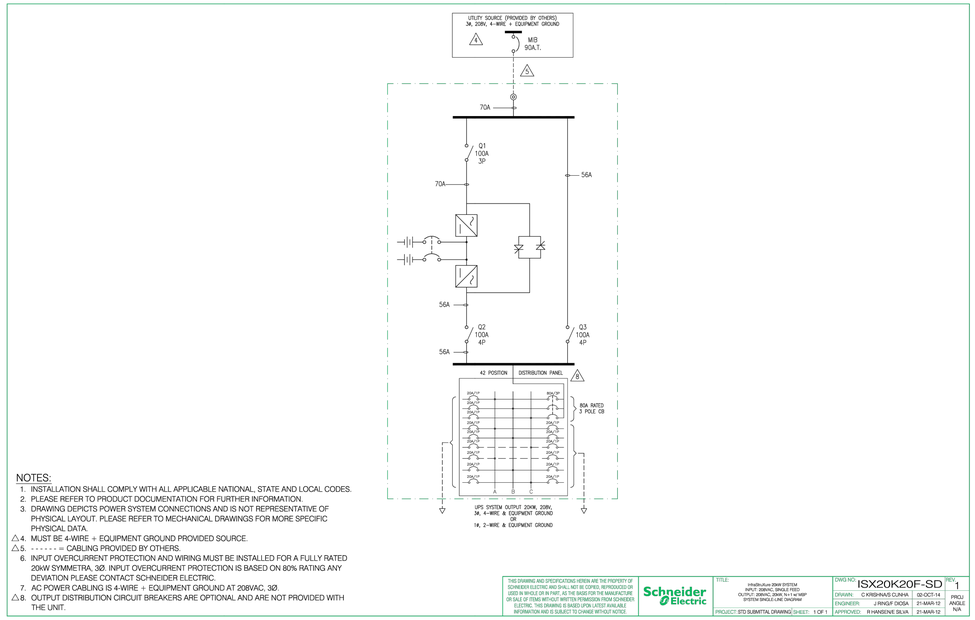
XPLAN-01 Updated On: 2022-MM-DD By: EB Using Architectural Plans Dated: 2022-MM-DD

Plotted by: Marcus Ortiz On: Thursday, May 29, 2025 12:19:55 PM

Drawing: J:\150 S. Potomac St – HCA HealthOne Medical Center Of Aurora\25047\01 – Electrical Panel For UPS Addition.01\Drawings\2025-MM-DD – First Issue\E1.0 – Legend And Notes.dwg



NOTES:

1. INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES.
2. PLEASE REFER TO PRODUCT DOCUMENTATION FOR FURTHER INFORMATION.
3. DRAWING DEPICTS POWER SYSTEM CONNECTIONS AND IS NOT REPRESENTATIVE OF PHYSICAL LAYOUT. PLEASE REFER TO MECHANICAL DRAWINGS FOR MORE SPECIFIC PHYSICAL DATA.

△4. MUST BE 4-WIRE + EQUIPMENT GROUND PROVIDED SOURCE.

△5. - - - - - - = CABLING PROVIDED BY OTHERS.

6. INPUT OVERCURRENT PROTECTION AND WIRING MUST BE INSTALLED FOR A FULLY RATED 20kW SYMMETRA 3Ø. INPUT OVERCURRENT PROTECTION IS BASED ON 80% RATING ANY DEVIATION PLEASE CONTACT SCHNEIDER ELECTRIC.
7. AC POWER CABLING IS 4-WIRE + EQUIPMENT GROUND AT 208VAC, 3Ø.

△8. OUTPUT DISTRIBUTION CIRCUIT BREAKERS ARE OPTIONAL AND ARE NOT PROVIDED WITH THE UNIT.

