

SECTION S615 – LANDSCAPE MISCELLANEOUS

S615 GENERAL

Work is to be in accordance with requirements of Section R615 Landscape Miscellaneous, with following modifications:

References to NYSDOT specifications are to be in accordance with latest edition of *NYSDOT Standard Specifications (US Customary Units)*.

S615-2 MATERIALS

DELETE Subsection R615-2.01 Steel Bollards in its entirety, and **REPLACE** with following:

S615-2.01 Steel Bollard

Steel bollard is to be 4 inch or 6 inch outside diameter, 6 feet 6 inches long, new galvanized steel pipe.

Acorn cap is to be new galvanized steel pipe.

Bollard cover is to be safety yellow high-density polyethylene with anti-tampering system.

Chain loop is to be 1/4 inch diameter by 2 inch galvanized steel welded to steel bollard. Chain loop will be installed only in locations as required in Contract Documents.

At end of Section R615-2 Materials, **ADD** following:

S615-2.13 Landscape Boulder

Landscape boulders are to be structurally sound, durable, free from rifts, seams, laminations, cracking, scaling or other evidence of disintegration, and are to be clean, free of soil and mud.

Type 1 landscape boulders are intended to provide seating for pedestrians, are to be rectangular in shape with flat surfaces, and are to have following average dimensions:

48 inches Length
36 inches Width
18 inches Height

Type 2 landscape boulders are intended to be used to prohibit vehicular access, are to be approximately rectangular in shape with rough surfaces, and are to have following average dimensions:

48 inches Length
36 inches Width
30 inches Height

S615-2.14 Handrail

Handrail is to be 1-1/2 inch diameter galvanized steel pipe in accordance with ASTM A53.

Sleeve is to be 3 inch diameter galvanized steel pipe 6 inches in length, in accordance with ASTM A53.

Color of handrail is to be #37056 black in accordance with Federal Standard 595 and NYSDOT 708-06 Paint for Galvanized Surfaces.

Grout for anchoring sleeve is to be in accordance with NYSDOT 701-05 Concrete Grouting and Anchoring Material.

S615-3 CONSTRUCTION DETAILS

DELETE Subsection R615-3.01 Steel Bollard in its entirety, and **REPLACE** with following:

S615-3.01 Steel Bollard

Top of adjacent steel bollards are to be uniform in height and line.

Steel bollard is to be encased 3 inches all around within 3 feet deep concrete foundation. Top of concrete foundation is to be flush with finished grade in paved area, domed in grass area.

After concrete foundation has set-up, fill steel bollard with concrete.

Steel bollard is to be finished either with acorn cap and painted flat black, or with polyethylene bollard cover.

For acorn cap, interior of acorn cap is to be coated with epoxy prior to being wedged in place.

Polyethylene bollard cover is to be installed per manufacturer's instructions, and set tight in place with anti-tampering system.

If required, chain loop is to be welded onto steel bollard, with top of chain loop being 2 inches down from top of steel bollard.

At end of Section R615-3 Construction Details, **ADD** following:

S615-3.10 Landscape Boulder

Landscape boulders are to be stockpiled at an approved location, and approved for use prior to final placement.

Landscape boulders are not to be placed within 10 feet of any tree, power pole, street light pole, or hydrant, nor over any monument or utility appurtenance.

After landscape boulder site is complete and ready for placement, mark location of landscape boulders for approval based on Contract Documents and as directed by Project Manager.

Area on which landscape boulders are to be placed is to be well compacted, stable and firm so as to prevent as much as possible any settlement of landscape boulders into surface. After arrangement of landscape boulders is approved, set landscape boulders in place, true to surrounding cross-slope and grade, and free of any movement. Backfill and fill in any voids between bottom of landscape boulders and surface area as directed by Project Manager.

Landscape boulders are to be cleaned of any marks and scars caused by Contractor's operations and construction equipment.

S615-3.11 Reset Existing Landscape Boulder

Existing landscape boulders are to be stored and reset in accordance with Subsection S615-3.01 Landscape Boulder, except as modified herein.

Caution is to be taken in removing existing landscape boulders to minimize any damage. Existing landscape boulders are to be cleaned of all foreign or extraneous matter. Removal and cleaning of landscape boulders is to be done such that overall structural integrity of landscape boulders is maintained.

