

ITEM 615.5005 11 - STEEL SPRAY FIXTURES

DESCRIPTION

Under this Item, the Contractor shall furnish and install steel spray fixtures on concrete footings, in accordance with the plans, specifications, and directions of the Engineer.

MATERIALS

Except as otherwise provided for herein, all materials and methods of construction shall conform to the NYSDOT Standard Specifications.

Footings: Shall be Class A concrete in accordance with Section 501- Portland Cement Concrete – General of the Standard Specifications

Steel Spray Fixtures: Spray fixtures shall be “Vortex” as manufactured by Vortex Aquatic Structures International, Inc., Montreal, Quebec, Canada; “H2O Fun” as manufactured by Landscape Structures, Delano, MN; “Waterplay” as manufactured by Waterplay Manufacturing, Inc., Penticton, British Columbia, Canada; or approved equal.

Spray fixtures shall be constructed of Schedule 10, Type 304/304L stainless steel to form various features of varying heights as shown on the drawings. A variety of spray features including but not limited to water arch, etc., shall be set on a concrete foundation, at the proper elevations, as per the manufacturer’s recommendations. All components shall include all anchor hardware and stainless steel fasteners.

Each fixture shall have a 1 NPS male or a 1.5 NPS threaded female water inlet attached at a point relative to the bottom of the fixture to facilitate water hook up.

In-Ground Sprays: In-ground sprays shall be constructed of minimum Schedule 10, Type 304/304L stainless steel as per the sizes shown on the drawings. Each fixture shall have a 1 NPS threaded female water inlet attached at a point relative to the bottom of the fixture to facilitate water hookup. Sprays shall be equipped with a removable brass cover and shall be set on a concrete base in the locations indicated on the plans and approved Shop Drawings.

Flush Mounted Jets: Flush mounted jets shall be constructed of 2 NPS, Schedule 10 (minimum) Type 304/304L stainless steel housing threaded to accept tamper resistant brass nozzle. The nozzle shall produce a single water stream. The direction of the water stream shall be adjustable to a maximum of 25 degrees from the vertical. A special tamper resistant tool and a winter cap shall be included with the assembly. The water inlet connection shall be ¾ NPS NPT male stainless steel. Flush mounted jets shall be set on a concrete base in the locations indicated on the plans and approved Shop Drawings.

Nozzles: Where applicable, spray fixtures shall contain either interchangeable five (5) piece solid brass nozzles, or one piece in-pipe brass nozzles, and shall be concealed in a recessed nozzle socket to ensure that all spray devices are concealed within the spray fixture. Nozzles must be of tamper resistant design, secured in the nozzle socket by means of security tooling specifically designed to fit only hardware, nozzles, and fasteners. All nozzle installation shall be performed after the thorough

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flushing of the entire system (see Testing). Nozzles shall be secured as per manufacturer's installation instructions to the satisfaction of the Engineer.

Coating: Fixtures shall receive a polyester powder coat, similar to that manufactured by Tiger Drylac U.S.A. Inc., or approved equal. The shop coat shall conform to manufacturer's recommendations for surface preparation and thickness of coating. The color shall be as indicated on the plans.

Copper Tubing: The water service pipe shall be hard temper Type "K" copper tubing meeting ASTM No. B88-1974. All tubing and fittings shall be as specified and paid for in the 'Copper Tubing' Item. Copper tubing and fittings are to be supplied from valves on the water supply line to the fixtures, with the connection at the fixture to be made with a dielectric coupling.

Fittings: Fittings shall be approved red brass Class "A" threadless type, containing no less than eighty five percent (85%) copper, adaptable for copper tubing.

Joints: Joints shall be made by soldering, using 95-5 tin antimony solder.

Hardware: All hardware, fittings, and fastenings shall be as indicated on the shop drawings and as required to complete the installation. Lag bolts shall be of best quality stainless steel with side-slot flat type vandal proof head in the sizes indicated on the plans. Anchors shall be stainless steel in the sizes required. Tamper proof hardware shall be stainless steel.

CONSTRUCTION DETAILS

Excavating for Foundation: All excavation shall be cut accurately to required lines and dimensions for work on drawings, and shall be large enough to provide adequate clearance for the proper execution of the work within them.

Concrete Placement: Concrete shall be placed in accordance with Subsection 555-3 of the Standard Specifications and as required herein.

Cast in Place Footings Inspection: When the excavation has been carried to the required depth, as shown on the drawings, the Contractor shall do no more work until after the inspection by the Engineer, who shall order the foundation work to proceed, or further excavation as the conditions indicate, and no other work shall be done until the excavation has been approved by the Engineer.

Curing: All finished concrete shall be protected and kept moist continuously for three days, as directed by the Engineer.

Water Feature Fixtures: Spray fixtures shall be installed in accordance with the manufacturers written directions. Entire assemblies shall be installed in accurate locations, square and plumb on concrete footings and in required locations to surrounding finished grade, as shown on the plans. Anchor bolts shall be accurately set, plumb and true, in concrete footings, using templates supplied

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by the manufacturer.

Field Connection: All field connections are to be made by a Plumber licensed to perform work in New York City.

Testing: Before backfilling, the entire system shall be pretested and inspected. All pipe shall be properly restrained prior to testing. Testing shall include maintaining full pressure on the entire system for no less than one hour. Following the pressure test, it is imperative that all components be flushed by running the water supply through the fixture for a period of time to ensure all debris has been removed from the entire system prior to installation of any nozzles and in the presence of the Engineer. Nozzles shall be secured to the spray fixtures utilizing the security tooling provided by the manufacturer and all work shall be performed to the satisfaction of the Engineer. After paving is completed, all nozzles shall be adjusted and secured for proper operation and spray patterns to the satisfaction of the Engineer.

Submittals: All submittals shall be made prior to the manufacturing and delivery of materials to the project site.

Shop Drawings: The Contractor shall submit Shop Drawings of the spray fixtures including spray nozzles and colors for approval.

METHOD OF MEASUREMENT

This item will be measured as a lump sum for furnishing and installing all steel spray fixtures complete, in accordance with the plans, specifications, and directions of the Engineer.

BASIS OF PAYMENT

The lump sum price bid shall include the cost of all labor, materials, equipment, and incidentals necessary or required to complete the work including excavation, backfill, concrete footings, hardware, fittings, dielectric couplers, drain valves, testing, and all components integral with the spray fixtures in accordance with the plans and specifications to the satisfaction of the Engineer.

NYSDOT will retain ten (10%) of decorative steel spray fixture(s) bid amount until the Contractor completes the requirements of the Testing section of this specification to the satisfaction of the Engineer.

Backflow Preventer, Water Meter, Copper Tubing, Gate Valves, Globe Valves, Valve Boxes and Broken Stone, where applicable, shall be paid for separately under their respective Contract Items.