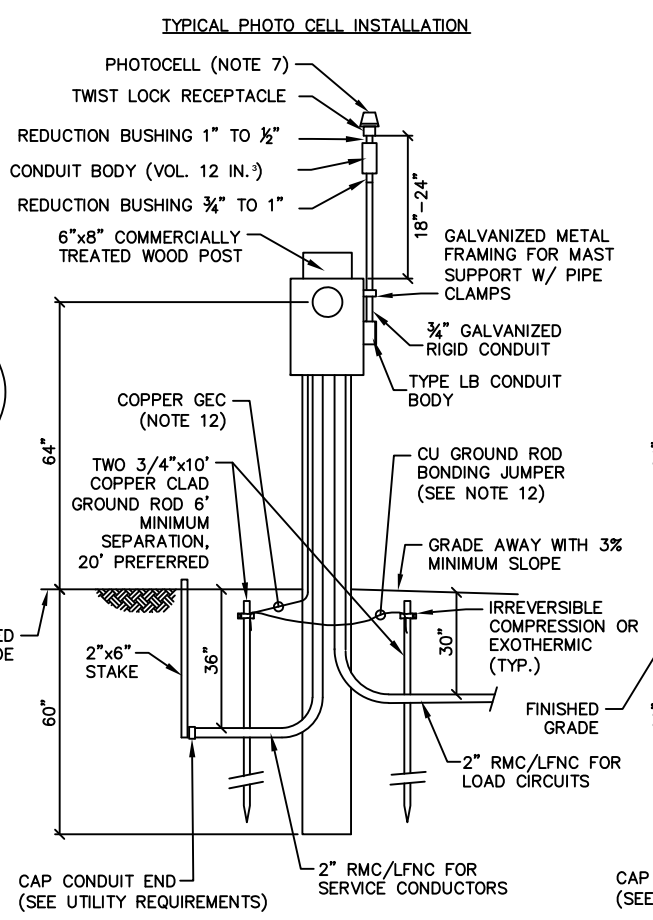
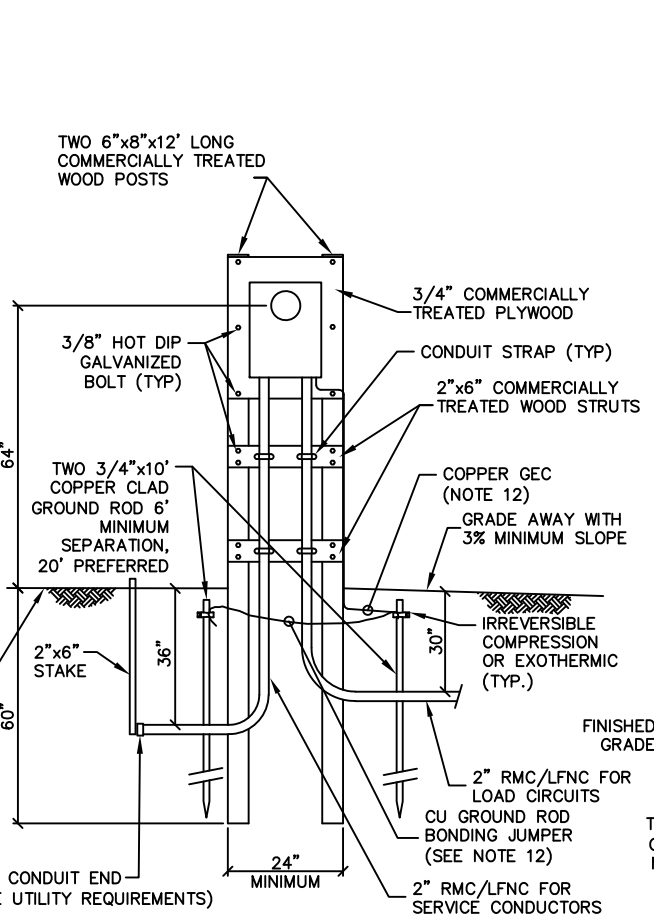


