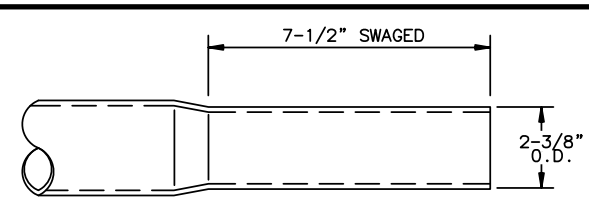
REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
NO.	DATE	DESCRIPTION	ALASKA	0A31056/Z583890000 0001497/Z570880000	2016	H35	H38



TOP VIEW

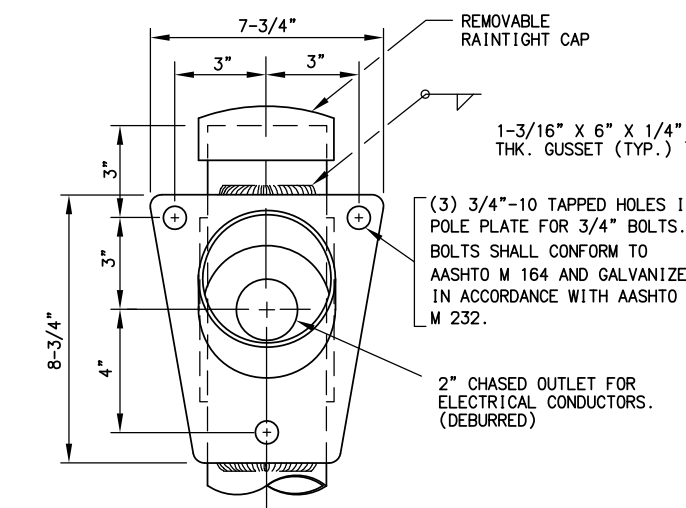


TENON

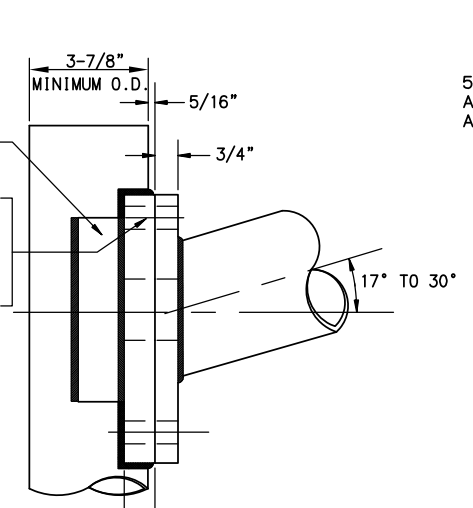


OPTIONAL SWAGED TENON

END OF MASTARM DETAIL

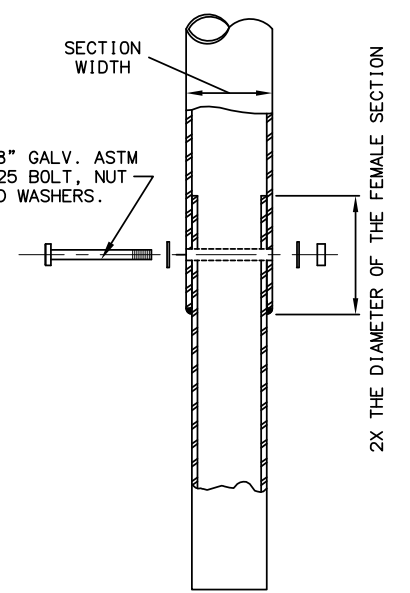


FRONT VIEW

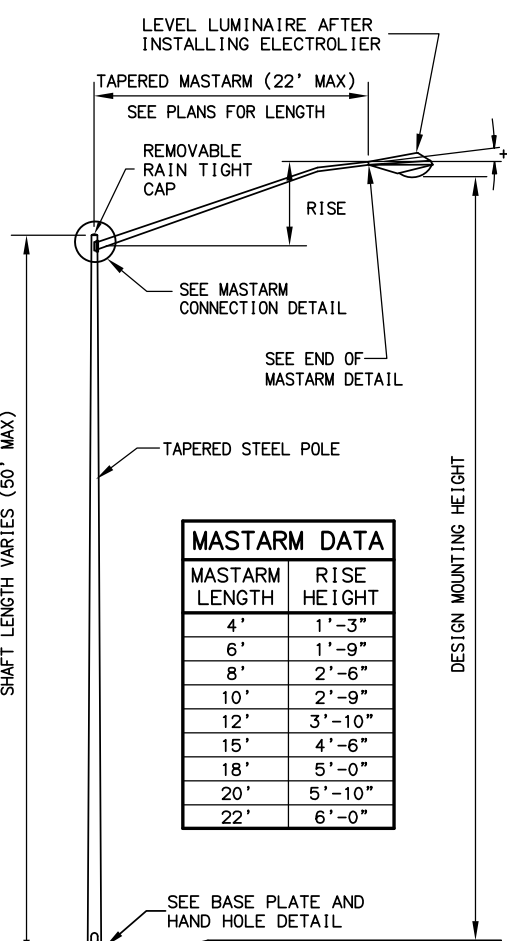


SIDE VIEW

MASTARM CONNECTION DETAIL

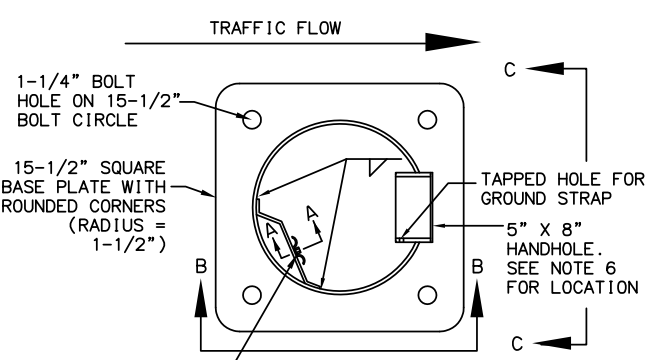


POLE CONNECTION DETAIL

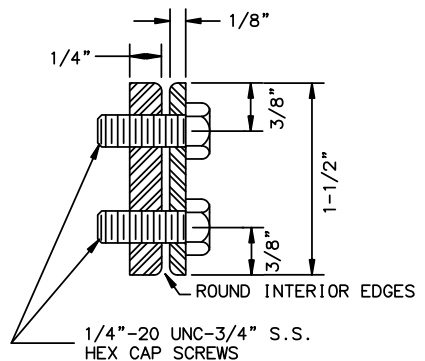


MASTARM DATA	
MASTARM LENGTH	RISE HEIGHT
4'	1'-3"
6'	1'-9"
8'	2'-6"
10'	2'-9"
12'	3'-10"
15'	4'-6"
18'	5'-0"
20'	5'-10"
22'	6'-0"

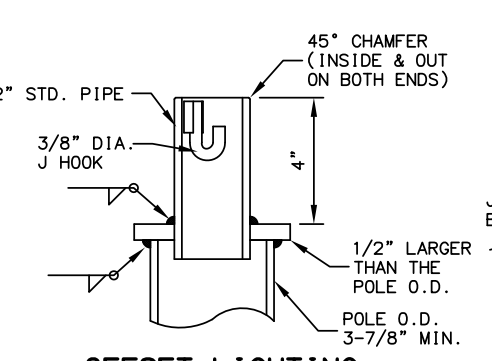
- NOTES:**
- DESIGN AND FABRICATE ALL SHAFTS TO SUPPORT A MASTARM 22 FEET LONG WITH LUMINAIRE. ASSUME EACH LUMINAIRE WEIGHS 55 POUNDS AND HAS AN EFFECTIVE PROJECTED AREA OF 1.2 SQUARE FEET. WITH THIS DEAD LOAD, LIMIT THE ANGULAR ROTATION TO THE POLE TOP 1°40'0" MAXIMUM.
 - WELD SIZE TO BE DETERMINED BY THE MANUFACTURER.
 - MOUNTING HEIGHT, IF SPECIFIED IN THE PLANS, REFERS TO THE HEIGHT OF LUMINAIRE ABOVE THE ROADWAY. ADJUST EACH POLE'S SHAFT LENGTH TO MAINTAIN THIS DIFFERENCE IN ELEVATION WHENEVER SLOPE AND/OR OFFSET VARIES.
 - MINIMUM OUTSIDE DIAMETER AT THE TOP OF POLE EQUALS 3-7/8". POLE DIAMETER SHALL TAPER UNIFORMLY FROM THE TOP OF THE POLE TO THE BASE PLATE, WITH A MAXIMUM TAPER RATE OF 0.14" PER FOOT.
