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Client

Legend

Notes

Revision	By	Appd.	Y/M/YY		
1	ISSUED FOR ADDENDUM #4	CB	AA	23.12.21	
0	ISSUED FOR CONSTRUCTION	CB	AA	23.09.18	
File Name:	115423001e_e-301m	CB	AA	CB	22.05.27
	Dwn.	Chkd.	Dgn.	Y/M/YY	

Permit-Seal

ORIGINAL DRAWING SEALED BY
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 MEMBER
 31095
 Stantec Consulting Ltd.
 2023-09-20



Client/Project
 WINNIPEG TRANSIT DIRECT CURRENT FAST CHARGING BUS STATIONS BRANDON GARAGE

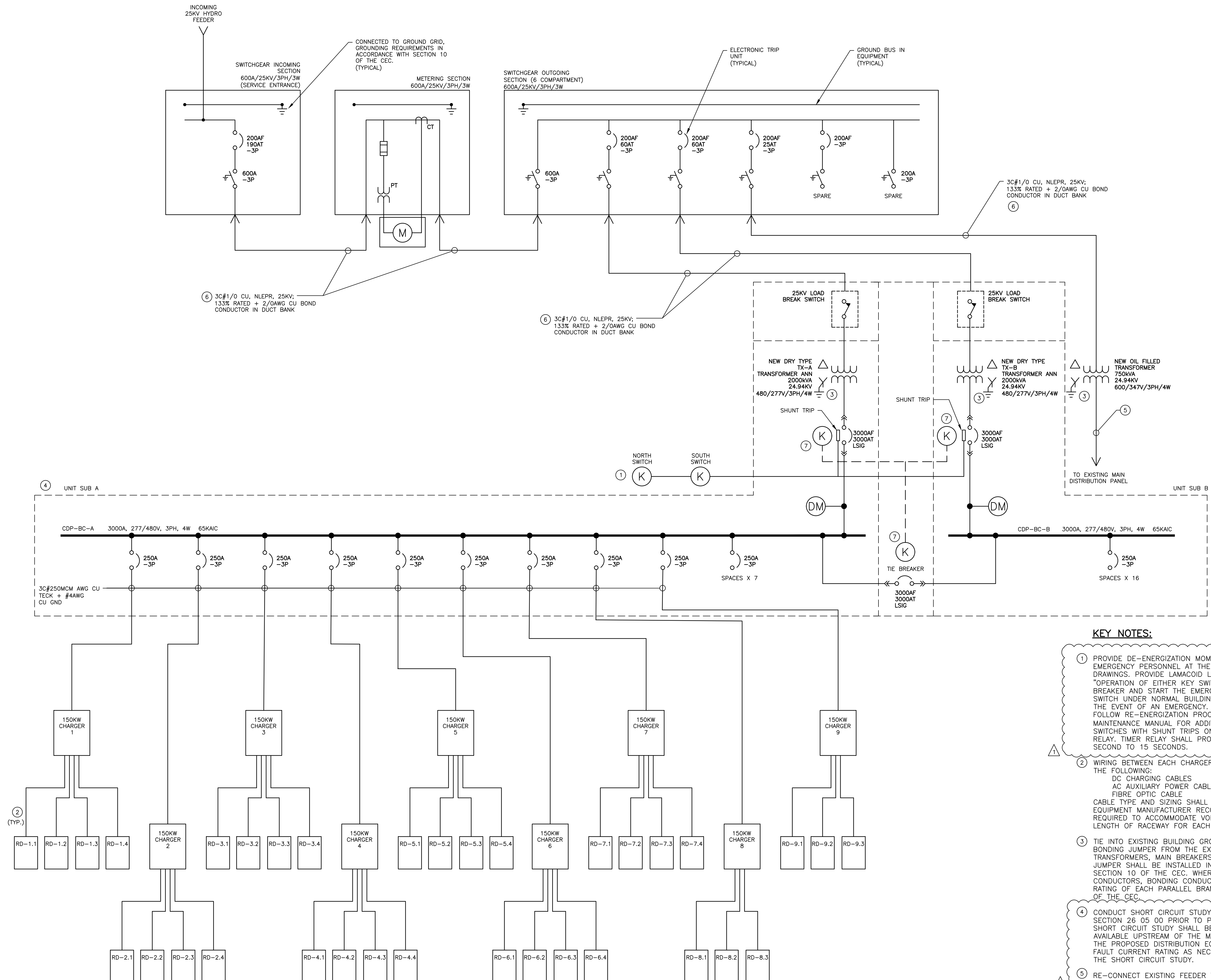
600 Brandon Ave. Winnipeg, Manitoba

Title
 SINGLE LINE DIAGRAM - NEW CONSTRUCTION

Project No. 144523001 Scale As Indicated

Drawing No. Sheet 10 of 12 Revision

E-302 10 of 12 1



KEY NOTES:

- PROVIDE DE-ENERGIZATION MOMENTARY KEYED SWITCHES FOR EMERGENCY PERSONNEL AT THE LOCATIONS INDICATED ON THE DRAWINGS. PROVIDE LAMACOID LABEL ADJACENT TO THE SWITCH: "OPERATION OF EITHER KEY SWITCH WILL TRIP THE MAIN BUILDING BREAKER AND START THE EMERGENCY GENERATOR. DO NOT TEST THE SWITCH UNDER NORMAL BUILDING LOAD. USE THE SWITCH ONLY IN THE EVENT OF AN EMERGENCY, TO RESTORE POWER TO THE BUILDING, FOLLOW RE-ENERGIZATION PROCEDURE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR ADDITIONAL INFORMATION." INTERFACE KEY SWITCHES WITH SHUNT TRIPS ON 3000A MAIN BREAKERS VIA A TIMER RELAY. TIMER RELAY SHALL PROVIDE A DELAY, ADJUSTABLE FROM 1 SECOND TO 15 SECONDS.
- WIRING BETWEEN EACH CHARGER AND DISPENSER SHALL CONSIST OF THE FOLLOWING:
 DC CHARGING CABLES
 AC AUXILIARY POWER CABLES
