Section 330000 Utilities

PART 1 - GENERAL

1.01 General Requirements

- A. The requirements set forth in the General Conditions shall be in addition to the standards provided herein.
- B. The requirements set forth in the Supplemental Conditions shall be in addition to the standards provided herein.
- C. The standards set forth in the City of Roseville Design and Construction Standards, latest edition, for storm drainage throughout the project and for sanitary sewer installations within the public rights-of-ways, easements, or as shown on the improvement plans shall be in addition to the standards provided herein.
- D. The standards set forth in the latest edition of the California Building Code (CBC) for sanitary sewer installation within the project site, outside of the public right-of-way or easement, shall be in addition to the standards provided herein.

1.02 Description

- A. Furnish all labor, materials and equipment for the complete installation of the storm drain system and sanitary sewer pipe, and necessary appurtenances as shown on the Plans and as specified herein.
- B. Submit a materials listing for review and approval prior to commencement of specified work.

1.03 Related Work

A. Section 311000: Clearing and Grubbing

B. Section 312000: Earthwork

1.04 Safety Requirements

- A. Furnish, install and maintain required sheeting, shoring, bracing, and other methods to ensure complete and safe work environment for all workers. Upon completion of work, remove all bracing, shoring, etc. in its entirely, unless otherwise directed by the Inspector.
- B. Prior to excavation or trenching, the Contractor shall contact USA Alert (800) 227-2600 to locate all known utilities a minimum of 48 hours prior to start of work. During the course of construction, the Contractor shall take every precaution to maintain and protect utilities noted to remain. Said utilities shall remain operational at all times, unless otherwise noted on the plans.
- C. The existing utilities are shown on the Plans based on the information available at the time of contract document development. The City shall not assume responsibility for any inaccuracies or incompleteness of the Plans based on such information. The Contractor shall immediately notify, upon damage of any pipeline or facility, the Owner and/or its agents and take every action necessary to repair or replace damaged facilities to the satisfaction of the Inspector, and at no additional cost to the City.
- D. Trenches, excavations and repair of pavement shall be consistent with Section 312000: Earthwork.

1.05 Coordination

A. The piping system as shown on the Plans is diagrammatic. The Contractor shall make reasonable adjustments to the layout to avoid conflicts, based on actual field conditions. Said changes shall not interfere with the design intent of the system.

1.06 Tolerance

A. The allowable tolerance for the installation of pipe is 0.05 feet within grades or spot elevations indicated on the Plans.

1.07 Product Storage

A. Take every precaution to protect the materials and pipes from damage during the delivery, storage and installation of the pipe system. Store in a cool, contained area, protected from direct sunlight and per manufacturer's recommendations. Pipe shall be supported on firm level ground at the site.

1.08 Record Drawings

A. The Contractor shall keep an accurate record of the as-built conditions of the storm drain and sanitary sewer system. These records shall be updated daily and kept at the construction site. At any time, the Inspector may examine the conditions of the "as-builts" to ensure compliance of the above.

PART 2 - PRODUCTS

2.01 General

A. All products shall conform to City of Roseville Design and Construction Standards, latest edition, except as noted below.

2.02 Drain Pipe

- A. <u>Solid</u> drainpipe shall be PVC SDR 35 and shall conform to ASTM D1784, unless otherwise accepted. Gasketed connections shall conform to ASTM F477.
- B. <u>Perforated</u> drainpipe shall be smooth walled PVC, open per CalTrans Section 68-1.02K, unless otherwise accepted.