 - APPLY AN ANTI-SEIZING COMPOUND TO ALL THREADED SURFACES, INCLUDING THOSE IN THE ANCHOR PLATE AND ON THE COUPLINGS.
 - MASTARM RISE MAY VARY ±0.5' FROM THE VALUES LISTED IN THE TABLE.
 - LOCATE THE HANDHOLD AT 90 DEGREES TO THE MASTARM ON THE SIDE OF POLE DOWNSTREAM FROM TRAFFIC FLOW.
 - FURNISH ALL POLES WITH A J-HOOK TO SUPPORT THE ILLUMINATION TAP CONDUCTORS. FURNISH ALL MASTARM POLES WITH A REMOVABLE RAIN TIGHT CAP.
 - MOUNT LIGHTING STANDARDS UPON TRANSPO MODEL NO. 5100 FRANGIBLE COUPLINGS AND TRANSPO TYPE B FEMALE ANCHORS, OR APPROVED EQUAL.
 - INSTALL ALL COMPONENTS OF THE BREAKAWAY SUPPORT SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - FABRICATE THE SKIRT FROM FOUR PIECES OF 1/16" THICK 3003 H-14 ALUMINUM SHEET. BEND EACH PLATE TO PROVIDE CORNERS WITH A 3/4" RADIUS. ASSEMBLE THE SKIRT WITH #10 X 3/8" SELF TAPPING STAINLESS SCREWS OR POP RIVETS. THE ASSEMBLED SKIRT MEASURES ABOUT 12-3/4" SQUARE.
 - A JUNCTION BOX IS REQUIRED AT EACH NEW ELECTROLIER. INSTALL THE JUNCTION BOX IMMEDIATELY BEHIND THE FOUNDATION APPROXIMATELY 7' FROM POLE UNLESS OTHERWISE SPECIFIED IN THE PLANS.



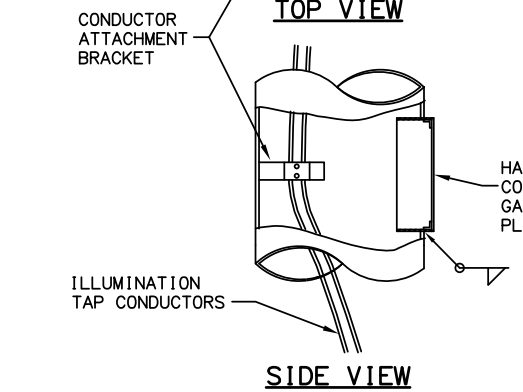
TOP VIEW



SECTION A-A

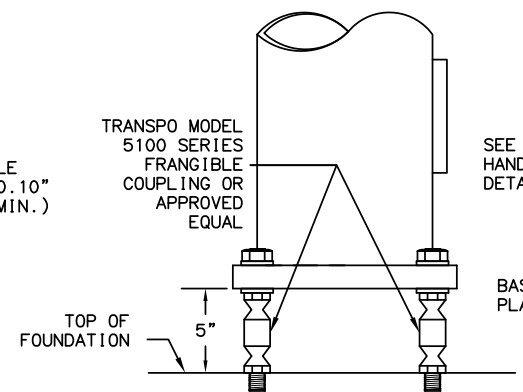


OFFSET LIGHTING STANDARD POLE TOP DETAIL (CUTAWAY FOR CLARITY)