 FIBRE OPTIC CABLE
 CABLE TYPE AND SIZING SHALL BE IN ACCORDANCE WITH CHARGING EQUIPMENT MANUFACTURER RECOMMENDATIONS, UPSIZED WHERE REQUIRED TO ACCOMMODATE VOLTAGE DROP, BASED ON THE FINAL LENGTH OF RACEWAY FOR EACH DISPENSER.
- TIE INTO EXISTING BUILDING GROUND GRID. SUPPLY NEW SYSTEM BONDING JUMPER FROM THE EXISTING GROUND GRID TO NEW TRANSFORMERS, MAIN BREAKERS, CDP-BC-A, AND CDP-BC-B. NEW JUMPER SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF SECTION 10 OF THE CEC. WHERE FEEDERS CONSIST OF PARALLEL CONDUCTORS, BONDING CONDUCTOR SHALL BE SIZED BASED ON THE RATING OF EACH PARALLEL BRANCH, IN ACCORDANCE WITH TABLE 16 OF THE CEC.
- CONDUCT SHORT CIRCUIT STUDY IN ACCORDANCE WITH SPECIFICATION SECTION 26 05 00 PRIOR TO PROCUREMENT OF THE EQUIPMENT. SHORT CIRCUIT STUDY SHALL BE BASED ON THE FAULT CURRENT AVAILABLE UPSTREAM OF THE MANITOBA HYDRO TRANSFORMER, AND THE PROPOSED DISTRIBUTION EQUIPMENT. INCREASE DISTRIBUTION FAULT CURRENT RATING AS NECESSARY, BASED ON THE OUTCOME OF THE SHORT CIRCUIT STUDY.
- RE-CONNECT EXISTING FEEDER TO NEW 750KVA TRANSFORMER.
- INSTALL FEEDER PER CANADIAN ELECTRICAL CODE (CEC) 2021, INSTALLATION CONFIGURATION DIAGRAM D17K. FEEDER AMPACITY IS 192A BASED ON TABLE D17K (DERATED BY 0.886 FOR 75°C).
- KIRK-KEY INTERLOCKING MAIN-TIE-MAIN CONFIGURATION.

1 PARTIAL SINGLE LINE DIAGRAM - NEW CONSTRUCTION
 E-302 NTS

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 2023/12/22 11:33 AM By: Bureyshi, Chris
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