S615-3.12 Handrail

Handrail is to be assembled and installed in accordance with manufacturer's instructions. All work is to be straight, true, free from warp and twist, and where applicable square and in same plane.

All surfaces and edges are to be free of sharp or abrasive elements and projections.

Immediately prior to erection, railing is to be inspected for damage. Significant bends or kinks in the railing not specifically called for in the contract documents is sufficient cause for rejection. Straightening of such bends or kinks, and bending or curving rails in field in order to fit alignment requirements, is not be permitted.

Handrail is to be installed such that opposing rails are parallel to each other and to slope of stairway, and at consistent height of 36 inches above stair nosing.

Field connections are to be designed and constructed to provide ease of assembly and disassembly, without use of special tools. Joints are to be firm when assembled.

Sleeve for setting posts is to be plumb, with top being flush with finished surface of surrounding pavement. Posts are to be set plumb and centered in sleeve, and thoroughly grouted in place.

Welding is to be performed by qualified workers in accordance with NYS Steel Construction Manual. Welds are to show good fusion, be free from cracks and porosity, accomplish secure and rigid joints in proper alignment, and ground smooth and flush with adjacent surfaces. Connections which are welded are to be ground smooth, cleaned and re-galvanized in accordance with NYSDOT Section 719-01 Galvanized Coatings and Repair Methods. Top rail is to be free of welds except at post and end connections.

Paint is to be applied upon completion and acceptance of installation of handrail.

S615-3.13 Replace Existing Handrail

Existing handrail is to be removed and properly disposed of. New handrail is to be furnished and installed in accordance with Section S615 Landscape Miscellaneous.

S615-4 METHOD OF MEASUREMENT

At end of Section R615-4 Method of Measurement, **ADD** following:

S615-4.03 Landscape Boulder

Quantity to be measured for payment will be number of landscape boulders installed or reset.

S615-4.04 Handrail

Quantity to be measured for payment will be number of linear feet of handrail installed or replaced, as measured along top rail, between outermost ends of handrail extensions.

S615-5 BASIS OF PAYMENT

At end of Section R615-5 Basis of Payment, **ADD** following:

S615-5.01 Steel Bollard

A. General

Unit price bid for all items includes cost of: excavation; furnishing, layout and installing steel bollard; concrete foundation; chain loop where required; and furnishing all labor, material and equipment necessary to complete work.

B. Steel Bollard - Painted

Unit price bid also includes cost of: furnishing and installing acorn cap; epoxy; paint.

C. Steel Bollard – with Bollard Cover

Unit price bid also includes cost of: furnishing and installing bollard cover complete with anti-tampering system.

D. Steel Bollard – Replace Existing Bollard Cover

Unit price bid also includes cost of: removing and disposing existing bollard cover; furnishing and installing new bollard cover complete with anti-tampering system.

S615-5.02 Landscape Boulder

A. General

Unit price bid for all items includes cost of: furnishing, stockpiling, layout and placement of landscape boulders; compaction and preparation of installation area; backfilling voids; cleaning landscape boulders of marks and scars; and furnishing all labor, material and equipment necessary to complete work.

B. Landscape Boulder

Unit price bid also includes cost of: furnishing new landscape boulders.

C. Reset Existing Landscape Boulder

Unit price bid also includes cost of: removing and cleaning existing landscape boulders.

S615-5.03 Handrail

A. General

Unit price bid for all items includes cost of: furnishing, layout and installation of handrail; post sleeve; grout; welding; repairing galvanized surfaces; furnishing and applying paint; and furnishing all labor, material and equipment necessary to complete work.

B. Replace Existing Handrail

Unit price bid also includes cost of: removing and disposing existing handrail.

Payment will be made under:

ITEM NO.	ITEM	PAY UNIT
S615.0501	4" Steel Bollard - Painted	Each
S615.0502	4" Steel Bollard – with Bollard Cover	Each
S615.0503	4" Steel Bollard - Replace Existing Bollard Cover	Each
S615.0601	6" Steel Bollard - Painted	Each
S615.0602	6" Steel Bollard – with Bollard Cover	Each
S615.0603	6" Steel Bollard - Replace Existing Bollard Cover	Each
S615.18	Landscape Boulder Type 1	Each
S615.19	Landscape Boulder Type 2	Each
S615.20	Reset Existing Landscape Boulder	Each
S615.21	Handrail	Linear Foot
S615.22	Replace Existing Handrail	Linear Foot

REVISED June 1, 2018