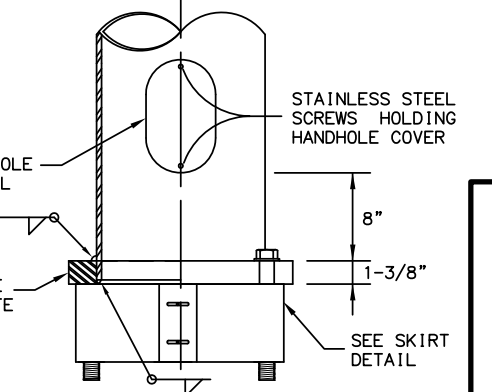


SIDE VIEW

BASE PLATE AND HAND HOLE DETAIL



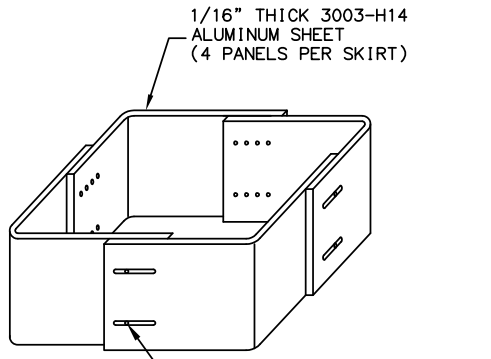
VIEW B-B



VIEW C-C

PLANS DEVELOPED BY:
 R&M CONSULTANTS, INC.
 9101 VANGUARD DRIVE
 ANCHORAGE, AK 99507
 (907) 522-1707
 CERT. OF AUTH. NO. AECC111

PLANS DEVELOPED BY:
 EDC, INC.
 213 WEST FIREWEED LANE
 ANCHORAGE, AK 99503
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 CERT. OF AUTH. NO. AECC705



SKIRT DETAIL

PLANS-IN-HAND AUGUST 2016

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES

**SEWARD HWY: MP 100-105
 IMPROVEMENTS &
 HSIP: CR TRAFFIC SAFETY
 CORRIDOR LEFT TURN LANES**

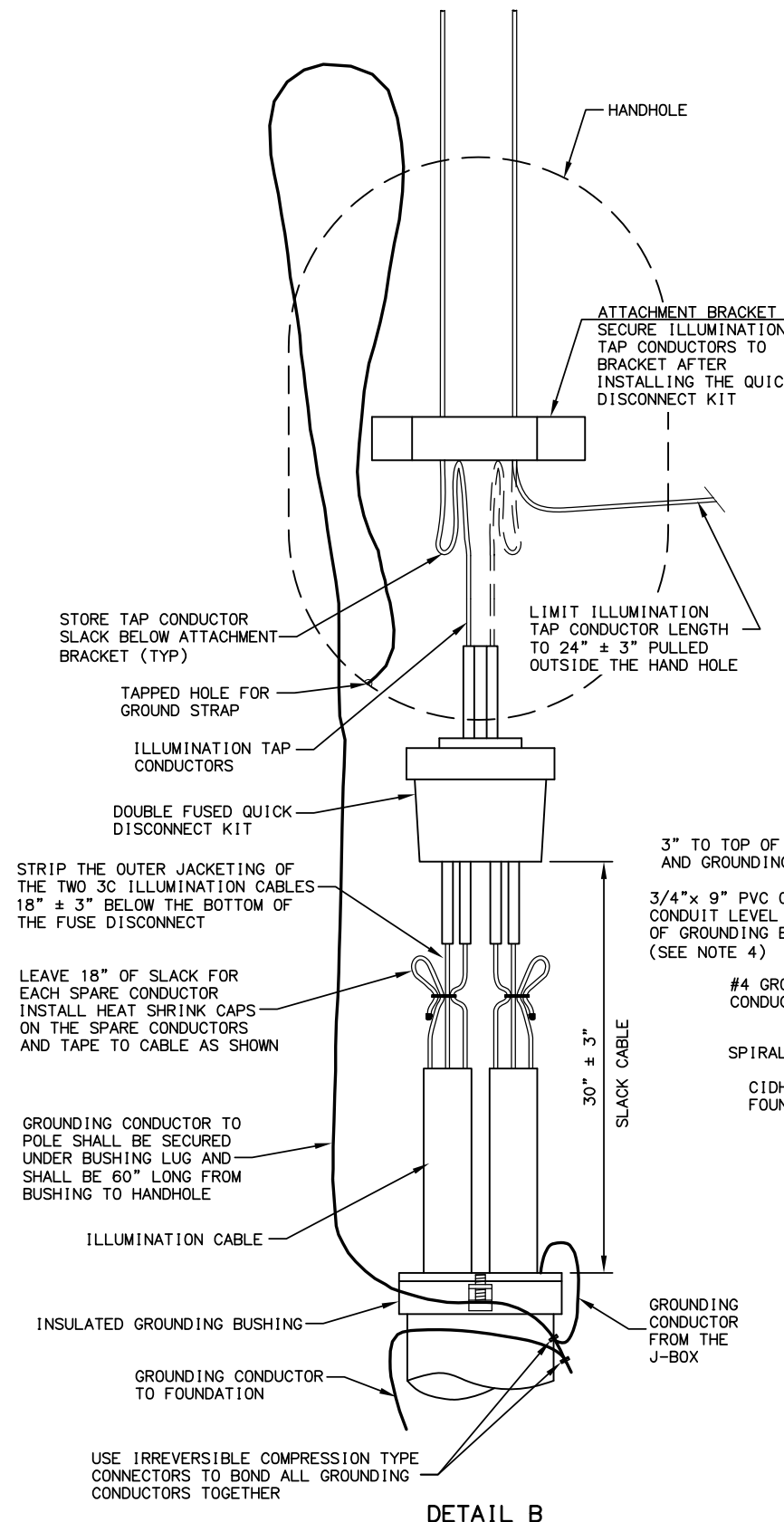
LIGHTING STANDARD

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
NO.	DATE	DESCRIPTION	ALASKA	0A31056/Z583890000 0001497/Z570880000	2016	H36	H38

