

## **DIVISION 16 - ELECTRICAL**

### **Section 16390 - Primary Grounding**

#### **Introduction**

This section applies to the main building grounding electrode system. In general this applies to new building construction or major building expansions only and is not applicable to general renovation projects.

Ground system shall be considered to be separate from the lightning protection system and its associated counterpoise but must be attached to each other. (*Typically below grade*).

#### **Part 1 - General**

- On the Main campus and at AHSC the wiring in the facility becomes a separately derived system as it relates to the distribution system supplied by the power company any time we have a local 4160 volt or 13,800 volt primary transformer. The design of this system should be based on that fact. Grounding shall be per article 250 of the NEC.

#### **Part 2 - Products**

- Provide a minimum 50' size 3/0 stranded bare copper conductor in the footing to provide for a base conductor or Concrete Encased Electrode ("UFER") ground for the electrical system. At each end bond out to a 3/4" x 10' copper clad or copper weld ground rod. At each of these points provide an inspection or test point.

#### **Part 3 - Execution**

- All primary and secondary service ground connections shall be made using an exothermic welding such as Cadweld.
  - Ground shall be bonded in at least one location to any underground metal water mains or copper water mains.
  - Ground shall be bonded to building structural steel at least one location and per the NEC.
  - The building ground system shall be bonded to any ground ring for lightning protection.
  - Bond to fire protection.
  - Bond to gas.

#### **End of Section 16390**