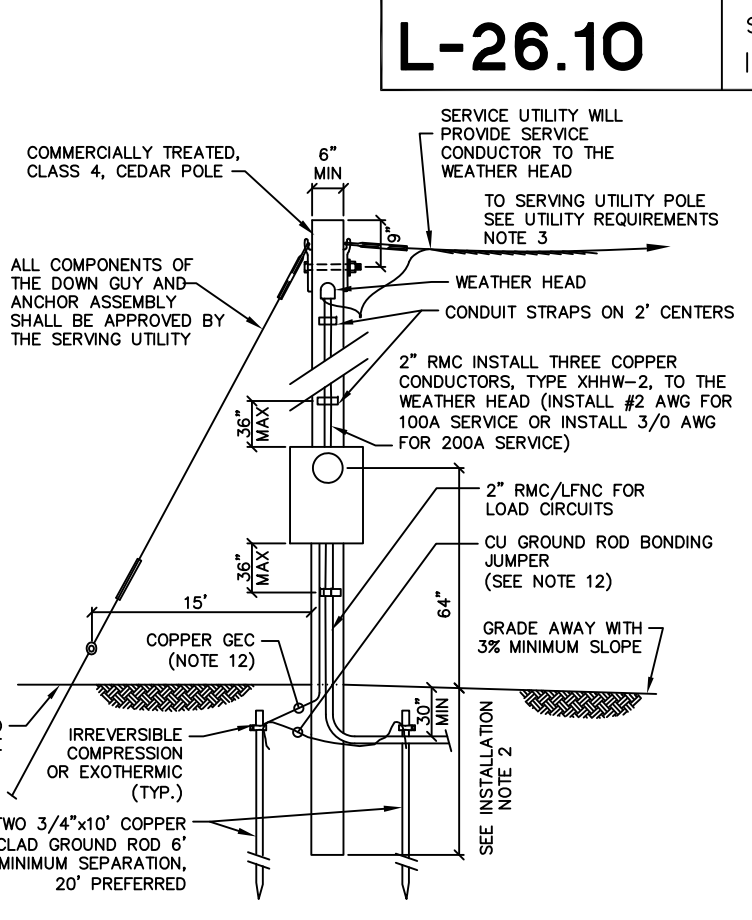
LOAD CENTER ONE LINE DIAGRAM AND SELECTOR SWITCH WIRING



TYPICAL PHOTO CELL INSTALLATION



TYPE 2 LOAD CENTER SINGLE POST - STANDARD



TYPE 2 LOAD CENTER DUAL POST - ALTERNATE
TYPE 3 LOAD CENTER

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 TWO-POLE CIRCUIT BREAKERS, IN EACH LOAD PANEL. SEE SUMMARIES FOR LOAD PANEL VOLTAGES, CURRENT RATINGS, SHORT CIRCUIT INTERRUPTING RATINGS, AND THE NAME OF THE SERVING UTILITY.
- SIZE THE TYPE 2 AND 3 LOAD CENTER CABINETS TO HOLD THE EQUIPMENT SHOWN IN THE WIRING DIAGRAM AND DETAILED IN EACH LOAD CENTER SUMMARY, ALLOWING SPACE FOR WIRING PER THE NATIONAL ELECTRICAL CODE. INSTALLING A METER BASE AND MAIN BREAKER IN A SEPARATE ENCLOSURE IS ALLOWABLE. HOWEVER IN THIS CASE, FURNISH A BREAKER PANEL WITH A MAIN BREAKER.
- LABEL THE SELECTOR SWITCH "LIGHTING" AND ITS POSITIONS "ON-OFF-AUTO".
- THE VOLTAGE FOR THE PHOTOELECTRIC CONTROL EQUIPMENT SHALL BE 240-VOLT, DERIVED FROM THE SERVICE VOLTAGE, OR FROM A CONTROL TRANSFORMER. PROVIDE 1-POLE CIRCUIT BREAKER ON 240/480V LOAD CENTER AND 2-POLE CIRCUIT BREAKER ON 120/240V LOAD CENTERS.
- INSTALL GROUNDING HUBS THIRD PARTY CERTIFIED FOR WET LOCATIONS WHEN ATTACHING CONDUITS TO THE LOAD CENTER ENCLOSURE.
- LABEL ALL CIRCUIT BREAKERS AS TO FUNCTION AND POSITION.
- INSTALL THE PHOTOELECTRIC CONTROL UNIT ON A 3/4" OR LARGER CONDUIT. LOCATE THE UNIT 18"-24" ABOVE THE TOP OF THE LOAD CENTER. ORIENT THE CONTROL WINDOW FACING NORTH AND/OR AWAY FROM ARTIFICIAL LIGHT SOURCES THAT MAY INTERFERE WITH AMBIENT LIGHT CONTROL. 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. PHOTOCELL MUST BE ENCLOSED IN A METALLIC ENCLOSURE.
- STORE A SCHEMATIC DIAGRAM, A CIRCUIT DIRECTORY, AND A MATERIALS LIST INCLUDING THE MANUFACTURERS' NAMES 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.
- WHEN METAL HALIDE OR MERCURY VAPOR LAMPED FIXTURES ARE USED, PROVIDE A REMOTE BULB THERMOSTAT, SO THAT THE CONTACT CLOSURES AND THE LIGHTS TURN ON WHEN THE TEMPERATURE DROPS TO 15F. WIRE THERMOSTAT SO THAT ITS CONTACT IS PARALLEL THE CONTACT IN THE PHOTOELECTRIC CELL.
- INSTALL #6 AWG COPPER MAIN BONDING JUMPER, OR SIZE PER NEC TABLE 250.102 (C)(1), WHICHEVER IS LARGER.
- INSTALLATION MUST COMPLY WITH NEC 250.24(C) AND 250.24 (C) EXCEPTION WHEN MORE THAN ONE PANELBOARD IS PRESENT.
- INSTALL #6 AWG COPPER GROUNDING ELECTRODE CONDUCTOR (GEC), OR SIZE PER NEC TABLE 250.66, WHICHEVER IS LARGER. USE THE SAME METHOD TO SIZE GROUND ROD BONDING JUMPER.
- MAXIMUM METER HEIGHT SHALL NOT EXCEED 64" FROM FINISHED GRADE TO CENTER OF THE METER SOCKET COVER.
- WHEN SHOWN ON THE PLANS, INSTALL ENCLOSURE HEATER WITH INTEGRAL THERMOSTAT, SET TO ENERGIZE THE HEATER AT TEMPERATURES AT OR BELOW 32-DEG F. SCHNEIDER ELECTRIC CAT. NO. NSYCRP1W230VTV, NVENT-HOFFMAN CAT. NO. DAH4002B, OR APPROVED EQUAL.
- BOND SERVICE CONDUIT GROUNDING BUSHING TO SUPPLY-SIDE BONDING JUMPER. BOND LOAD CONDUIT GROUNDING BUSHINGS TO ASSOCIATED EQUIPMENT GROUNDING CONDUCTORS (EGC'S).