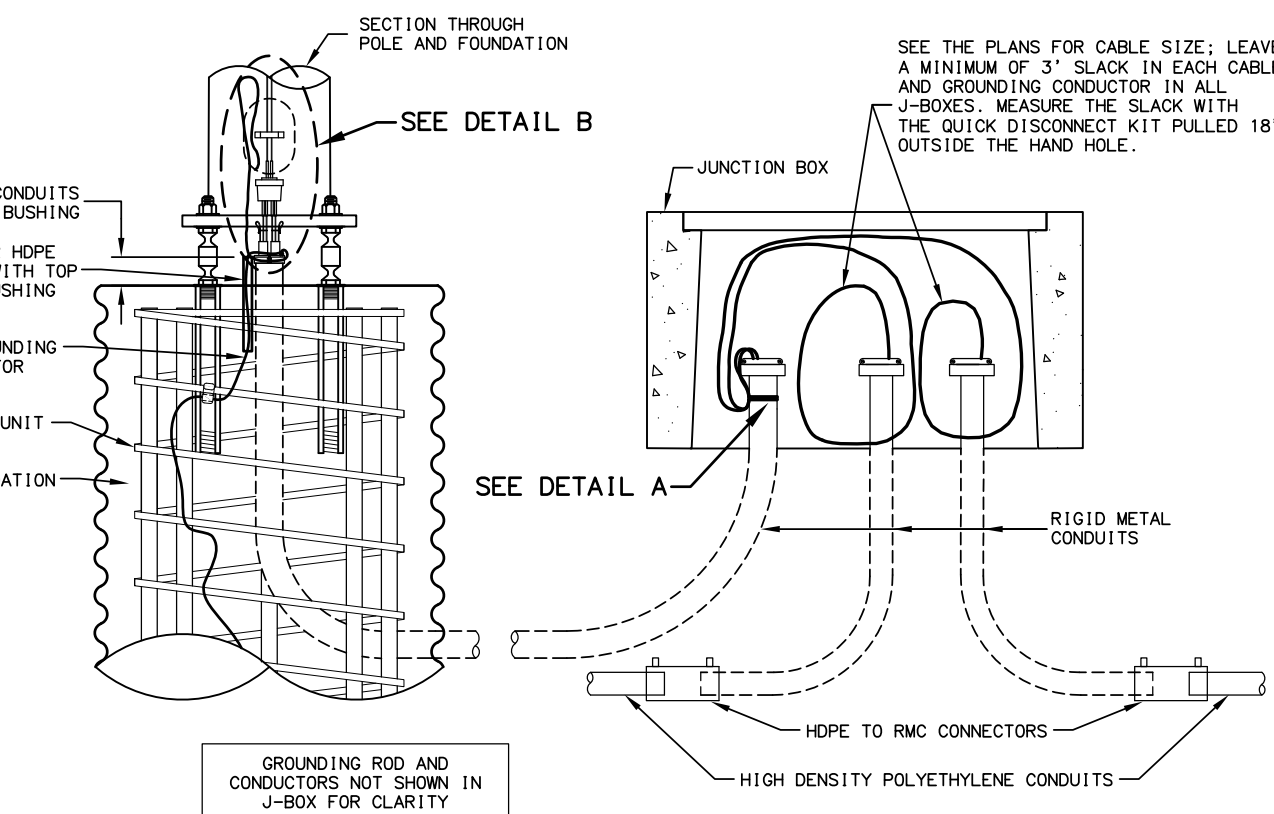
NOTES:

- APPLICATION FOR SLIP BASE IS THE SAME EXCEPT FOR BONDING. SEE SUBSECTION 660-3.06 FOR BONDING.
- LABEL ALL CABLES AND CONDUCTORS IN POLE BASE AND J-BOX. SEE SUBSECTION 660-3.05.
- MAKE ALL GROUNDING AND BONDING WIRE #8 AWG, EXCEPT IN THOSE CONDUITS THAT CONTAIN CIRCUIT CONDUCTORS LARGER THAN #8 AWG. IN THIS CASE USE WIRE EQUAL IN SIZE TO THE LARGEST CONDUCTOR. THE GROUNDING CONDUCTOR TO THE FOUNDATION SHALL BE #4 AWG.
- USE LISTED IRREVERSIBLE COMPRESSION TYPE CONNECTORS SIZED FOR EACH APPLICATION AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.
- PROTECT GROUND WIRE WITH 3/4 INCH PVC OR HDPE CONDUIT TO 6 INCHES BELOW TOP OF FOUNDATION FILLED WITH SILICONE SEALANT.