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Schneider Electric

TITLE: InfraStruXure 20kW SYSTEM INPUT: 208VAC, SINGLE FEED OUTPUT: 208VAC, 20kW, N+1 w/ MBP SYSTEM SINGLE LINE DIAGRAM

PROJECT: STD SUBMITTAL DRAWING SHEET: 1 OF 1

DWG NO:	ISX20K20F-SD	REV:	1
DRAWN:	C.KRISHNAN-S.UNNI	02-OCT-14	PROJ ANGLE N/A
ENGINEER:	J.PINGIT DIOSA	21-MAR-12	
APPROVED:	R.HANSEN-E.SILVA	21-MAR-12	

1 UPS ONE-LINE DIAGRAM

SCALE: NO SCALE

Fault Current Calculations

Calculation Date: 05/08/25

Maximum Available Fault Current (IAIC)

I SCA = (I AIC x M)

where M = 1 / (1 + f), and f = (√ (Phase) × L × I AIC) / (C × n × E)

(Note: Type "1/0" for 1/0AWG wire size, "2/0" for 2/0AWG, "3/0" for 3/0AWG, and "4/0" for 4/0AWG)

Point	Fault Location	Conductors Length, feet	Conductors size	# conductors per phase	Cu (1) Al (2)	Raceway Magnetic (1) Nonmagn. (2)	Voltage	Phase	"C" Value	Previous fault value	Available Fault Curent Value	Equipment Minimum AIC Rating	Point	Load, A	Voltage Drop. %
A	At Utility Transformer Secondary Winding										56,500		A		
B	At MSBA	300	500	1	1	1	480	3	22185	56,500	15,039	18,000	B		0.00
C	At ATS	20	300	1	1	1	480	3	18176	15,039	14,191	18,000	C	225	0.11
D	At Panel EDPA	20	300	1	1	1	480	3	18176	14,191	13,434	14,000	D	225	0.11
E	At 30kVA Transformer	350	4	1	1	1	480	3	3806	13,434	2,461	10,000	E	60	2.15

1 For Second Transformer;

f = (I SCA pri x E PRI x √(Phase) x (%Z)) / (100,000 × KVA)

I SCA sec = (E pri x M x I SCA pri) /E sec

Point	Fault Location	Size, kVA	Primary voltage, V	Secondary Voltage, V	%Z	Transformer full load amperes, A		Phase		Previous fault value	Available Fault Current Value
F	Secondary of the Transformer	30.0	480	208	2.5	83		3		2,461	2,100

