PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

.2 Section 26 05 01 – Common Work Results – Electrical.

1.2 REFERENCES

.1 American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE).

1. ANSI/IEEE 837 1989(R1996), Qualifying Permanent Connections Used in Substation Grounding.

.2 Canadian Standards Association, (CSA International.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Grounding equipment to: CSA C22.2 No. 41-1950 (R1967).

.2 Copper grounding conductors to: ASA G7.1-1963.

2.2 EQUIPMENT

.1 Copper conductor to each electrode to be bare, stranded, tinned, soft annealed, size as indicated.

.2 Rod electrodes, copper clad steel, 19mm diameter by 3 m long.

.3 Copper ground conductor to sea bed.

.4 Insulated grounding conductors: as per Conductors specification section.

.5 Non-corroding accessories necessary for grounding system, type, size, material as indicated, including but not necessarily

limited to:

1. Grounding and bonding bushings.
2. Protective type clamps.
3. Bolted type conductor connectors.
4. Thermit welded type conductor connectors.
5. Bonding jumpers, straps.
6. Pressure wire connectors.
7. Bronze ground plate as indicated.

PART 3 - EXECUTION

3.1 INSTALLATION GENERAL

.1 Install complete permanent, continuous system and circuit equipment, grounding systems including electrodes, conductors, connectors, accessories, as indicated, to conform to requirements of Departmental Representative and local authority having jurisdiction over installation. Where conduits are used, install a minimum #10 AWG insulated green ground conductor throughout the complete conduit system and connect all outlet boxes, devices, equipment and panel ground bus to this ground conductor.

.2 Install connectors in accordance with manufacturer's instructions.

.3 Protect exposed grounding conductors from mechanical injury.

.4 Make buried connections, and connections to conductive water main, electrodes, using copper welding by thermit process.

.5 Use mechanical connectors for grounding connections to equipment provided with lugs.

.6 Soldered joints not permitted.

.7 Install bonding wire for flexible conduit, connected at one end to grounding bushing,

solderless lug, clamp or cup washer and screw. Neatly clean bonding wire to exterior of flexible conduit.

.8 Install separate ground conductor to outdoor lighting standards and receptacles located on power pedestals.

.9 Install copper grounding conductor run in conduit from electrical service to sea bed. Provide 25 meter coil of ground conductor at sea bed. Install as per Canadian Electrical Code.

3.2 ELECTRODES

.1 Install rod, plate electrodes and make grounding connections.

.2 Bond separate, multiple electrodes together.

.3 Bronze ground plate as indicated.

3.3 TESTS

.1 Perform tests in accordance with Section 26 05 01 – Common Work Results – Electrical.

.2 Perform ground continuity and resistance tests using method appropriate to site conditions and to approval of Departmental Representative and local authority having jurisdiction over installation.

.3 Perform tests before energizing electrical system.