

**606.3112 10 - SINGLE SLOPE FULL SECTION CONCRETE BARRIER CAST WITH SIMULATED STONE PATTERN FINISH (PRECAST)**

**606.3113 10 - SINGLE SLOPE HALF SECTION CONCRETE BARRIER CAST WITH SIMULATED STONE PATTERN FINISH (PRECAST)**

**DESCRIPTION:**

This work shall consist of furnishing and installing a precast reinforced Portland cement concrete barrier with a stone pattern facing as indicated in the contract documents. The Barrier shall consist of precast concrete units with stone pattern facing of the type, color, dimensions, and pattern as shown in the contract documents.

**MATERIALS:**

Materials shall meet the requirements of the Standard Specifications Section 606-2 Materials.

**CONSTRUCTION DETAILS:**

Precast simulated stone barrier shall have a precast single colored stone pattern finish. The stone barrier pattern shall be a dry stack stone pattern duplicating the stone masonry form liner pattern as shown on the plans. This pattern shall be placed on the road side face of both the full and half section barrier. The application of the textured pattern shall not compromise the required minimum concrete cover over reinforcing steel at any point as shown on the contract plans and standard sheets. Each precast simulated stone barrier unit shall consist of three segments; each segment shall have a different random masonry pattern. All three segments of the form liner pattern shall be able to interlock with each other to vary the order. The Contractor shall provide fabrication drawings for approval which include details showing the random stone pattern on each of the form liner segments proposed for use. Layout drawings for each site showing the proposed "pattern layout plan" shall be submitted for approval with the fabrication drawings.

Patterns shall be laid out in such a way as not to create any unnatural joints. The precast concrete shall be integrally colored by use of a "color pigment additive" to match the color as shown on the contract plans and details.

Texture Guidelines:

1. Sandblast textures shall have a maximum relief of 9.5 mm.
2. All form lined "mortar" joints shall be less than 13mm in depth and 25 mm in width.
3. Any pattern or texture with gradual undulations shall have a maximum relief of 20 mm over a distance of 300 mm.
4. Gaps, slots, grooves or joints of any depths shall have a maximum width of 20 mm and a maximum surface differential across these features of 5 mm or less.
5. Any pattern or texture shall have a maximum relief of 64 mm, if such pattern begins 610 mm or higher above the base of the barrier and all the leading edges are rounded or sloped to minimize any vehicle snagging potential. No part of this pattern shall protrude above the plane of the lower, untextured portion of the barrier.

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An anti-graffiti coating conforming to the requirements of Item 634.9001 Anti-Graffiti Protective Coating For Concrete Surfaces, shall be applied. Anti-graffiti coating shall be applied in accordance with manufacturer's application guide lines. The cost is to be included in the price bid per linear meter.

The precast simulated stone barrier units shall be nominal 6.1 meters in length to the greatest extent possible to provide a homogeneous appearance. At locations where unit lengths required are not equal to 6.1 meters, the Contractor shall adjust the pattern such that the homogeneous appearance is maintained. The Contractor shall provide and assemble three 6.1 meter sample sections of the precast simulated stone barrier at a location designated by the Engineer, for use as a visual standard.. Additional precast simulated stone barrier shall not be constructed until the sample is approved in writing. Once approved, one sample section shall be returned to the precast manufacturer for use as a visual standard through out fabrication of production run units. The Contractor shall furnish and install precast simulated stone barrier conforming to the approved visual standard.

**Inspection, Storage and Handling of Barrier Sections:**

The precast sections will be inspected at the installation site for the following:

- Damage during shipment
- Conformance to the material requirements
- Dimensional tolerances under 606-3.05 A Precast Concrete Barrier

An additional inspection will be made prior to placement of the barrier sections to determine any damage during storage.

**Installation of Barrier Sections:**

**A. Excavation and Backfill.** The requirements specified in §206-3 Construction Details under Section 206 Trench, Culvert and Structure Excavation, shall apply. The bottom of the barrier shall have a full and even bearing on the surface under it. After the barrier is in place, the excavation shall be backfilled in accordance with §203-3.15 Fill and Backfill at Structures, Culverts, Pipes, Conduits and Direct Burial Cables.

**B. Placement of Barrier.** Sections shall be installed to form a longitudinal barrier in accordance with subsection 606-3.05A, true to line and grade **on concrete leveling pads on prepared, compacted sub base** as specified in the contract plans. If required on plans, weep holes for drainage shall be provided.

**C. Half section barrier.** Half section concrete barrier shall be erected in accordance with subsection 606-3.05A and with the appropriate continuity plates and back-up posts or earth back-up as shown on the standard sheets and plans.

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**D. Joints.** Barrier sections shall be installed and sealed as per the details of the system. The Contractor shall use joint details provided by the manufacturer of the barrier and approved by the Department.

**Repair of Damaged Sections:**

Barrier sections that are damaged or disturbed prior to acceptance of the contract shall be repaired, realigned or replaced as directed by the Engineer. Sections which cannot be satisfactorily repaired or do not meet dimensional tolerance as determined by the Engineer will be rejected and shall be replaced with acceptable sections. The party responsible for bearing the cost of repair or replacement work will be determined by the Engineer according to Section 107- 09 Damage.

**METHOD OF MEASUREMENT:**

This work will be measured as the number of meters, to the nearest one tenth of a meter, of the precast simulated stone barrier actually furnished and installed, as specified in the contract documents. The measurement will be taken along the centerline of top of the barrier. Measurement will not include any sample barrier sections not incorporated into the work.

**BASIS OF PAYMENT:**

The unit price bid shall include the cost of all labor, materials and equipment necessary to satisfactorily complete the work, including, excavation, grading, compaction, back up posts, concrete leveling pads, continuity connections and anti-graffiti protective coating.

***Payment will be made under:***

<b>Item No.</b>	<b>Item</b>	<b>Pay Unit</b>
606.3112 10	Single Slope Concrete Barrier Cast with Simulated Stone Pattern Finish (Precast)	M
606.3113 10	Single Slope Half Section Concrete Barrier Cast with Simulated Stone Pattern Finish (Precast)	M