

SECTION 02441
IRRIGATION SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Install underground irrigation sprinkler systems as specified.
The work includes but is not limited to:
1. Automatic irrigation system including piping, sleeves, fittings, sprinkler heads, drip hoses, bubblers, and accessories.
 2. Valves, backflow preventor and fittings.
 3. Controller and control wire.
 4. Testing.
 5. Excavating and backfilling irrigation system.
 6. Associated plumbing and accessories to complete the job.
 7. Responsible for all corrections and damage.
 8. Irrigation control box shall be located inside of the storage room.

1.2 SUBMITTALS

- A. Submit manufacturer's operating instructions to Owner and provide shop drawings for layout of irrigation system.
- B. As-Built Irrigation Drawings are required. Must clearly indicate zones/and lines to controller.

1.3 GUARANTEE

- A. Contractor shall assume full responsibility for the proper installation of the system.
- B. Contractor shall make all necessary, reasonable efforts to handle any warrantee Claims within seven (7) days of the receipt of the claim.
- C. Contractor shall guarantee the installation workmanship for a period of one year from Provisional Acceptance.

ENGINEER'S ASBUILT REQUIREMENTS

As-built drawings shall be submitted for all public and private roadways, utilities, and drainage systems, both on-site and off-site. These drawings shall be based on field surveys and will show all property boundaries, rights-of-way, easements, lot lines, and shall be certified by a Florida state registered/professional land surveyor in accordance with Rule 21HH-6.5 of the Florida Administrative Code, and shall document the location of the items listed below:

- (1) Location of all valves, hydrants, services, and related appurtenances, both above and below ground, and elevations at any point where a waterline crosses a wastewater or drainage line. All valves shall be referenced from at least two and preferably three permanent points.
- (2) Top of pipe elevations are required for all water pipes on each valve, fitting or change in grade.
- (3) Drawings shall provide dimensions between all valves, appurtenances and service lines. Drawing dimensions shall include pipe material, size class, etc.
- (4) Location of all sanitary sewer manholes and the service end of all laterals and elevations of all manhole tops and inverts, and top of pipe elevations for sewer pipes at each fitting or change in grade. Vertical measurements shall be referenced to permanent surface improvements.
- (5) Dimensions between all manholes shall be field verified and shown. Drawing dimensions shall include pipe material, size, class, etc.
- (6) Location of all lift stations including the top and invert elevations, and the location and elevation of all valves, and the point where the force main crosses any wastewater, water, or drainage lines.
- (7) Location of all drainage structures, including but not limited to manholes, inlets and pipe ends. Provide elevations of all drainage structure tops and inverts, including weirs, slots, orifices, skimmers and clean-outs.
- (8) The location, size, type and invert elevations of all drainage pipes, including roof drain pipes.
- (9) Spot elevations at reasonable intervals along the top of the berm and bottom of all retention and/or detention ponds to indicate conformance with the approved design.
- (10) Spot elevations at reasonable intervals along all off-site drainage swales/ditches.
- (11) Spot elevations at reasonable intervals along all edge of pavement, flow lines and changes in grade, sidewalks and curbing.
- (12) Location of all transformer pads, power poles, light poles, and underground cables.
- (13) Location of building footprint and finished floor elevation.
- (14) Location and material of all pavement, sidewalks and curbing. Location of all pavement striping/markings, signs and wheel stops.
- (15) Field verify all landscaping and irrigation locations and materials. Show landscape, irrigation meters and backflow prevention device locations on drawings. Locate any landscape material

and above ground irrigation appurtenances which do not match design drawings and show correct field location.

Drawings shall meet or exceed the requirements of Storm Water. ERP information manual, latest edition and standards for drainage and utilities.

Draft copies of the As-built drawings shall be submitted to the Engineer prior to finalizing the drawings. Once acceptable to the Engineer, the Contractor/Surveyor will provide a minimum of 9 sets of signed and sealed finalized drawings and one digital copy of record drawings (in Acad 14 format, record information shall be on unique layer(s), using text shape file that comes with standard Acad). These finalized drawings and digital copy shall be provided to the Engineer within 7 days of bacteriological clearance testing for submittal to the County. Once the drawings are approved by the County, Contractor/Surveyor is responsible to provide the engineer of record one set of mylars. An updated digital copy shall be provided if any revisions occurred.