INSTALLATION NOTES:

- INSTALL TYPE 3 LOAD CENTER POLES OF SUFFICIENT LENGTH TO PROVIDE THE FOLLOWING MINIMUM GROUND TO SERVICE CONDUCTOR CLEARANCE:
 - 18.5 FEET, IF THE SERVICE CONDUCTORS ARE LOCATED ABOVE ROADWAYS OR PARKING AREAS.
 - 26.5 FEET, IF THE SERVICE CONDUCTORS ARE LOCATED WITHIN 20 FEET OF A RAILROAD TRACK.
 - 18.5 FEET IN ALL OTHER CIRCUMSTANCES.
- SET THE BUTT END OF TYPE 3 LOAD CENTER POLES TO THE FOLLOWING MINIMUM DEPTH:
 - 10 PERCENT OF ITS LENGTH PLUS 24 INCHES, OR 60 INCHES, WHICHEVER IS GREATER, IF IT IS INSTALLED IN EARTH OTHER THAN SOLID ROCK OR MUSKEG.
 - 10 PERCENT OF ITS LENGTH, OR 48 INCHES, WHICHEVER IS GREATER, IF IT IS INSTALLED IN SOLID ROCK.
 - CONSIDER MUSKEG TO BE AIR, AND SET THE BUTT ENDS TO THE DEPTH GIVEN IN A OR B, WHICHEVER APPLIES, IN THE UNDERLYING EARTH OR ROCK.
- WHENEVER MORE THAN 24 INCHES OF EARTH OVERLAYS ROCK, OR THE DIAMETER OF THE DRILLED HOLE IN ROCK EXCEEDS TWICE THE DIAMETER OF THE POLE AT THE GROUND LINE, CONSIDER THE INSTALLATION AS EARTH.
- ATTACH ALL CONDUITS TO THE POSTS AND POLES USING TWO HOLE RIGID METAL CONDUIT STRAPS LOCATED ON 24 INCHES MAXIMUM CENTERS.
- ATTACH ALL GROUND CONDUCTORS TO THE POSTS AND POLES USING CABLE STAPLES LOCATED ON 12 INCH CENTERS. MAKE ALL GROUNDING CONDUCTORS CONTINUOUS. USE #6 AWG CU GEC FOR 100A SERVICE AND #4 AWG CU GEC FOR 200 AMP SERVICE.
- ALL POSTS, POLES, AND STRUTS SHALL BE COMMERCIALY TREATED AND SHALL MEET THE REQUIREMENTS SET FORTH IN ALASKA DOT&PF SSHC SECTIONS 713 & 714.
- ALL ELECTRICAL ENCLOSURES SHALL FEATURE MEANS FOR SEALING AND LOCKING ALL DOORS AND ACCESS COVERS THAT MAY CONTAIN EXPOSED ENERGIZED ELECTRICAL PARTS.

UTILITY REQUIREMENTS:

- USE THE SINGLE-POST TYPE 2 "STANDARD" LOAD CENTER IN ALL LOCATIONS EXCEPT WHERE THE SERVING UTILITY REQUIRES THE TWO-POST TYPE 2 "ALTERNATIVE" LOAD CENTER. REFER TO THE LOAD CENTER SUMMARY FOR WHICH TO INSTALL.
- 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"x6" WOOD 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).
 - THE MAXIMUM AND MINIMUM DISTANCES ALLOWED BETWEEN THE TYPE-3 LOAD CENTER POLE AND UTILITY POLE TO WHICH THE AERIAL DROP IS CONNECTED.
- VERTICAL CLEARANCE FOR SERVICE-DROP CONDUCTORS IN ACCORDANCE WITH NEC 230.24(B).

State of Alaska DOT&PF
ALASKA STANDARD PLAN

TYPE 2 AND 3
LOAD CENTERS

Adopted as an Alaska
Standard Plan by: *Carolyn Morehouse*
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 07/17/2020

Last Code and Stds. Review
By: JC Date: 07/17/2020

Next Code and Standards Review date: 07/17/2030