

PART 1 - GENERAL

<u>1.1 RELATED REQUIREMENTS</u>	.1	Section 26 28 16.02 - Moulded Case Circuit Breakers.
<u>1.2 REFERENCES</u>	.1	Canadian Standards Association (CSA International)
	.1	CAN/CSA-C22.2 No.31-10, Switchgear Assemblies.
	.2	CAN/CSA-C22.2 No.144-M91(R2006), Ground Fault Circuit Interrupters.
<u>1.3 SHOP DRAWINGS AND PRODUCT DATA</u>	.1	Submit shop drawings and product data in accordance with Section 01 33 00.
	.2	Indicate on shop drawings.
	.1	Floor anchoring method and foundation template.
	.2	Dimensioned cable entry and exit locations.
	.3	Dimensioned position and size of bus.
	.4	Overall length, height and depth.
	.5	Dimensioned layout of internal and front panel mounted components.
	.3	Include time-current characteristic curves for circuit breakers and fuses.
<u>1.4 QUALITY ASSURANCE</u>	.1	Submit number of copies of certified test results in accordance with Section 01 33 00.
<u>1.5 CLOSEOUT SUBMITTALS</u>	.1	Provide maintenance data for service entrance board for incorporation into manual specified in Section 01 78 00.
	.2	Submit six (6) copies maintenance data for complete assembly including components.

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| <u>1.6 WASTE
MANAGEMENT AND
DISPOSAL</u> | .1 | Separate and recycle waste materials in accordance with Section 01 74 20. |
| | .2 | Remove from site and dispose of all packaging materials at appropriate recycling facilities. |
| | .3 | Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan. |
| | .4 | Divert unused metal and wiring materials from landfill to metal recycling facility as approved by Departmental Representative. |

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| <u>1.7 EXTRA
MATERIALS</u> | .1 | Provide maintenance materials in accordance with Section 01 78 00. |
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PART 2 - PRODUCTS

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| <u>2.1 SERVICE
ENTRANCE BOARD</u> | .1 | Service Entrance Board: to CAN/CSA-C22.2 No.31. |
| | .2 | Rating: 600 V, 3 phase, 4 wire, 600 A, short circuit current 50 kA (rms symmetrical). |
| | .3 | Cubicles: free standing, dead front, 2,286mm high, 1,067mm wide, 305mm deep, CSA type 2 (sprinkler-proof) enclosure. |
| | .4 | Barrier metering section from adjoining sections. |
| | .5 | Departmental Representative's metering. |
| | .6 | Distribution section. |
| | .7 | Hinged access panels with captive knurled thumb screws. |
| | .8 | Bus bars and main connections: 99.3% copper. |
| | .9 | Bus from load terminals of main breaker via metering section to main lugs of distribution section. |
| | .10 | Identify phases with colour coding. |
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| 2.2 MOULDED CASE
CIRCUIT BREAKERS | .1 | Main breaker to be operated by means of solid-state trip unit with associated current monitors and self-powered shunt trip to provide inverse time current trip under overload condition, and long time, short time, instantaneous and ground fault tripping for ground fault and short circuit protection. |
| | .2 | Distribution section breakers to be operated automatically by means of thermal and magnetic tripping devices to provide inverse time current tripping and instantaneous tripping for short circuit protection. |
| 2.3 GROUNDING | .1 | Copper ground bus extending full width of cubicles and located at bottom. |
| | .2 | Lugs at each end for size 4/0 AWG grounding cable. |
| | .3 | Bond each cubicle enclosure to main electrical ground bus bar with #1 AWG bare copper. |
| 2.4 FINISHES | .1 | Apply finishes in accordance with Section 26 05 00.
.1 Service entrance board exterior: ASA 61 gray. |
| 2.5 EQUIPMENT IDENTIFICATION | .1 | Provide equipment identification in accordance with Section 26 05 00. |
| | .2 | Nameplates:
.1 Black plate, white letters, size 7.
.2 Complete board labelled: "347/600 V".
.3 Main circuit breaker labelled: "Main Breaker".
.4 Branch circuit breakers labelled: name of connected load as indicated on power distribution riser diagram. |
| 2.6 SOURCE QUALITY CONTROL | .1 | Departmental Representative to witness final factory tests. |
| | .2 | Notify Departmental Representative in writing 5 days in advance that service entrance board is ready for testing. |
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PART 3 - EXECUTION

- 3.1 INSTALLATION
- .1 Locate service entrance board and install on concrete housekeeping pad.
 - .2 Connect main secondary service to line terminals of main breaker.
 - .3 Connect load terminals of distribution breakers to feeders.
 - .4 Check factory made connections for mechanical security and electrical continuity.
 - .5 Run one grounding conductor 2/0 AWG bare copper in 27 mm conduit from ground bus to building ground.
 - .6 Check trip unit settings against co-ordination study to ensure proper working and protection of components.