2.03 Drain Rock

A. Drain rock shall be Class 2 washed, 3/4" diameter.

2.04 Filter Fabric

A. Filter fabric shall be MiraDRAIN 5000, or approved equal.

2.05 Drain Boxes

- A. Catch basins shall be pre-cast and a minimum size of twenty-four inches (24") square or round by Santa Rosa Products, or accepted equal.
 - 1. Grate shall be heavy duty, cast iron, walk-on, and bolt down.
 - 2. Box extensions shall be Santa Rosa Products, or accepted equal.
 - 3. The base shall be cast-in-place, five inches (5") thick.
 - A twelve inch (12") wide concrete collar shall be installed around the catch basin with a "Fish" stamp, bolted on either the drain grate or collar.
- B. Drain inlets shall be pre-cast and a minimum size of sixteen inches (16") square by Santa Rosa Products, or accepted equal.
 - 1. Grate shall be heavy duty, cast iron, walk-on, bike-proof, and bolt down.

- 2. Box extensions shall be Santa Rosa Products, or accepted equal.
- 3. The base shall be cast-in-place, five inches (5") thick.
- 4. A twelve inch (12") wide concrete collar shall be installed around the drain box with a: "Fish" stamp, bolted on either the drain grate or collar.
- C. Channel Drains for baseball/softball backstop areas shall be Polycast 600 series presloped trench drains with galvanized steel slotted grates or accepted equal.
- D. Drinking fountain drain inlet shall be eight inch (8") round cast iron drain with cast iron grate, #Z-742-VP by Zurn or accepted equal.
- E. Sanitary Sewer Clean Outs shall be as specified in the City of Roseville, Design and Construction Standards, latest edition.

2.06 Manholes

- A. Manholes shall have tongue and groove joints, be forty-eight inches (48") minimum in diameter, meeting ASTM C-478.
- B. Covers shall be cast iron.
- C. All components shall meet the City of Roseville Design and Construction Standards, latest edition.

2.07 Other (Specify)

A. Additional products not listed in City Standard.

PART 3 - EXECUTION

3.01 General

- A. All pipes shall slope uniformly from given elevations shown on the Plans.
- B. All pipes shall be accurately laid true to line and grade, utilizing accepted construction methods.
- C. Damaged or cracked pipe and fittings shall not be installed and shall be removed from site.
- D. Install all pipe in locations shown on the Plans, except where existing conditions necessitate minor changes.

- E. All pipe and fittings shall be kept clean and closed throughout the course of construction.
- F. Connections to existing sanitary sewer stubs shall be "TV-ed" and air tested prior to the start of construction per the City of Roseville Design and Construction Standards, latest edition.

3.02 Installation

- A. Installation of the specified pipe lines shall conform to the City of Roseville Design and Construction Standards, latest edition.
- B. Notify the Inspector a minimum of 48 hours prior to covering of work to ensure timely inspections.
- C. Cutting of AC or concrete paving shall be clean, vertical and straight, using a saw, or other tool specific to this application. Replace paving to existing or better condition prior to work.
- D. Trench and backfill shall be per City of Roseville Design and Construction Standards, latest edition.
- E. Catch basins and drain inlets shall be installed with a concrete collar with "No Dumping" message and fish symbol depressed into the concrete or bolted in place, consistent with Drawing DR-20 the City of Roseville Design and Construction Standards, latest edition.
- F. Channel drains shall be set per manufacturer's instructions. Place slotted grates along the entire length of the backstop, including wing fencing, wherever concrete is placed adjacent to the backstop system. Provide a below grade piped connection at all gate openings into the infield area. Do not install grated drain sections at these entry/exit points.
- G. Drain inlets at drinking fountains shall be located under jug filler and connected to storm drain per local codes.
- H. Manholes shall be per City of Roseville Design and Construction Standards, latest edition. Install grate flush with finish grade.
- I. Sanitary Sewer Clean-outs shall be installed with 3M ball markers and shall be located within planted or turf areas, whenever possible. Place clean-outs at 100' intervals throughout the project. Clean-outs shall not be located within play areas. Install per City of Roseville Design and Construction Standards, latest edition.

- J. Upon completion, thoroughly flush storm drain system in the presence of the Parks Inspector.
- K. Installation of additional products not listed in the City Standards.

3.03 Cleaning

A. Keep site clean at all times. Remove from the site all debris and rubbish and legally dispose.

END OF SECTION