POWER METER CABINET TYPE I
FOUNDATION

POWER METER
CABINET AND
FOUNDATION

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

STD DWG
4164

10/01/2020
SHT 1 OF 4
OVERCURRENT PROTECTION DEVICE (LOAD CENTER PANEL) SECOND BREAKER USED WHEN METER SUPPLIES POWER TO TWO TRAFFIC SIGNAL CABINETS

POWER SERVICE
120/240 VAC SINGLE PHASE 3 WIRE

120/240 VAC 200 A METER BASE WITH BYPASS LEVEL

POWER METER SOCKET, 200 AMP, FIVE TERMINAL, RINGLESS, SINGLE POSITION LEVER BYPASS

NEUTRAL BUS BAR 7 TERMINAL (#14-#4 AWG)

N-G BONDING JUMPER

GROUND BUS BAR 7 TERMINAL (#14-#4 AWG)

POWER METER CABINET

GROUND ROD(S)

ENCLOSURE BONDING LUG (TYPICAL)

GROUNDING ELECTRODE CONDUCTOR

GROUND ROD(S)

POWER SERVICE WIRING DETAILS

POWER METER CABINET AND FOUNDATION

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

4164

10/01/2020

SHT 3 OF 4
FOUNDATION NOTES:
1. USE EXPANSION MATERIAL BETWEEN FOUNDATION CONCRETE AND OTHER CONCRETE AREAS.
2. ANCHOR BOLTS AND CONDUITS ARE INCIDENTAL TO THIS PAY ITEM.
3. PERMANENTLY EMBED A VISIBLE MARKER ON TOP OF THE FOUNDATION 1" FROM THE EDGE AND CENTERED OVER THE EXITING 3/4" CONDUIT FOR GROUND WIRE.
4. FOUNDATION SURFACE SHALL BE LEVEL AND CLEAN.
5. ANCHOR BOLTS CAN BE ENCASED IN CONCRETE OR STUD ANCHORS CAN BE INSTALLED BY FIELD DRILLING.
6. FOUNDATION SHALL BE EDGED USING A 1/2" SIDEWALK EDGER.

WIRING NOTES:
1. A #4 WIRE LUG SHALL BE PROVIDED FOR ATTACHING A GROUNDING WIRE FROM A GROUND ROD. THE GROUNDING WIRE LUG SHALL BE CONNECTED TO THE NEUTRAL BUS BAR WITHIN THE LOAD CENTER ENCLOSURE.
2. THE NEUTRAL BUS BAR WITHIN THE LOAD CENTER SHALL BE BONDED TO THE GROUND BUS BAR, WHICH SHALL BE MOUNTED ON THE CABINET BACK PLATE WITHIN ONE FOOT OF THE CABINET FOUNDATION, DIRECTLY GROUNDING IT TO THE CABINET.
3. THE POWER METER SOCKET ENCLOSURE SHALL BE CONNECTED TO THE GROUND BUS BAR.

CABINET NOTES:
1. PROVIDE AN ARC FLASH HAZARD WARNING SIGN ON THE OUTSIDE OF THE FRONT DOOR OF THE CABINET IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE PARAGRAPH 110.16.

FOR TYPE II CABINETS:
1. THE CONTRACTOR SHALL LOCK THE METER CABINET’S HINGED METER SECTION AND THE CUSTOMER SECTION LIFT-OFF SERVICE COVER WITH PADLOCKS UNTIL ACCEPTED BY THE CITY, AT WHICH POINT THE CONTRACTOR SHALL REMOVE THE LOCKS AND THE CITY WILL PLACE THEIR LOCKS. THE POWER SERVICE SUPPLIER SHALL LOCK THE UTILITY SECTION LIFT-OFF SERVICE COVER.

FOR TYPE I CABINETS:
1. THE POWER METER CABINET SHALL BE A NEMA 3R, BASE-MOUNTED, LARGE SINGLE DOOR ENCLOSURE.
2. THE CABINET SHALL BE SUPPLIED WITH TWO (2) ADJUSTABLE “C” MOUNTING CHANNELS ON EACH SIDE WALL AND ON THE BACK WALL OF THE CABINET, AND THE CABINET SHALL BE SUPPLIED WITH AN ALUMINUM PANEL KIT THAT IS FULL HEIGHT OF THE CABINET.
3. THE POWER METER SOCKET SHALL BE MOUNTED TO THE PANEL KIT HORIZONTALLY IN THE POWER METER CABINET AND FOUR TO SIX INCHES FROM THE TOP.
4. THE LOAD CENTER PANEL SHALL BE A 60 AMP, TWO BREAKER, FOUR CIRCUIT CAPACITY ENCLOSURE WITH COVER AND DOOR INCLUDING 30 AMP, SINGLE POLE CIRCUIT BREAKERS REQUIRED AS PER PLAN WITH 10K AMP SHORT CIRCUIT CURRENT RATING.
5. THE LOAD CENTER PANEL SHALL BE MOUNTED TO THE RIGHT SIDE OF THE CABINET WALL.
6. THE CABINET MATERIAL SHALL BE 5052 MARINE GRADE, 0.125 INCH THICK ALUMINUM SHEETING WITH A 32 HARDNESS IN ITS NATURAL COLOR.
7. ALL EXTERIOR SEAMS SHALL BE EITHER CONTINUOUSLY WELDED, TACK WELDED, SEALED WITH A 15 TO 20 YEAR SILICONE SEALER, AND/OR OVERLAPPED SUCH THAT WATER DOES NOT ENTER THE CABINET. ALL CABINET EDGES SHALL BE SMOOTH (FREE OF ANY SHARP EDGES).
8. THE CABINET DOOR FRAME OPENING SHALL BE DOUBLE-FLANGED ON ALL FOUR SIDES. THE CABINET DOOR SHALL BE HINGED USING A HEAVY GAUGE CONTINUOUS HINGE THAT HAS A STAINLESS STEEL HINGE PIN. THE HINGE SHALL BE BOLTED TO THE CABINET SO THE DOOR CAN BE REMOVED.
9. THE BOLTS AND NUTS SHALL BE MADE OF STAINLESS STEEL, BE TAMPERPROOF AND SECURELY FASTENED TO PREVENT VIBRATIONS FROM LOOSENING THE NUTS.
10. THE DOOR, SEALED WITH A NEOPRENE GASKET, SHALL BE EQUIPPED WITH A THREE (3) POINT LATCHING MECHANISM AND A HANDLE WHICH CAN BE PADLOCKED. THE DOOR SHALL BE DESIGNED SUCH THAT THE DOOR CAN BE LOCKED IN AN OPEN POSITION AT 90, 135, AND 180 DEGREES (NOMINAL VALUES) TO THE CABINET FACE.
11. BOLT PATTERN SHALL CONSIST OF AN ANCHOR BOLT POSITIONED IN EACH CABINET CORNER.
12. THE POWER METER CABINET SHALL BE SUPPLIED WITHOUT A DOOR LOCK, SWITCH COMPARTMENT, AND POLICE DOOR ON THE CABINET DOOR.
14. ALL AC+ AND NEUTRAL CONDUCTORS SHALL BE INSTALLED IN FLEXIBLE NON-METALLIC CONDUIT TO PREVENT ACCIDENTAL CONTACT DURING MAINTENANCE WITHIN THE CABINET. ONLY GROUND CONDUCTORS MAY BE INSTALLED OUTSIDE OF CONDUIT.