POWER NOTES

1. THESE NOTES APPLY TO ALL POWER AND ELECTRICAL PLANS INCLUDED IN THIS SET OF DRAWINGS.
2. UP-TO-DATE AS-BUILT ELECTRICAL PLANS ARE NOT AVAILABLE FOR THIS PROJECT AREA. INFORMATION FOR THE EXISTING CIRCUITRY IS BASED ON EXISTING PANEL DIRECTORIES, AVAILABLE DRAWINGS, FIELD SURVEY OBSERVATIONS, AND ASSUMPTIONS. IF SIGNIFICANT DISCREPANCIES ARE FOUND THAT CAN NOT BE EASILY RESOLVED, CONTACT THE ARCHITECT OR ENGINEER.
3. THE ELECTRICAL CONTRACTOR SHALL VERIFY THAT ALL EXISTING OUTLETS IN THE AREA OF WORK ARE FUNCTIONING. IF REQUIRED, REPLACE THE DEVICE WITH A NEW ONE.
4. THE CONTRACTOR SHALL COORDINATE THE EXACT OUTLET AND DEVICE LOCATIONS WITH THE OWNER/CLIENT/ARCHITECT OR EQUIPMENT SUBCONTRACTOR.
5. RECEPTACLE OUTLETS AND SWITCHES SHALL BE LABELED WITH DESIGNATED PANEL AND CIRCUIT NUMBER ON OR INSIDE THE COVER PLATE. JUNCTION BOXES IN CEILING SPACE AND DISCONNECTS SHALL HAVE CIRCUIT NUMBERS MARKED ON THE COVER. COORDINATE THE REQUIREMENTS WITH THE CLIENT.
6. WHEN A SPECIFIED GFCI-TYPE CIRCUIT BREAKER IS NOT AVAILABLE FROM THE SELECTED MANUFACTURER, IT IS ACCEPTABLE TO USE STAND-ALONE DEVICES PROVIDING PERSONNEL OR EQUIPMENT GFCI PROTECTION AS INDICATED ON DRAWINGS.
7. EACH MULTIWIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES. DISCONNECTION CAN BE ACCOMPLISHED THROUGH IDENTIFIED HANDLE TIES USED WITH SINGLE-POLE CIRCUIT BREAKERS OR MULTI-POLE DEVICES. THE BRANCH CIRCUIT SERVING EMERGENCY POWER CIRCUITS SHALL NOT BE PART OF A MULTIWIRE BRANCH CIRCUIT.
8. THE UNGROUNDED AND GROUNDED CONDUCTORS OF EACH MULTIWIRE BRANCH CIRCUIT SHALL BE GROUPED BY WIRE TIES OR SIMILAR MEANS IN AT LEAST ONE LOCATION WITHIN THE PANELBOARD OR OTHER POINT OF ORIGIN.
9. OUTLET BOXES INSTALLED ON THE EDGES OF METAL STUDS ARE REQUIRED TO BE SECURED IN PLACE BY THE ADDITIONAL USE OF BOX-BACK SUPPORTS PER NEC ARTICLE 314.23.
10. WALL-MOUNTED BOXES (TELEPHONE, ELECTRICAL, ETC.) NOT TO BE LOCATED BACK-TO-BACK ON OPPOSITE SIDES OF THE WALL. THEY SHOULD BE INSTALLED WITH AN OFFSET, A MINIMUM OF 12 INCHES, OR ONE STUD SPACE, OR AS REQUESTED BY THE OWNER. ALL PENETRATIONS IN THE BOXES SHOULD BE SEALED AIR-TIGHT WITH ELASTIC CAULK. THESE BOXES SHALL ALSO BE COVERED WITH EITHER A FIRE OR SOUND PUTTY PAD. ENSURE THAT ELECTRICAL BOXES AND FIXTURES ARE INSTALLED PER IBC SECTIONS 713.3.2 AND 713.4.1.2 FOR MINIMUM MEMBRANE PENETRATION PROTECTION REQUIREMENTS.
11. PROTRUSIONS ARE PROHIBITED IN DEDICATED ELECTRICAL SPACE IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING SERVICING WHILE ENERGIZED. THIS INCLUDES CONTROL PANELS AND ELECTRICAL DISCONNECTS AT OR INSIDE ROOFTOP HVAC UNITS, CONDENSING UNITS, AND AIR CONDITIONING UNITS LOCATED ABOVE CEILINGS AND AT GRADE LEVEL. PENETRATIONS SUCH AS ROOF JACKS FOR ELECTRICAL POWER, LOW VOLTAGE CONTROL POWER, REFRIGERANT LINES, VENT PIPES, ETC., INCLUDING GAS LINES, DUCTWORK, ROOF DRAINS, SCREENING WALLS, AND OTHER EQUIPMENT OF ANY TYPE, ARE NOT TO PROTRUDE INTO THIS SPACE. MINIMUM SPACE IN FRONT OF ELECTRIC EQUIPMENT SHALL BE THE WIDTH OF THE EQUIPMENT OR 30 INCHES, WHICHEVER IS GREATER, AND 36 INCHES EXTENDING OUT FROM THE ENCLOSURE FRONT TO A FLAT LEVEL ROOF, GRADE, FLOOR, OR PLATFORM TO THE HEIGHT OF 6.5 FEET.
12. A 125-VOLT, SINGLE PHASE, 15- OR 20-AMPERE-RATED RECEPTACLE OUTLET SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION WITHIN 25 FEET OF THE INDOOR ELECTRICAL SERVICE AND INDOOR ELECTRICAL EQUIPMENT REQUIRING DEDICATED EQUIPMENT SPACES (ALL SERVICE EQUIPMENT, SWITCHBOARDS, SWITCHGEAR, PANELBOARDS, AND MOTOR CONTROL CENTERS.) THIS RECEPTACLE OUTLET SHALL BE LOCATED WITHIN THE SAME ROOM OR AREAS AS THE ELECTRICAL EQUIPMENT AND SHALL NOT BE CONNECTED TO THE LOAD SIDE OF THE EQUIPMENT'S DISCONNECTING MEANS. THE GFCI PROTECTION SHALL BE PROVIDED FOR THIS RECEPTACLE PER NEC ARTICLE 210.8(E).
13. AN INDIVIDUAL DISCONNECTING MEANS SHALL BE PROVIDED IN SIGHT FROM THE LOCATION FOR EACH MOTOR OR THE DRIVEN MACHINERY IN ACCORDANCE WITH NEC ARTICLE 430.
14. IT IS RECOMMENDED BUT NOT REQUIRED TO PROVIDE A VISIBLE IDENTIFICATION OF THE REQUIRED WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT, ESPECIALLY IN THE UTILITY SPACES AND STORAGE ROOMS, TO PREVENT IT FROM BEING USED AS STORAGE AND ENCOURAGE COMPLIANCE WITH NEC ARTICLE 110.26(B). STRIPED HAZARD TAPE, SOLID COLOR FLOOR MARKINGS, OR FLOOR SIGNS COULD BE USED. COORDINATE THE EXACT REQUIREMENTS WITH THE CLIENT.

