SECTION 09000

ARCHITECTURAL SURFACE TREATMENT

PART 1 GENERAL

1.01 DESCRIPTION

A. This work is providing and applying a special surface finish to outside face of the concrete panel lagging for the soldier pile wall located at Slope 1. The surface finish involves the use of form liners and stains to produce textured and colored concrete with the appearance of stone masonry.

1.02 QUALITY ASSURANCE

A. Be experienced or choose a subcontractor who is experienced in the application of textured/colored concrete surfaces using form liners and stains. Minimum five (5) years of experience. Submit the qualifications of the applicator to the City/SEPTA for approval.

1.03 SUBMITTALS

A. Submit catalog technical data for approval by the Engineer. Do not begin construction of forms before SEPTA approval.

Furnish evidence to the satisfaction of the Engineer that the products have been successfully used in similar applications. Submit stain mix color combination to the Engineer for review and approval.

Submit shop drawings to the Engineer that detail the patterns, colors, and layouts of the form liners.

Design and pattern of the concrete surface shall follow the manufacturer's standard drawing. The completed colored and formed concrete surface shall match the natural material in the existing stone surface of the existing stone wall, as closely as possible. Patterning of simulated stone masonry shall appear natural and non-repeating.

Construct a mock-up sample with stain mix color applied in the field for acceptance prior to proceeding with substructure units. The mock-up shall be a 24" x 24" sample of the simulated stone masonry finish. Sample is to demonstrate the finish described in the above paragraph. Approval of sample panel is required by the Engineer. Do not begin fabrication or construction prior to approval.
PART 2 PRODUCTS

2.01 MATERIALS

A. Provide form liners that are reusable, made of high strength urethane, easily attachable to forms. Liners are not to compress more than ¼" when concrete is poured at a rate of 10 vertical feet per hour. Form liners are to be removable without causing damage to surface of underlying concrete.

B. Select a standard drystack stone pattern with maximum surface relief of 2". Stone size varies from 3" to 24".

1. Limit the products to the materials necessary for proper completion of the work as specified by the manufacturer of the form liner system and as approved by the Engineer.

2. Acceptable form liner suppliers are as follows (or approved equal):
   - Custom Rock International
     2020 7th Street West Saint Paul, MN 55116
     Pattern No. 1203 New England Drystack, 2" Max. Relief
   - Fitzgerald Formliners
     1500 East Chestnut Avenue, Santa Ana, CA 92701
     714-547-6710
   - Greenstreak
     800 e Court Industrial Blvd, St. Louis, MO, 63122
     800-325-9504

C. Color Stain – Special penetrating stain mix as provided by the manufacturer, in colors to achieve full natural stone variation in finished surface. Stain is to create a finish that is breathable and that resists deterioration from water, acid, alkali, fungi, sunlight or weathering. Stain mix shall meet the requirements for mildew resistance of Fed. Test Method Std. 144, Method 6271, and requirements for weathering resistance of 1000 hours accelerated exposure measured by weather-o-meter in accordance with ASTM G26 as approved by the SEPTA. Final coloration of cast stone concrete surface shall accurately simulate the appearance of real stone including the multiple colors, shades, flecking, and veining that is apparent in real stone. It shall also demonstrate the colors that may be apparent from aging, such as staining from oxidation, rusting and/or organic staining from soil and/or vegetation.
1. Release Agent – Compatible with form liner system and color stain system.


PART 3 EXECUTION

3.01 Architectural Surface Treatment:

A. Architectural form liners shall be used on all exterior faces of the precast panel from in order to place architectural treatment monolithically with the structural concrete lagging.

B. Construct in accordance with the approved form liner manufacturer’s specifications.

C. Place panels with architectural treatment so that seam lines or match lines caused from two or more molds coming together are not to be apparent when viewing final wall. Patch all holes from form ties in accordance with manufacturer’s specifications.

D. Clean the surface of the fresh concrete of all latency, dirt, dust, grease, form oils, efflorescence and any foreign material prior to the stain application.

E. Do not sandblast for cleaning the surfaces. Pressure washing with water is preferred method. If cleaned by pressure washing, provide a pressure of 145 psi at rate of 3 gallons per minute using a fan nozzle held perpendicular to the surface at a distance of 2-3 feet. Ensure that the completed surface is free of blemishes, discolorations, surface voids and conspicuous form marks to the satisfaction of the Engineer.

F. Apply stain to clean dry surfaces in accordance with the manufacturer’s specifications once panels are in-place.

G. Provide full stain coverage on the face and around the edges of the individual stones.

H. Mortar and Joint Finish. Joints to be colored to simulate real mortar.

END OF SECTION