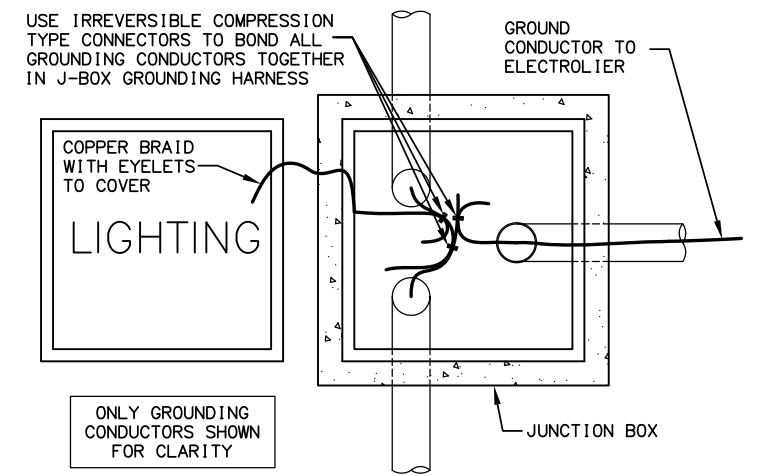
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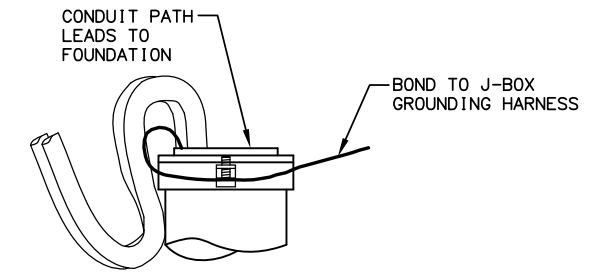
DETAIL B



LIGHTING SYSTEM POLE AND J-BOX WIRING DETAILS



GROUNDING CONDUCTOR BONDING CONNECTIONS



DETAIL A

PLANS-IN-HAND AUGUST 2016

PLANS DEVELOPED BY:
 R&M CONSULTANTS, INC.
 9101 VANGUARD DRIVE
 ANCHORAGE, AK 99507
 (907) 522-1707
 CERT. OF AUTH. NO. AECC111

PLANS DEVELOPED BY:
 EDC, INC.
 213 WEST FIREWEED LANE
 ANCHORAGE, AK 99503
 (907) 257-0601
 CERT. OF AUTH. NO. AECC705



STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES

**SEWARD HWY: MP 100-105
 IMPROVEMENTS &
 HSIP: CR TRAFFIC SAFETY
 CORRIDOR LEFT TURN LANES**

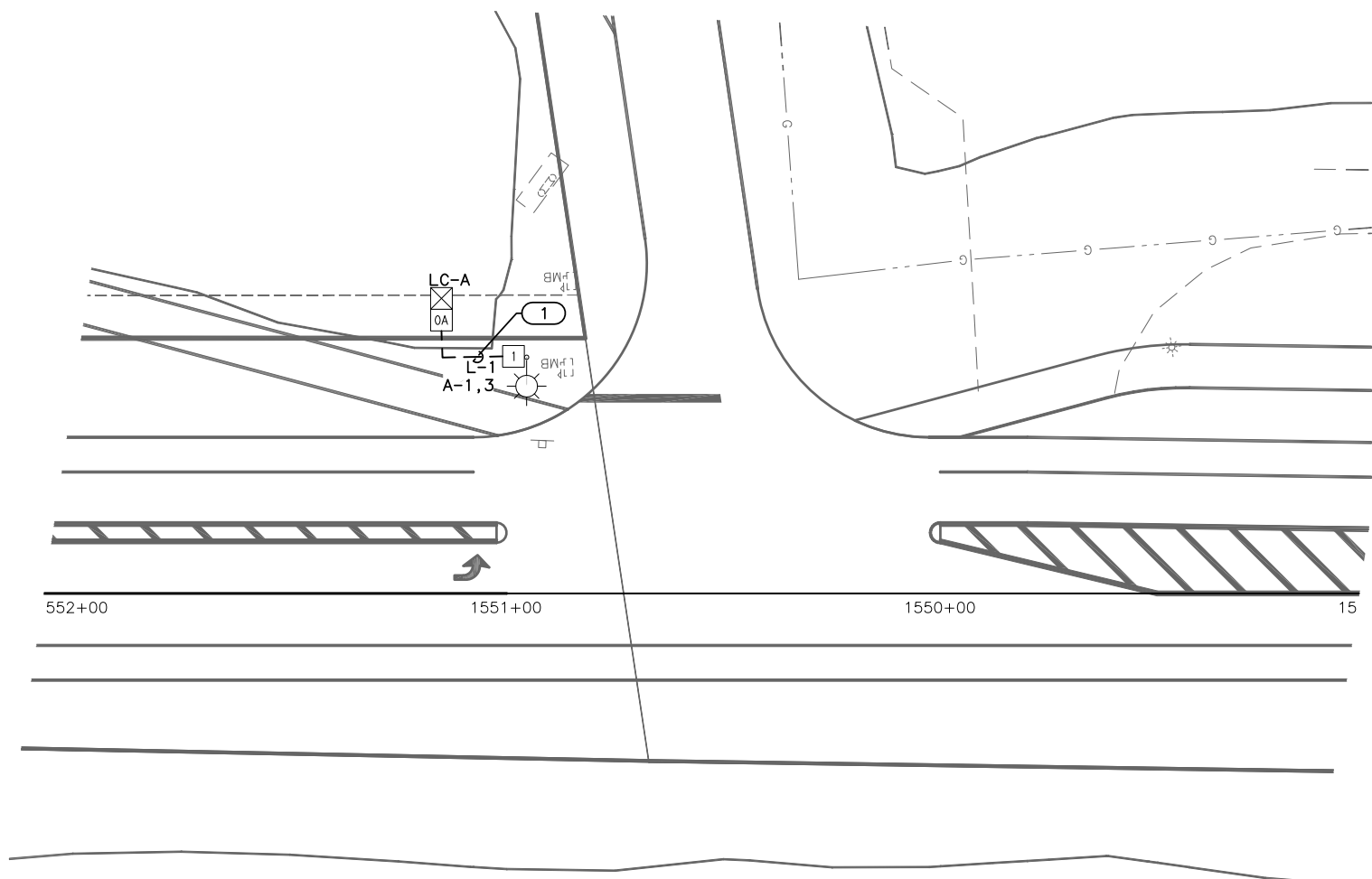
POLE WIRING AND GROUNDING

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
NO.	DATE	DESCRIPTION	ALASKA	0A31056/Z583890000 0001497/Z570880000	2016	H37	H38