City of Aurora Building Division
Project: *UPS move*
Address: *1501 s Potomac St*
Occupancy Group: *I2*
Construction Type: *IA-SPK*
RSN: *1901106*
Permit: *25-2532946-LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **asharple**
Date: **Jun 03, 2025**
2021 INTERNATIONAL CODES & 2023 NEC

Provide a Grounding Electrode System bonded To the service equipment enclosure, grounded Conductors, and grounded electrode conductors Per 2023 NEC 250.50 and 250.104

All new breakers being installed need have the same aic rating of the panel as well as be of the same manufacturer of the panel they are being installed

Every circuit and circuit modification shall be legibly identified as to it's clear and specific purpose or use. The identification shall include an approved degree of detail that allows each circuit to be distinguished from all others, 2023 NEC 408.4

Panel: EDPA

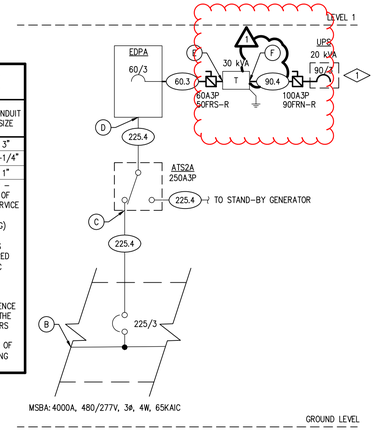
Location: 1st Floor MDF — **Status:** Existing — **Voltage:** 480/277 — **Bus Rating,A:** 250
Fed from: MSBA — **Mounting:** Surface — **Phase:** 3 — **Main 3-pole CB Size, A:** MLO
Feeder OCPD: 225 — **Feed:** Top — **Wire:** 4 — **AIC Rating:** 14,000
Tr-r Size, Kva: — **Note:** PRL3A

CB #	CB Note	Code	Description	Load, VA	CB Size	Poles		Poles	CB Size	Load, VA	Description	Code	CB Note	CB #
1		6	Dedicated Load	33255	160	3	A	3	160	33255	TX-EDHV	6		2
3					/		B		/					4
5					/		C		/					6
7		6	QHH	33255	160	3	A	3	60	20000	UPS	6		8 *
9					/		B		/					10 *
11					/		C		/					12 *
13		6	VP-1	10392	50	3	A	3	30	6235	AHU-A	8		14
15					/		B		/					16
17					/		C		/					18
19		6	MAC-1	6235	30	3	A		-		Space			20
21					/		B		-		Space			22
23					/		C		-		Space			24

