

SECTION 02811

LANDSCAPE IRRIGATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pipe and fittings, valves, sprinkler heads and accessories.
- B. Control system.

1.02 UNIT PRICES

- A. Measurement and payment for Landscape Irrigation will be made under this Section on a lump sum basis.

1.03 SYSTEM DESCRIPTION

- A. Electric solenoid controlled underground irrigation system.
- B. Source Power: 120 volt

1.04 SUBMITTALS

- A. Submittals shall conform to the requirements of all provisions and sections of these specifications.

1.05 QUALIFICATIONS

- A. Manufacturer: Company specializing in performing the work of this section with minimum three years documented experience.

1.06 REGULATORY REQUIREMENTS

- A. Conform to applicable code for piping and component requirements.

1.07 PRE-INSTALLATION CONFERENCE

- A. Convene one week prior to commencing work of this Section.

1.08 COORDINATION

- A. Coordinate work under provisions of Section 02901 - Landscape Planting.

- B. Coordinate the work with site landscape grading and delivery of plant life.

1.09 EXTRA MATERIALS

- A. Furnish extra components under provisions of Bid Schedule.
 - 1. Two sprinkler heads of each type and size.
 - 2. Two valve box keys.
 - 3. Two wrenches for each type head core and for removing and installing each type head.

PART 2 PRODUCTS

2.01 PIPE MATERIALS

- A. Pipe shall be continuously and permanently marked with Manufacturers name, size, schedules, type, and working pressure.
- B. PVC Pipe ASTM D2411; 200 psi pressure rated upstream from controls, 160 psi downstream; solvent welded sockets rubber gasketed joints.
- C. Fittings: Type and style of connection to match pipe.
- D. Solvent Cement: ANSI/ASTM D2564 for PVC pipe and fittings.
- E. Sleeve material: 4" schedule 40 PVC.

2.02 OUTLETS

- A. Manufacturers or approved equal:
 - 1. Rainbird Model 180 4.
 - 2. Rainbird Model 1812
 - 3. Hunder Model PGP
- B. Rotary type sprinkler head: Pop-up type with screens; fully adjustable for flow and pressure; size as indicated; with letter or symbol designating degree of arc and arrow indicating center of spray pattern.
- C. Spray Type Sprinkler Head: Pope-up head with full circle, half circle, third circle, quarter circle and square pattern.

2.03 VALVES

- A. Manufacturers or approved equal:
 - 1. Rainbird Model PEB Series
- B. Gate Valves: Bronze construction, non-rising stem, and sized to line.
- C. Backflow Preventers: FEBCO 765 Bronze body construction, reduced pressure zone or pressure vacuum braker type.
- D. Valve Box and Cover: rectangular 10" x 14" or 9" round.

2.04 CONTROLLER

- A. Manufacturers or approved equal:
 - 1. Rainbird Model RC1260C
- B. Valves: Electric solenoid wiring including required fittings and accessories.
- C. Wire conductors: color-coded.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify site conditions under provisions of Section 01040 - Coordination and Meetings.
- B. Verity location of existing utilities.
- C. Verify that required utilities are available, in proper location, and ready for use.

3.02 PREPARATION

- A. Piping layout indicated is diagrammatic only. Route piping to avoid plants, ground cover, and structures.
- B. Layout and stake locations of system components.
- C. Review layout requirements with other affected work. Coordinate locations of sleeves under paving to accommodate system.

3.03 TRENCHING

- A. Trench and filling as required.
- B. Trench size:
 - 1. Minimum Cover Over Installed Supply Piping: 18 inches.
 - 2. Minimum Cover Over Installed Branch Piping: 12 inches.
 - 3. Minimum Cover Over Installed Outlet Piping: 12 inches.
- C. Trench to accommodate grade changes.
- D. Maintain trenches free of debris, material, or obstructions that may damage pipe.
- E. Do not leave trenches open overnight.

3.04 INSTALLATION

- A. Install pipe, valves, controls, and outlets in accordance with manufacturer's instructions.
- B. Connect to utilities.
- C. Set outlets and box covers at finish grade elevations.
- D. Install control wiring as required. Provide 10-inch expansion coil at each valve to which controls are connected, and at 100 ft intervals. Bury wire beside pipe. Mark valves with neoprene valve markers containing locking device. Set valve markers in 160 psi PVC pipe risers exiting from top of valve to finish grade.
- E. After piping is installed, but before outlets are installed and filling commences, open valves and flush system with full head of water.
- F. Coordinate pipe installation with conduit installation.

3.05 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed.
- B. Prior to filling, test system for leakage for whole system to maintain 100 psi pressure for one hour.

3.06 FILLING

- A. Provide 3 inch sand cover over piping. Fill trench and compact to subgrade elevation. Protect piping from displacement.

3.07 ADJUSTING

- A. Adjust control system to achieve time cycles required.
- B. Change and adjust head types for full water coverage as directed.

3.08 DEMONSTRATION

- A. Provide system demonstration.
- B. Instruct Owner's personnel in operation and maintenance of system, including adjusting of sprinkler heads. Use operation and maintenance material as basis for demonstration.

END OF SECTION