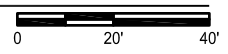
LUMINAIRE SCHEDULE	
MANUFACTURER	GE OR APPROVED EQUAL
MODEL	M400A-PLUS OR APPROVED EQUAL
WATTAGE	250
LIGHT SOURCE	HPS
VOLTAGE	240
BALLAST TYPE	MAG-REG
PE CONTROL	NONE
IGNITOR MOUNTING	PLUG-IN
LENS TYPE	FLAT GLASS
IES DISTRIBUTION TYPE	MC3
FILTER	CHARCOAL W/ ELASTOMER GASKET
UL LISTED	YES

LAMP SCHEDULE	
MANUFACTURER	SYLVANIA OR APPROVED EQUAL
MODEL	LU250 OR APPROVED EQUAL
BULB	ET18
BASE	E39
ANSI SPEC NUMBER	S50
LAMP FINISH	CLEAR
OPERATING POSITION	UNIVERSAL
AVERAGE RATED LIFE	24,000 HOURS
INITIAL LUMENS	29,000
MEAN LUMENS	26,100
CRI	22
CCT	2100

LUMINAIRE PERFORMANCE CRITERIA	
POLE TYPE	MAST ARM
LUMINAIRE TYPE	M-C-3
LAMP	HPS
WATTAGE	250
STYLE	COBRA HEAD
ARM LENGTH	22 FT
AIMING ANGLE	0
NUMBER OF LANES	3
LANE WIDTH	12 FT
MEDIAN WIDTH	4 FT
MOUNTING HEIGHT	35 FT
SPACING	N/A
SETBACK (EOTW)	26 FT
LIGHT LOSS FACTOR	0.85
AVERAGE LUMINANCE	N/A
UNIFORMITY (AVE/MIN)	N/A
VEILING LUMINANCE	N/A



1 ILLUMINATION PLAN - STA 1552+00 TO 1549+00
H37 SCALE: 1"=20'-0"



SUMMARY OF LOAD CENTER LC "A"									
LOAD CENTER TYPE:	1A (SOA)								
SERVING UTILITY:									
SERVICE CONDUIT TYPE:	RIGID METAL CONDUIT								
LOCATION DATA									
LOAD CENTER:	SEWARD HIGHWAY AND BORETIDE ROAD								
POWER SOURCE:	NEW LINE EXTENSION								
PHOTOELECTRIC CONTROL:	AT LOAD CENTER								
SERVICE VOLTAGE:	1 PHASE, 3 WIRE, 120/240V WITH GROUNDED NEUTRAL								
PROVIDE METER SOCKET:	YES								
MAIN BREAKER A:	240 VOLT, 2-POLE, 100 AMPERES								
CONTACTOR:	600V, 6-POLE								
AIC RATING:	10,000A								
PANEL A									
POLE	AMP TRIP	DESCRIPTION	POLE KVA	AØ	BØ	POLE KVA	DESCRIPTION	AMP TRIP	POLE
1	20/2	LIGHTING	0.1	0.2	0.1	0.1	PHOTOCELL	15/2	2
3			0.1		0.2	0.1			4
5			0.0	0.0		0.0			6
7	20/2	SPARE	0.0		0.0	0.0			8
9			0.0	0.0		0.0			10
11	20/2	SPARE	0.0		0.0	0.0			12
13			0.0	0.0		0.0			14
15			0.0		0.0	0.0			16
17			0.0	0.0		0.0			18
* CIRCUIT THROUGH CONTACTOR			0.2	0.2			TOTAL KVA	0.4	
							AMPS	1.7	

SHORT CIRCUIT CALCULATION - LC-A	
240V AC IN A 1-PH, 3W CONFIGURATION WITH A POWER-FACTOR OF 1.00, 1 CONDUCTOR PER PHASE.	
TRANSFORMER RATING	25KVA
VOLTAGE	120/240V
TRANSFORMER IMPEDANCE	1.2%
LET-THRU SHORT CIRCUIT CURRENT	8,681A
LENGTH TO FAULT	40FT
SERVICE CONDUCTOR SIZE	1/0 AWG ALUMINUM
CONDUIT	NON-METALLIC
LINE-LINE FAULT	5,805A
LINE-NEUTRAL FAULT	5,236A

WIRING SCHEDULE		
TAG	CONDUIT	WIRE
1	2" RMC	1-3C#8

JUNCTION BOX SCHEDULE			
JBOX	STATION ALIGNMENT 'C'	OFFSET	TYPE
0A	"L" 1551+15.0	63.0' RT	1A
1	"L" 1550+98.4	54.6' RT	1A

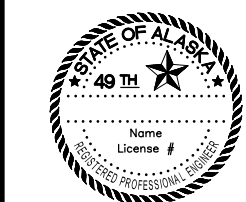
LOAD CENTER STATIONING			
LC "A"	STATION ALIGNMENT	OFFSET	TYPE
"L" 1551+15.0	"L" 1551+15.0	68.0' RT	1A

ELECTROLIER SCHEDULE								
POLE NO.	STATION ALIGNMENT	OFFSET	DISTRIBUTION TYPE	LAMP WATTS	BALLAST VOLTAGE	MOUNTING HEIGHT	MASTARM LENGTH	REMARKS
L-1	"L" 1550+95.4	54.4' RT	M-C-3	250	240	35'	22'	

PLANS-IN-HAND AUGUST 2016

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DRIVE
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

