

Special Specification 5042

Stone Masonry Decorative Bridge Column



1. DESCRIPTION

This Item will govern for the construction of stone masonry decorative bridge column (or stone masonry column) placed on a concrete bridge slab footing. The stone masonry column is composed of precast concrete stone cap, concrete masonry units (CMU), veneer stones, and grout/mortar.

2. MATERIALS

Provide new materials in accordance with the following:

- 2.1 **Veneer Stone.** The stone will be free from structural defects, uniform in color and texture, and will be clean of earth, clay, oil or other foreign substances. Stones will be of the type, color, and thickness shown on the plans or as directed by the Engineer.
- 2.2 **Concrete Masonry Units (CMU).** Use Concrete Masonry Unit (CMU) that conforms to ASTM C90, "Hollow Load Bearing Concrete Masonry Units." The CMU will be free from structural defects or damages and will be clean of earth, clay, oil or other foreign substances.
- 2.3 **Precast Concrete Stone Cap.** Use materials that meet the requirements of the following Items.
- Item 420, "Concrete Substructures,"
 - Item 421, "Hydraulic Cement Concrete," and
 - Item 440, "Reinforcement for Concrete."
- 2.4 **Grout/Mortar.** Submit grout and mortar mix to the Engineer for review and approval in accordance with the stone supplier's or CMU supplier's recommendations.
- 2.5 **Reinforcing Steel.** Reinforcing steel will comply with Item 440, "Reinforcement for Concrete."

3. CONSTRUCTION METHODS

The Contractor will submit two (2) each mocked-up 2'x2' samples of the complete veneer stone and concrete which show the complete color range to the Engineer for approval.

The Contractor will be responsible for verifying all dimensions incidental to this work and will promptly report any discrepancies to the Engineer.

The stone masonry will be constructed in accordance with these specifications, in conformity with the form, dimensions, and design shown on plans, and to the lines and grades established by the Engineer.

Mortar and grout will be mixed in accordance with the approved mixes. Mixture will be mixed for a minimum period of 3 min. in a drum type batch mixer and used within 1 hr. after mixing. Mortar not used within that time will be discarded (re-tempering will not be permitted). The mortar boxes will be cleaned at the end of each day's work.

Install reinforcing steel as shown on the plans.

Stone masonry must be set by competent, experienced masons. Veneer stone and CMU will be cleaned, sponged, and drenched with clean water just before setting. Each stone column will be set in a full bed of plastic mortar.

Set stone so that the finished surface of stone will look like the approved mock-up.

The concrete cap will be set in a full bed of plastic mortar.

After the mortar is set, all showing surfaces will be cleaned of loose mortar and cement stains. Just prior to the completion of the contract, the showing surfaces will again be cleaned in a manner satisfactory to the Engineer.

4. MEASUREMENT

This Item will be measured by each stone column complete in place. Other components attached to the stone column as shown on the plans such as city's logo sign and frame mounting on the surface of the stone column, and electrical junction box, conduits, and conductors mounting inside of the stone column are measured separately but will be considered as subsidiary to the stone column.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Stone Masonry (Decorative Bridge Column)." This price will be full compensation for furnishing and hauling all materials; for all freight involved; for preparing and placing all materials, including precast concrete stone cap, CMU, veneer stones, grout/mortar, and for all labor, tools, equipment, anchoring appurtenances, and incidentals necessary to complete the work.