

## SECTION 33 41 00

### STORM DRAINAGE SYSTEMS

This specification changes a portion of APWA Standard Specification Section 33 41 00. All other provisions of the section remain in full force and effect.

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#### 2.1 PIPING AND FITTINGS

- A. Provide piping materials and factory fabricated piping products of sizes, types and classes indicated.
  - 1. Pipe used for Storm Drain or Irrigation transmission lines and having a diameter of 15" or larger shall be reinforced concrete pipe meeting requirements of ASTM C76.

#### 2.5 CLEANOUTS AND MANHOLES

- G. All storm drain manhole covers shall be a standard 24-3/4" size and labeled "Storm Drain." Manhole covers not conforming to the standard size and markings shall be converted to the standard size and marking, (i.e. 24" or 25" lids must be converted to 24-3/4") as part of the work.

#### 2.9 SUMPS AND PRETREATMENT MANHOLES

- A. Sump: 5' diameter precast concrete or 12 gauge galvanized metal
  - 1. Precast concrete to meet ASTM C 478 precast requirements. See also section 03 40 00.
  - 2. See City of Orem Standard Drawing SD-4 for details.
- B. Pretreatment Manhole: 4' diameter precast concrete manhole
  - 1. Precast concrete to meet ASTM C 478 precast requirements. See also section 03 40 00.
  - 2. See City of Orem Standard Drawing SD-4 for details.

#### 3.3 INSTALLATION – CLEANOUTS, MANHOLES, SUMPS AND PRETREATMENT MANHOLES

- E. (Section applies, except disregard concrete collar. Asphalt collar preferred)
- F. Sumps are not allowed in soil sensitive areas having poor percolation as shown on City of Orem Standard Drawing SD-1.
- G. Sumps are not allowed within the 3 year delineation (travel) zone of culinary wells. The 3 year delineation zone for drinking water source protection has been established by professional studies and has been approved by the Drinking Water Division of the Utah Department of Environmental Quality. The City of Orem has the responsibility to update and maintain the delineation zone maps. Refer to City of Orem Standard Drawing SD-2, Well Head Protection.
- H. Sumps shall be constructed in conformance with the City of Orem Standard Drawing SD-4.
  - 1. They shall be staked in the field and indicated on the approved plans.
  - 2. In the area surrounding sumps, the original material shall be removed and the entire backfill done with imported drain rock.

3. Slag shall not be used as drain rock.
  4. After backfilling is completed, the entire excavation shall be thoroughly flooded to insure that settlement is complete.
  5. Grates shall be set in place and adjusted for final elevation and alignment.
  6. The City of Orem may require a fabric barrier between drain rock and road base (or other material) when there is the possibility of silt and aggregate fines moving into the void space of the drain rock.
- I. Pretreatment Manholes shall be constructed in conformance with the City of Orem Standard Drawing SD-4.