PLANS DEVELOPED BY:
EDC, INC.
213 WEST FIREWEED LANE
ANCHORAGE, AK 99503
(907) 257-0601
CERT. OF AUTH. NO. AECC705

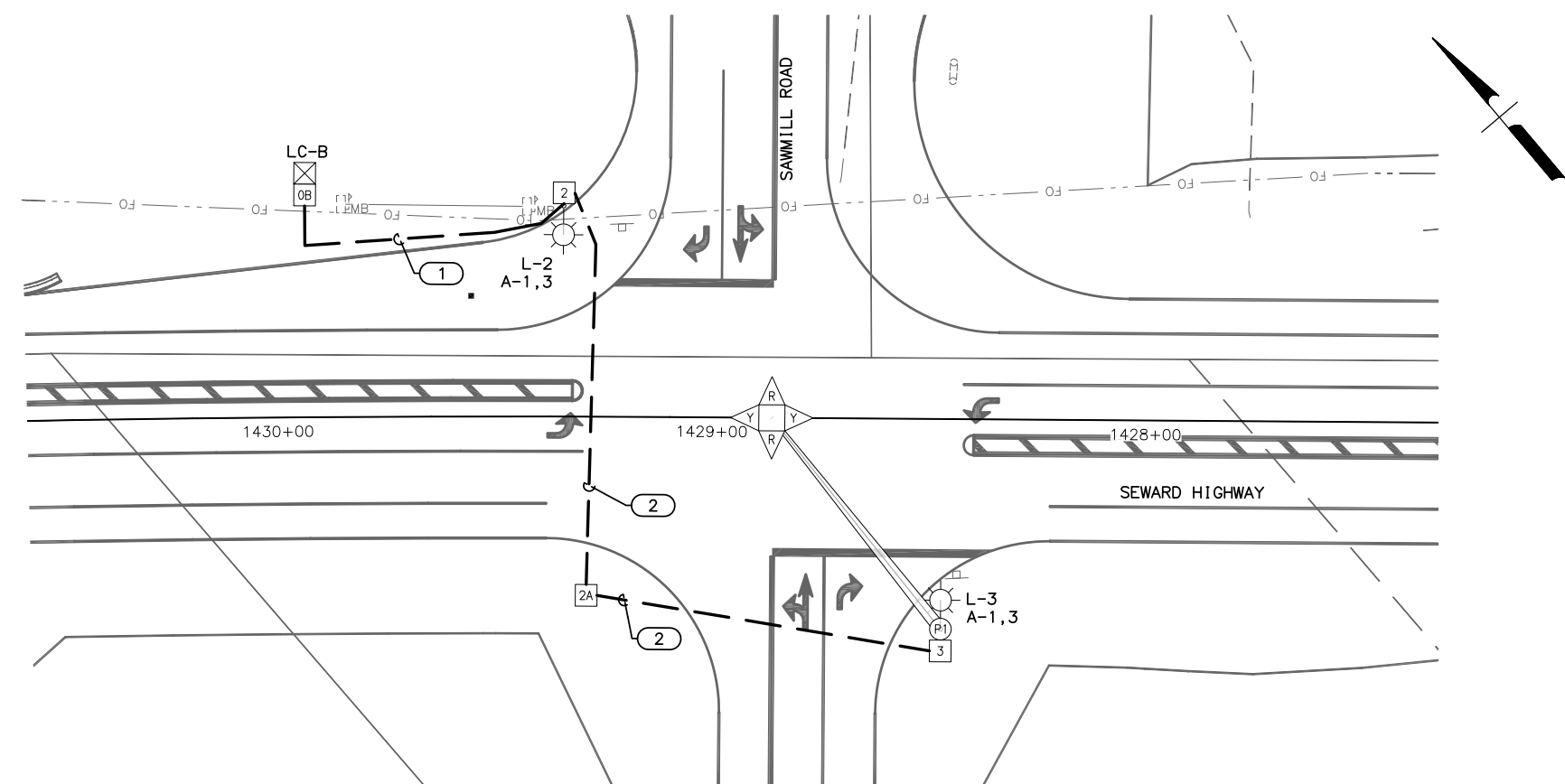


STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

**SEWARD HWY: MP 100-105
IMPROVEMENTS &
HSIP: CR TRAFFIC SAFETY
CORRIDOR LEFT TURN LANES
SEWARD HIGHWAY AND BORETIDE
ROAD ILLUMINATION PLAN**

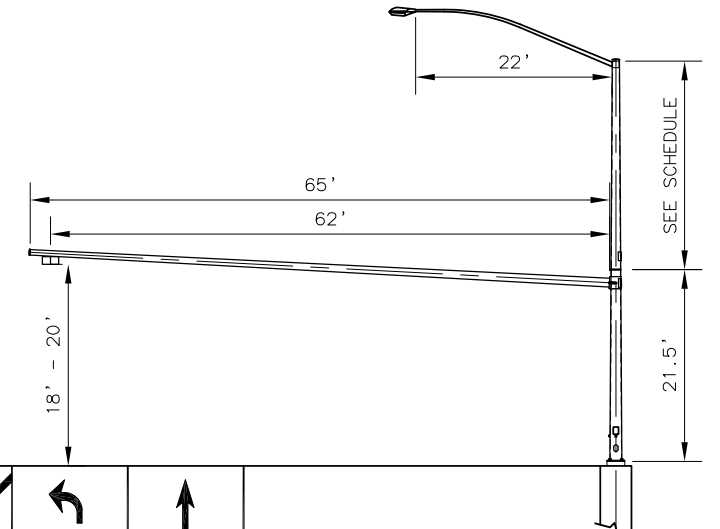
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REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
NO.	DATE	DESCRIPTION	ALASKA	0A31056/Z583890000 0001497/Z570880000	2016	H38	H38



- NOTES:**
- INSTALL 12-INCH TRAFFIC SIGNAL HEADS ON MASTARM. INSTALL A 6-POSITION TERMINAL BLOCK IN EACH SIGNAL HEAD.
 - WIRE RED SIGNAL HEADS WITH A SINGLE 1-3C#14 AND YELLOW SIGNAL HEADS WITH A SECOND 1-3C#14. RED SIGNAL HEADS SHALL BE WIRED INTO ONE CIRCUIT AND YELLOW SIGNAL HEADS INTO THE SECOND CIRCUIT OF DUAL CIRCUIT "MUSHROOM" FLASHER.
 - INSTALL A DUAL CIRCUIT "MUSHROOM" FLASHER IN BOTTOM OF 4-WAY SIGNAL HEAD FRAME ASSEMBLY HOUSING. CONNECT TO LOAD CENTER USING 1-3C#8 AS SHOWN.

