

**ITEM 0113501**

**CONCRETE STEPS WITH HANDRAILS**

**DESCRIPTION**

This work shall consist of removing and disposing of any existing concrete steps and handrails, if any, and the construction of new cast-in-place concrete steps with metal handrails. All steps shall be constructed to the line(s), grade(s), dimensions and details as shown on the plans, as prescribed by this specification, and/or to the satisfaction of the engineer. Also included under this item shall be the construction of temporary wood steps used to service pedestrian traffic during the prosecution of the permanent work. All work shall be completed in accordance with State and local building codes, and by experienced and competent tradesmen.

**REFERENCED ITEMS**

Items 0102101, 0103703, 0106201, and 0106401

**REQUIRED SUBMITTALS**

Shop Drawings:

Submit 5 copies of shop drawings for stairs in accordance with the contract general requirements.

**MATERIALS**

Concrete used for the construction of steps shall be as specified under Item 0102101.

Process traprock used for foundation purposes shall be as specified under Item 0103703.

All railings shall be 1-1/2" O.D. welded and seamless galvanized steel pipe conforming to the requirements of subarticle M.06.02-8 of the State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction Form 816, 2004. Railings shall be fabricated to the dimensions as shown on the plans, and shall be in accordance with State and local building codes.

Paint for handrails shall conform to the requirements of Section M.07 of the State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction Form 816, 2004.

Timber used for temporary step units need not be new, but should be of standard construction grade quality, suitable for the purpose intended.

### **CONSTRUCTION METHODS**

Prior to excavating and removing existing steps, if any, the contractor shall construct temporary wood steps in the location(s) as designated on the plans, or as ordered by the Engineer. Temporary wood steps may not be required in locations where more than one means of access to private property is available at all times. The Contractor shall arrange to meet with the property owner at each proposed site to coordinate location and scheduling of work.

Upon satisfactory completion of temporary step unit(s) the Contractor shall excavate and remove the existing step unit(s), if any, and the surrounding earth to the limits and depths as shown on the plans. The existing material shall be shaped, graded, and compacted as required to allow for the placement of a 6" processed trap rock foundation. All unusable excess material shall be removed from the site and legally disposed of.

Process traprock shall be placed on the prepared sub grade to a depth of 6" and thoroughly compacted in conformance with the construction methods of item 0103703.

Forms shall be wood, steel, or combinations thereof and shall be set and adequately braced and secured. Chamfer strips shall be placed at all exposed edges, and step treads shall receive a rough broom finish parallel to the tread.

Non-metallic sleeves shall be placed in each sidewall of the unit. The Contractor shall carefully align sleeves to receive handrails. Sleeves shall be set a minimum of 8" in concrete sidewalls.

Steps shall be poured monolithically with the number of risers determined by the height of slope. Cotton matting, or curing blankets shall be used to cover the steps for a minimum of 48 hours.

Forms shall be carefully stripped, and all surrounding grass and sloped areas disturbed by construction activities shall be restored in accordance with items 0106201 and 0106401. Concrete sidewalk(s) for entranceways shall be completed. The concrete entranceways will be paid for under Item 0102101. Temporary timber steps shall then be removed and the surrounding area restored to its original condition.

1-1/2" O.D. handrails shall then be set with epoxy glue in non-metallic sleeves. The height of rails shall be as shown on the plans, and each railing shall receive one prime, and two finish coats of paint. Color of finish paint shall be black unless otherwise specified on the plans, or directed by the Engineer.

**METHOD OF MEASUREMENT**

This work will be measured for payment by the actual number of in-place cubic yards used to construct step unit(s) as determined and shown by the table on the contract drawings, and as accepted by the Engineer. In the absence of a table within the contract, the engineer will determine the number of cubic yards used.

**BASIS OF PAYMENT**

This work will be paid for at the contract unit price per cubic yard for "CONCRETE STEPS WITH HANDRAILS," complete in place, which price shall include all materials, restoration of disturbed areas, equipment, tools, labor, and incidental expense thereto.

<b><u>PAY ITEM</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PAY UNIT</u></b>
0113501	Concrete Steps with Handrails	CY