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**Part 1            General****1.1            RELATED SECTIONS**

- .1        Section 01 00 10 – General Instructions.
- .2        Section 26 05 00 - Common Work Results for Electrical.

**1.2            REFERENCES**

- .1        Institute of Electrical and Electronics Engineers (IEEE)
  - .1        IEEE 837-2014, Standard for Qualifying Permanent Connections Used in Substation Grounding.
- .2        Canadian Standards Association, (CSA International)
  - .1        CSA C22.2 No. 41-13, Grounding and Bonding Equipment.

**1.3            WASTE MANAGEMENT AND DISPOSAL**

- .1        Separate and recycle waste materials in accordance with Section 01 00 10 – General Instructions.
- .2        Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3        Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4        Divert unused metal materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5        Fold up metal banding, flatten and place in designated area for recycling.

**Part 2            Products****2.1            EQUIPMENT**

- .1        Grounding conductors: bare stranded copper, soft annealed, size as indicated.
- .2        Insulated grounding conductors: green, type TW.
- .3        Provide separate ground conductor in all conduit systems including fire alarm and 120volt branch circuit wiring.
- .4        Non-corroding accessories necessary for grounding system, type, size, material as indicated, including but not necessarily limited to:
  - .1        Grounding and bonding bushings.
  - .2        Compression connectors.

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**Part 3 Execution****3.1 INSTALLATION GENERAL**

- .1 Install complete permanent, continuous grounding system including, electrodes, conductors, connectors, accessories. Where EMT is used, run insulated ground wire in conduit and bond to all enclosures.
- .2 Install connectors in accordance with manufacturer's instructions.
- .3 Protect exposed grounding conductors from mechanical injury.
- .4 Use mechanical compression grounding connectors for grounding connections to equipment.
- .5 Soldered joints not permitted.
- .6 Install bonding wire for flexible conduit, connected at both ends to grounding bushing, solderless lug, clamp or cup washer and screw. Neatly cleat bonding wire to exterior of flexible conduit.
- .7 Make grounding connections in radial configuration only, with connections terminating at single grounding point. Avoid loop connections.

**3.2 EQUIPMENT GROUNDING**

- .1 Install grounding connections to all fire alarm system equipment.

**3.3 FIELD QUALITY CONTROL**

- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results for Electrical.
- .2 Perform ground continuity and resistance tests using method appropriate to site conditions and to approval of the Departmental Representative and local authority having jurisdiction over installation.
- .3 Perform tests before completing final equipment connections.

**END OF SECTION**