Code	Description of the load	Load, VA	Demand	Load Summary per Phase		Demand
				Connected		
1	Lighting		125%			
2	Receptacles - First 10,000		100%	47542 VA	← Phase A →	47542 VA
	Receptacles - Other 10,000		50%	47542 VA	← Phase B →	47542 VA
3	Motor		100%	47542 VA	← Phase C →	47542 VA
	Largest Motor		125%			
4	Electrical Heating		100%	Panel Connected Load:		142627 VA
5	Kitchen Equipment		100%	Panel Demand Load:		142627 VA
6	Other	136392	100%			
7	Heating HVAC		100%	Panel Demand Load:		171.55 Amps
8	Cooling HVAC	6235	100%			
9	Sub Panel		100%			
10	Redundant		0%			

CB Notes Legend: N - New , **GR** - GFCI, **AFI** - AFCI, **GFP** - Equipment rated GFCI, **L** - Lockable (NEC110.25). Sample: **"N,GFI"** - means new GFCI circuit breaker.

* Revised Load



FEEDER SCHEDULE

#	# OF SETS	CONDUCTORS	GROUND CONDUCTOR	CONDUIT SIZE
225.4	1	4-300KCMIL AL	1-2 AL	3"
90.4	1	4-3 CU	1-8 CU	1-1/4"
60.3	1	3-4 CU	1-8 CU	1"

LEGEND: TYPICAL LABEL FORMAT IS AAA.BC, WHERE: AAA – REFERS TO CONDUCTORS CURRENT RATING, B – NUMBER OF CURRENT CARRYING CONDUCTORS, C – OPTIONS: N – SERVICE ENTRANCE CONDUCTORS; S – TRANSFORMER SECONDARY CONDUCTORS; T – TAP RULE PER NEC ARTICLE 250.122(G) FOR EQUIPMENT GROUNDING CONDUCTOR SIZING AND NEC ARTICLE 240.21(B)(1) AND (2) FOR THE TAP CONDUCTORS LENGTH; F – 2-HOUR FIRE-RATED ENCLOSURE IS REQUIRED PER NEC 700. 10(D); R – RESIDENTIAL FEEDERS PER NEC 310.12; V – VOLTAGE DROP COMPENSATION.

THE FEEDER SCHEDULE SHOWS A TYPICAL WIRING CONFIGURATION. THE CONDUIT SIZE IS SHOWN FOR REFERENCE ONLY. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE CONDUIT SIZE WITH THE SIZE AND NUMBER OF CONDUCTORS USED FOR INSTALLATION. CONDUIT IS NOT NEEDED IF ALTERNATE WIRING METHODS ARE USED PER ALLOWANCES OF THE NATIONAL ELECTRICAL CODE (NEC) CHAPTER 3, "WIRING METHODS AND MATERIALS."

2 PARTIAL ONE-LINE DIAGRAM

SCALE: NO SCALE

NOTE: ALL EQUIPMENT SHOWN ON ELECTRICAL ONE-LINE DIAGRAM IN BOLD LINES DENOTES NEW WORK REQUIRED. ALL EQUIPMENT SHOWN IN THIN LINES IS EXISTING.

NOTE TO PLAN REVIEWER

NEW UPS HOUSES LESS THAN 50 GALLONS OF ELECTROLYTE, UTILIZING LEAD-ACID BATTERIES WITH A KWH RATING BELOW 70KWH.

NOTE TO ELECTRICAL CONTRACTOR

ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL EMERGENCY POWER OFF (EPO) PUSH BUTTON ADJACENT TO THE MDF ROOM DOOR. CONNECT EPO SYSTEM TO CIRCUIT "EDPA-8,10,12". INTERCONNECT EPO CIRCUIT WITH AIR HANDLING UNITS AHU-1,2 (CIRCUITS EHPNL-7,9,11,14,16,18) IN THE ROOM FOR POWER INTERRUPTING UPON PUSH BUTTON ACTIVATION. PROVIDE PLASTIC PADLOCK ATTACHMENT, IF REQUIRED. PROVIDE CONTACTORS WITH 120V COILS AS REQUIRED. PROVIDE PLENUM RATED ENCLOSURES, IF REQUIRED.

