

STAMPED COLORED CONCRETE TRAFFIC FEATURES

****From Richmond STP 0284(17) Richmond CMG PARK(31)**

- xx. DESCRIPTION. This work shall consist of furnishing and installing stamped concrete traffic features at the location(s) indicated in the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 618 of the Standard Specifications.

- xx. MATERIALS. Materials shall meet the requirements of the following Subsections:

Welded Wire Reinforcement	713.05
Joint Sealant	707.08/707.14

Concrete shall meet the requirements of Section 541 for Concrete, Class B.

All materials for concrete stamping shall be produced by a single manufacturer and formulated to work together to provide an attractive and long-lasting stamped concrete installation. Color samples of color hardener and releasing agent shall be submitted for approval.

Alternative stamping patterns or colors to those specified herein may be used if approved by the Engineer. If alternative products are to be used, they shall be of equal quality, detail, function, and performance to that provided by the designated manufacturer.

All materials shall be approved by the Engineer prior to use.

- xx. CONSTRUCTION REQUIREMENTS. Stamped Colored Concrete traffic features shall be constructed to the depths and widths shown in the Plans, as recommended by the manufacturer and as directed by the Engineer.

- (a) Preparation. The Contractor shall plan the pattern layout in order to coordinate slab dimensions and construction joint locations with stamping pattern dimensions where necessary.

The Contractor shall provide a 48 inch x 48 inch mock-up to the Engineer to demonstrate methods of obtaining consistent visual appearance. The mock-up shall be constructed a minimum of one month prior to the start of final work, using materials and methods to be used in the final work. The mock-up shall be located on site in a location determined by the Engineer. Samples of materials used in the mock-up shall be retained for comparison with materials used in the final work. The accepted mock-up will constitute a visual standard for the final work. The mock-up shall be removed when no longer required for comparison with the final work.

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Stamped Colored Concrete pattern shall be made of 24 inch x 24 inch stamps. Each stamp shall contain markings that indicate smaller individual stones in accordance with the Plans. Expansion and sawn joints shall be coordinated with the stamp pattern, with all joints located at the edges of the stamped pattern.

The stamped pattern shall be one of the following:

Bomanite Company
8789 Auburn Folsom Rd. #108
Granite Bay, CA 95746
Product: Riverside Slate
Tel: (303)369-1115
Fax: (303)291-0282
<http://www.bomanite.com/index.cfm>

Butterfield Color
Aurora, IL
Product: 6" X 6" Slate Pattern, 24" X 24" Stamp
Tel.: 1-800-282-3388
<http://www.butterfieldcolor.com>

LM Scofield Co.
Product: Lithotex Pavecrafters, Cobble Tile 6" Stacked
Bond, 24" X 24" Stamp
Tel.: 1-800-800-9900
<http://www.scofield.com>

or approved equal.

- (b) Finishing. Stamped concrete shall be colored with a heavy duty grade color hardener. Color hardener shall be a dry shake material, specifically formulated for coloring and hardening stamped concrete. The color hardener shall be broadcast evenly over a freshly screened and floated concrete surface. The color hardener shall be worked into the concrete surface, integrating the color with the concrete. The hardener shall be allowed to be wet out with bleed water prior to floating. If necessary, additional material shall be broadcast and worked into the surface to intensify the final color appearance.

Color samples shall be provided for a warm gray to sand color. Application shall be at a rate of 0.7 to 0.8 lb/ft² and as recommended by the manufacturer for the approved color sample.

Releasing agent shall be a blend of chemical powders and color pigments specifically formulated to allow clean release of texturing tools from concrete. Color pigments provide color variation to colored stamped concrete. Pigment colors shall be darker than the color hardener and shall be selected from the samples provided. Application shall be at a rate of 20 lbs of releasing agent/700 to 1,000 ft² and as recommended by the manufacturer for the approved color sample.

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Presealer shall be used to waterproof and improve abrasion resistance of stamped concrete. It shall be a hydrolyzed lithium quartz compound applied after concrete is set but before curing is complete. The application shall be per the manufacturer's recommendations.

Presealer shall be Bomanite Con-Shield manufactured by the following company:

Bomanite Company
8789 Auburn Folsom Rd. #108
Granite Bay, CA 95746
Tel: (303)369-1115
Fax: (303)291-0282
<http://www.bomanite.com/index.cfm>

or approved equal.

Sealer shall be a high quality solvent-based acrylic sealer designed to permanently seal concrete. Application rate shall be one gal/2050-400 ft².

Sealer shall be Ultra Seal 100 VOC manufactured by the following company:

Bomanite Company
8789 Auburn Folsom Rd. #108
Granite Bay, CA 95746
Tel: (303)369-1115
Fax: (303)291-0282
<http://www.bomanite.com/index.cfm>

or approved equal.

The concrete set time shall be monitored carefully. When concrete is set adequately to support worker's weight, color release shall be broadcast evenly over the slab surface at the rate of 3 lbs/100 ft².

The stamping operation shall be performed using the stamping tool kit, and shall be performed quickly and continuously across the entire pour as follows:

- (1) Place each tool on slab surface, aligned with each other and slab edges as pattern requires.
- (2) Step on back of stamping tool to create full depth impression in concrete.

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- (3) Use special half tools and texture mats at slab edges, walls, and corners.
- (4) Broom texture surface where required.

The concrete slab shall be allowed to thoroughly cure prior to rinsing residual powder release from the surface. Ensure the surface is clean and apply protective waterproofing sealer to all exposed areas.

xx. QUALIFICATIONS. The Contractor shall be ACI certified and have constructed a minimum of 10 concrete stamping projects. The Contractor shall submit a resume, including a minimum of 3 references from concrete stamping projects constructed within 2 years prior to the commencement of this project, to the Engineer for review and approval. The work under this Section shall not commence until the Engineer approves Contractor qualifications.

xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Stamped Colored Concrete Median Island) and Special Provision (Stamped Colored Concrete Traffic Circle) of the depth(s) specified to be measured for payment will be the number of square meters (square yards) of stamped colored concrete placed in the complete and accepted work.

xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Stamped Colored Concrete Median Island) and Special Provision (Stamped Colored Concrete Traffic Circle) of the depth(s) specified will be paid for at the Contract unit price per square meter (square yard). Payment will be full compensation for furnishing, handling, and placing the materials specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Subbase and Sand Borrow will be paid separately under their appropriate Contract pay items.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.675 Special Provision (Stamped Colored Concrete Median Island, 5 Inch)	Square Yard
900.675 Special Provision (Stamped Colored Concrete Traffic Circle, 8 Inch)	Square Yard