1 ILLUMINATION PLAN - STA 1430+50 TO 1427+25
H38 SCALE: 1"=20'-0"



WIRING SCHEDULE

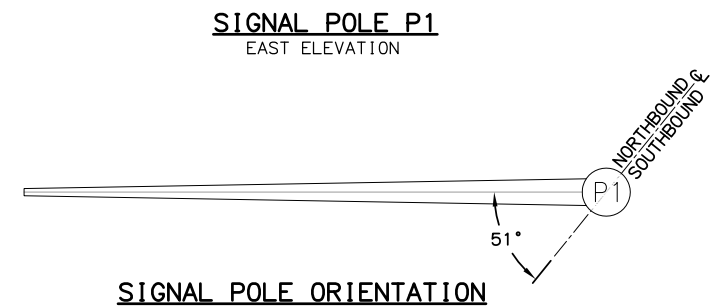
TAG	CONDUIT	WIRE
1	2" RMC	2-3C#8
2	3" RMC	2-3C#8

JUNCTION BOX SCHEDULE

JBOX	STATION ALIGNMENT	OFFSET	TYPE
0B	"L" 1429+93.6	51.2' RT	1A
2	"L" 1429+34.3	51.6' RT	1A
2A	"L" 1429+29.0	41.2' LT	1A
3	"L" 1428+47.1	53.5' LT	1A

FOUNDATION SCHEDULE

	STATION ALIGNMENT	OFFSET	TYPE
P1	"L" 1428+47.1	48.4' LT	
LC "B"	"L" 1429+93.6	56.2' RT	TYPE 1A LOAD CENTER



SUMMARY OF LOAD CENTER LC "B"

LOAD CENTER TYPE:	1A (SOA)								
SERVING UTILITY:									
SERVICE CONDUIT TYPE:	RIGID METAL CONDUIT								
LOCATION DATA									
LOAD CENTER:	SEWARD HIGHWAY AND SAWMILL ROAD								
POWER SOURCE:	NEW LINE EXTENSION								
PHOTOELECTRIC CONTROL:	AT LOAD CENTER								
SERVICE VOLTAGE:	1 PHASE, 3 WIRE, 120/240V WITH GROUNDED NEUTRAL								
PROVIDE METER SOCKET:	YES								
MAIN BREAKER A:	240 VOLT, 2-POLE, 100 AMPERES								
CONTACTOR:	600V, 6-POLE								
AIC RATING:	10,000A								
PANEL A									
POLE NO.	AMP TRIP	DESCRIPTION	POLE KVA	AØ	BØ	POLE KVA	DESCRIPTION	AMP TRIP	POLE
1	20/2	LIGHTING	0.3	0.4	0.1		PHOTOCELL	15/2	2
3			0.3		0.4	0.1			4
5	20/1	BEACON	0.1	0.1	0.0				6
7			0.0		0.0	0.0			8
9	20/2	SPARE	0.0	0.0	0.0	0.0			10
11			0.0		0.0	0.0			12
13			0.0	0.0	0.0	0.0			14
15			0.0		0.0	0.0			16
17			0.0	0.0	0.0	0.0			18
* CIRCUIT THROUGH CONTACTOR			0.5	0.4			TOTAL KVA	0.9	
							AMPS	3.8	

SHORT CIRCUIT CALCULATION - LC-B

240V AC IN A 1-PH, 3W CONFIGURATION WITH A POWER-FACTOR OF 1.00, 1 CONDUCTOR PER PHASE.	
TRANSFORMER RATING	25KVA
VOLTAGE	120/240V
TRANSFORMER IMPEDANCE	1.2%
LET-THRU SHORT CIRCUIT CURRENT	8,681A
LENGTH TO FAULT 40FT	
SERVICE CONDUCTOR SIZE	1/0 AWG ALUMINUM
CONDUIT	NON-METALLIC
LINE-LINE FAULT	5,805A
LINE-NEUTRAL FAULT	5,236A

ELECTROLIER SCHEDULE

POLE NO.	STATION ALIGNMENT	OFFSET	DISTRIBUTION TYPE	LAMP WATTS	BALLAST VOLTAGE	MOUNTING HEIGHT	MASTARM LENGTH	REMARKS
L-2	"L" 1429+34.4	48.6' RT	M-C-3	250	240	35'	22'	
L-3	"L" 1428+47.1	48.4' LT	M-C-3	250	240	35'	22'	

DESIGNED BY: [] CHECKED BY: [] DRAFTED BY: []
 XREFS: [] SCALE: [] LAYOUT: SAWMILL
 DATE TIME: 8/2/2016 6:56 AM
 DRAWING LOCATION: P:\Projects\RAM\Seward Highway 99-105\Draws\Elec\H37-38_SAWMILL-ROAD-PLAN.dwg

PLANS-IN-HAND AUGUST 2016

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DRIVE
ANCHORAGE, AK 99507
(907) 522-1707
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PLANS DEVELOPED BY:
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CERT. OF AUTH. NO. AECC705



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

**SEWARD HWY: MP 100-105
IMPROVEMENTS &
HSIP: CR TRAFFIC SAFETY
CORRIDOR LEFT TURN LANES
SEWARD HIGHWAY AND SAWMILL
ROAD SIGNAL PLAN**