ONE-LINE DETAIL NOTES

1. UPS TO BE LOCATED WITHIN MDF ROOM. COORDINATE EXACT LOCATION WITH CLIENT PRIOR TO ROUGH IN.

TRANSFORMERS SCHEDULE

kVA	PRIMARY	RECOMMENDED PRIMARY OCPD, A	PRIMARY FEEDER, AWG	RECOMMENDED SECONDARY OCPD, A	SECONDARY	SECONDARY FEEDER, AWG	SECONDARY FULL LOAD CURRENT, A	K-RATING	⊂ RISE	GROUNDING ELECTRODE CONDUCTORS SIZE PER NEC 250.66, AWG
30	480V, 3ø	60	(3-4 CU & 1-8 CU GND) 1"C	90	208/120V, 3ø, 4W	(4-3 CU & 1-8 CU GND) 1-1/4"C	56	1	150	8 CU

NOTES

1. FIELD VERIFY EQUIPMENT NAMEPLATES AND MANUALS AGAINST PARAMETERS SHOWN ON THIS SCHEDULE AND DRAWINGS. IF SIGNIFICANT DISCREPANCIES OCCUR CONTACT THE ELECTRICAL ENGINEER.
2. MAINTAIN A MINIMUM OF SIX INCHES (OR AS DIRECTED BY THE MANUFACTURER) OF FREE AIR SPACE BETWEEN THE TRANSFORMER'S ENCLOSURE AND NON-COMBUSTIBLE WALLS.
3. TRANSFORMERS SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF IECC TABLE C405.6 AS TESTED AND RATED IN ACCORDANCE WITH THE TEST PROCEDURE LISTED IN DOE 10 CFR 431. THE EFFICIENCY SHALL BE VERIFIED THROUGH CERTIFICATION UNDER AN APPROVED CERTIFICATION PROGRAM.
4. MOUNT TRANSFORMERS ON ANTI-VIBRATION ISOLATION PADS. PROVIDE MASON-TYPE ND ISOLATION PADS OR EQUAL TO ENSURE A MINIMUM OF 0.25" OF STATIC DEFLECTION.

TRANSFORMER GROUNDING NOTES

A SEPARATELY DERIVED AC SYSTEM THAT IS GROUNDED SHALL COMPLY WITH NEC ARTICLE 250.30. EXCEPT AS OTHERWISE PERMITTED IN THE REFERENCED ARTICLE. THE FOLLOWING CONNECTIONS SHALL BE ESTABLISHED AS APPLICABLE:

1. THE EQUIPMENT GROUNDING CONDUCTOR THAT IS PART OF THE PRIMARY WIRING CONNECTION SHOULD BE CONNECTED TO THE TRANSFORMER GROUNDING TERMINAL BAR (NEC ARTICLES 250.118, 250.120, 250.122, SIZED PER TABLE 250.122.)
2. A SYSTEM BONDING JUMPER SHALL COMPLY WITH NEC ARTICLE 250.28. THIS CONNECTION SHALL BE MADE AT ANY SINGLE POINT ON THE SEPARATELY DERIVED SYSTEM FROM THE TRANSFORMER TO THE FIRST SYSTEM DISCONNECTING MEANS OR OVERCURRENT DEVICES. THE SYSTEM BONDING JUMPER SHALL REMAIN WITHIN THE ENCLOSURE WHERE IT ORIGINATES.
   A. IF THE SYSTEM BONDING JUMPER IS INSTALLED IN THE TRANSFORMER'S ENCLOSURE, IT SHALL CONNECT THE GROUNDED CONDUCTOR TO SUPPLY-SIDE BONDING JUMPER, GROUNDING ELECTRODE(S), NORMALLY NON-CURRENT-CARRYING METAL ENCLOSURE, AND PRIMARY SIDE EQUIPMENT GROUNDING CONDUCTOR.
   B. IF THE SYSTEM BONDING JUMPER IS INSTALLED AT THE FIRST DISCONNECTING MEANS, IT SHALL CONNECT THE GROUNDED CONDUCTOR TO THE SUPPLY-SIDE BONDING JUMPER, GROUNDING ELECTRODE(S), THE DISCONNECTING MEANS ENCLOSURE, AND EQUIPMENT GROUNDING CONDUCTOR(S) ORIGINATING FROM THIS ENCLOSURE.
3. A GROUNDED CONDUCTOR SHALL NOT BE CONNECTED TO NORMALLY NON-CURRENT-CARRYING METAL PARTS OF EQUIPMENT, BE CONNECTED TO EQUIPMENT GROUNDING CONDUCTORS, OR BE RECONNECTED TO GROUND ON THE LOAD SIDE OF THE SYSTEM BONDING JUMPER.
4. IF THE TRANSFORMER AND THE FIRST DISCONNECTING MEANS ARE LOCATED IN SEPARATE ENCLOSURES, THE SUPPLY-SIDE BONDING JUMPER SHALL BE INSTALLED WITH THE FEEDER CONDUCTORS FROM THE TRANSFORMER ENCLOSURE TO THE FIRST DISCONNECTING MEANS ENCLOSURE. (NEC ARTICLES 250.30(A)(2), 250.102(C), SIZED PER TABLE 250.102(C)(1).)
5. THE BUILDING OR STRUCTURE GROUNDING ELECTRODE SYSTEM SHALL BE USED AS THE GROUNDING ELECTRODE FOR THE SEPARATELY DERIVED SYSTEM PER NEC ARTICLE 250.30(A)(4) AND 250.30(C) FOR OUTDOOR LOCATIONS.
   A. A GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZED PER NEC ARTICLE 250.66 BASED ON THE SIZE OF THE LARGEST SECONDARY PHASE CONDUCTOR.
   B. THE GROUNDING ELECTRODE CONDUCTOR CONNECTION SHALL BE MADE AT THE SAME POINT WHERE THE SYSTEM BONDING JUMPER IS CONNECTED.
   C. THE FOLLOWING GROUNDING ELECTRODE CONNECTIONS SHALL BE PROVIDED AS PERMITTED IN NEC ARTICLE 250.68(C)(1) AND (C)(2):
      a. INTERIOR METAL WATER PIPING THAT IS ELECTRICALLY CONTINUOUS WITH A METAL UNDERGROUND WATER PIPE ELECTRODE AND IS LOCATED NOT MORE THAN 5 FEET FROM THE POINT OF ENTRANCE TO THE BUILDING, AS MEASURED ALONG THE WATER PIPING, AS NOTED IN 250.68(C)(1). EXCEPTION, IN INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BUILDINGS OR STRUCTURES, IF CONDITIONS OF MAINTENANCE AND SUPERVISION ENSURE THAT ONLY QUALIFIED PERSON SERVICE THE INSTALLATION, INTERIOR METAL WATER PIPING LOCATED MORE THAN 5 FEET FROM THE POINT OF ENTRANCE TO THE BUILDING SHALL BE PERMITTED AS A BONDING CONDUCTOR TO INTERCONNECT ELECTRODES THAT ARE PART OF THE GROUNDING ELECTRODE SYSTEM OR AS A GROUNDING ELECTRODE CONDUCTOR.
      b. THE METAL STRUCTURAL FRAME OF A BUILDING.
6. IF A COMMON GROUNDING ELECTRODE CONDUCTOR FOR MULTIPLE SEPARATELY DERIVED SYSTEMS INSTALLED IN THE BUILDING, IT SHALL BE USED TO CONNECT THE GROUNDED CONDUCTOR OF EACH SEPARATELY DERIVED SYSTEM TO THE GROUNDING ELECTRODE AS SPECIFIED IN NEC ARTICLE 250.30(A)(4) AND (6), AND 250.104(D)(3). A GROUNDING ELECTRODE CONDUCTOR TAP SHALL THEN BE INSTALLED FROM EACH SEPARATELY DERIVED SYSTEM GROUNDED CONDUCTOR TO THE COMMON GROUNDING ELECTRODE CONDUCTOR. THIS CONNECTION SHALL BE MADE AT THE SAME POINT ON THE SEPARATELY DERIVED SYSTEM WHERE THE SYSTEM BONDING JUMPER IS CONNECTED. THE TAP CONDUCTOR SHALL BE SIZED PER NEC TABLE 250.66 BASED ON THE DERIVED UNGROUNDED CONDUCTORS OF THE SEPARATELY DERIVED SYSTEM IT SERVES.
7. METAL WATER PIPING AND STRUCTURAL METAL THAT IS INTERCONNECTED TO FORM A BUILDING FRAME SHALL BE CONNECTED TO THE GROUNDED CONDUCTOR OF A SEPARATELY DERIVED SYSTEM FOLLOWING NEC ARTICLE 250.104(D).
   A. THIS CONNECTION SHALL BE MADE AT THE SAME POINT ON THE SEPARATELY DERIVED SYSTEM WHERE THE GROUNDING ELECTRODE CONDUCTOR IS CONNECTED. EACH BONDING JUMPER SHALL BE SIZED PER NEC TABLE 250.102(C)(1) BASED ON THE LARGEST UNGROUNDED CONDUCTOR OF THE SEPARATELY DERIVED SYSTEM. IT SHOULD NOT BE REQUIRED TO BE LARGER THAN 3/0 AWG CU OR 250KCMIL AL.
   B. THE BONDING SHALL BE PROVIDED TO THE NEAREST ACCESSIBLE POINT OF THE METAL WATER PIPING SYSTEM(S) IN THE AREA SERVED BY EACH SEPARATELY DERIVED SYSTEM.
   C. IF EXPOSED STRUCTURAL METAL THAT IS INTERCONNECTED TO FORM THE BUILDING FRAME EXISTS IN THE AREA SERVED BY THE SEPARATELY DERIVED SYSTEM, IT SHALL BE BONDED TO THE GROUNDED CONDUCTOR OF EACH SEPARATELY DERIVED SYSTEM.

MDP ENGINEERING GROUP
1800 GLENARM PLACE, SUITE 800
DENVER, CO 80202
PH: 303.389.0095 | FAX: 303.389.0098
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SEAL

Dimitri Passas

Digitally signed by Dimitri Passas
DN: OU=Vice President, O=MDP Engineering Group, CN=Dimitri Passas, E=dpassas@mdpeg.com
Reason: I am the author of this document
Location:
Date: 2025.05.29 12:49:03-06'00'
Foxit PDF Editor Version: 2024.4.1

COLORADO REGISTERED PROFESSIONAL ENGINEER 37188

May 29, 2025

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UPS ADDITION
1501 SOUTH POTOMAC STREET
AURORA, CO 80012

NO.	REVISION/ISSUE	DATE
1	PERMIT/CONSTRUCTION	05.15.25
1	REVISION 1	05.29.25

MDP JOB #: 25047.01

DESCRIPTION:
ONE-LINE AND SCHEDULES

DRAWN BY: MO
CHECKED BY: AS
DATE: MM.DD.2022
SCALE: NO SCALE

SHEET:

E1.1

MDP ENGINEERING GROUP

05/29/2025

City and County of Aurora
Building Division
15151 E Alameda Pky, Ste. 2400
Aurora, CO 80012

Attn: Matt Alemu

Re: 1501 S Potomac St Aurora, CO 80012
Review #1

Dear Matt:

We have received and reviewed the Electrical Plan review for the above-mentioned project, dated 05/27/2025 and have the following responses.

1. Need impedance of 30 kVA transformer.

MDP Response: *The fault current calculation visibility has been updated to show the impedance of the 30 kVA transformer. The partial one-line diagram was also updated to include the fault calculation point for the secondary side of the 30kVA transformer.*

If you have any questions regarding the above, please do not hesitate to contact us.

Sincerely,

MDP ENGINEERING GROUP, P.C.

D Passas P.E.

Dimitri Passas, P.E.
Vice President
DP/ MO

