NOTE TO CONSULTANTS: Edit with Track Changes turned on, any text in this section that appears in bold and italics then turn off the bold and italics for the final approved version. (Remove this Note).

PART 1 - GENERAL

1.01 Description:

Provide all labor, equipment, materials, and coordination required to install all Stone Masonry on cast-in-place concrete walls and piers.

1.02 Related Work: Coordinate the work of this Section with the work of related Sections and Specification Divisions.

Section 03 30 00 - Cast-in-Place Concrete
Section 31 00 00 - Earthwork
Section 32 11 23 - Mineral Aggregates
Section 32 13 13 - Concrete Paving

1.03 Reference Standards:

American Society for Testing and Materials (ASTM), most recent edition of referenced Materials, Testing, or Procedural Specifications.

City of Seattle Standard Specifications and Plans for Road, Bridge, and Municipal Construction, (most recent edition).

1.04 Quality Assurance:

A. Inspection Notice: Notify the Engineer at least 48 hours before inspection will be required; inspection will be required immediately prior to any intended pours or placement of concrete.

B. Obtain all stone from a single quarry with resources to provide materials of consistent nature in appearance and physical properties, including the capacity to cut material without delaying progress or the work.

C. The work shall be performed by, or under the direct supervision of, a Journey-level Mason.

D. The Work shall not commence until acceptance of cast-in-place concrete or sub-grade and base, performed under other Sections of Specifications, has been approved by the Engineer as adequate to receive the Work of this Section.

E. Deliver materials to Project site in undamaged condition. Store and handle stone to prevent their deterioration or damage due to moisture, temperature changes, contaminants, breakage, chipping or other causes. Store stone on wooden skids or

pallets covered with non-staining waterproof membrane. Units observed to be damaged will be rejected.

1.05 Submittals:

A. Submit Mix Design and Color Pigment for masonry mortar.

B. Submit full-sized representative stone samples for each of the intended sizes, colors and finishes with source location and contact information.

C. Submit manufacturer's written data for all hardware, ties, and reinforcement including written description of attachment method.

1.06 Fabrication Mock-ups:

A. Contractor shall schedule and administer a pre-installation meeting prior to the beginning of installation of the stone veneer. Include in attendance the Engineer, Contractor, Installer and all other parties affected by the work to review the mock-up.

B. Provide one complete installation, approx. 2' x 4' (or larger at the contractor's option), installed on-site, for approval prior to commencing the stone masonry veneer work. The mock-up shall be a representative sample of stone masonry veneer work and shall be reviewed for color, finish selections, edge conditions and jointing and selection prior to construction. Approved mock-up shall be used as a guide for installed sections and represent the intended finished product.

PART 2 - PRODUCTS

2.01 Structural Support:

A. Cast-in-Place Reinforced Concrete Walls are provided for under Division 3, Concrete, for support of Granite Veneer Masonry.

2.02 Granite:

A. Veneer Wall Stone Mixed:

1. 85% Gray Washington State granite masonry stone – split face squares and rectangles.
2. 15% Academy Black Granite - – split face squares and rectangles.

B. Wall Cap Stone:

1. Gray Washington State granite masonry stone – 4 inch thickness –split face to match existing cap stones at 11th and Pine Street entries.

2. Supplier: Wall Stone and Wall Cap Stone shall be as provided by Marenakos Rock Center, Preston, WA – tel. 425-392-3313, or approved equal.

2.03 Wall Base: Wall Base shall be a cast in place concrete footing as defined by the Contract Drawings and constructed per the requirements of Division 3, Cast-in-Place Concrete and as approved by the Engineer as suitable to receive the Work.

2.04 Portland Cement: Type II Portland Cement, as specified in City of Seattle Standard Specifications (most recent edition), and AASHTO - M85. Alternatively, Type III cement, meeting the requirements of AASHTO T131 on approval as conditions warrant.

2.05 Aggregates: Fine aggregate for Mortar shall be City of Seattle Standard Specification (most recent edition), Class 1 or Class 2 as appropriate for the conditions and as approved by the Engineer.

2.06 Water: Use water from a potable or domestic source. Comply with the requirements of the City of Seattle Standard Specification (most recent edition).

2.07 Mortar Mix:

A. Provide proportions of approved cement, aggregates, and water appropriate for the application, generally 1:2.5 with sufficient water to achieve a consistency adequate for the Work. Color shall be approved by the Engineer.

B. Admixtures: Do not add calcium chloride.

2.08 Grout: Use only approved non-shrinking grout - pigment shall match mock-ups.

2.09 Ties & Trusses: Provide approved Type 304 stainless steel anchors and attachments of type and size required to support stonework.

2.10 Graffiti Protection: ProSoCO “Defacer Eraser SC-1” water based sacrificial anti-graffiti coating, or approved equal.

PART 3 - EXECUTION

3.01 Examination: Do not commence the Work of this Section until the supporting concrete work has been accepted and is properly cured and ready to accept the stone veneer work. Report to the Engineer any physical conflicts between the Work of other trades and the construction of Masonry walls or veneer for resolution prior to commencing.

3.02 Layout Control: Coordinate vertical and horizontal control of the layout with control established per the requirements of other trades. Provide string lines establishing alignment and level of each successive course. Provide a temporary fabricated or permanent manufactured jig to maintain design batter. Establish proper course and bond layout to minimize cutting of masonry unit and veneer. Adjust mortar thickness/width as necessary to

accommodate. Report conflicts to the Engineer for resolution prior to proceeding. Re-establish layout control and/or revise layout as directed by the Engineer.

3.03 Granite: Brush stone free of dust and other foreign matter; thoroughly wash clean before setting.

3.04 Mortar: Mix Mortar only in such quantities as can be used without adding additional water or admixtures. Apply Mortar only to properly dampened surfaces and uniformly in quantities appropriate for the size and weight of the masonry to be used and design depths of joints.

A. Vertical Joints - Fill vertical gaps between adjacent stone prior to placing the closing unit. Maintain a ¾" to 1-1/4" width allowing for irregularities in the stone. Hold vertical joints 1/2" back from face of adjoining stone.

3.05 Meet/Match Existing Surfaces: Meet/match existing cast-in-place concrete walls and surfaces in a manner that seals the void under the existing bridge. Clean all exposed surfaces of existing concrete materials of organic material and loose mortar, concrete, aggregate and grit.

3.06 Veneer Patterns:

A. Stone installed on vertical surfaces shall be installed in a pattern to match other granite veneer installed elsewhere on site. Stone shall be installed with convex side facing outward and visible.

B. Joints shall not be continuous past two units in any direction. Continuous diagonal joint sequence as flagged on the sample wall shall be removed and replaced at no additional cost to the owner. Adjust initial course and head joint width such that no stone less than 2/5 original length is required. Adjust depth of bed joints so that the final course can be installed without cutting. Repeat adjustment to the best match of bed and head joints within 3/8" to ½".

C. Placement: Selecting units that fit against adjacent unit's field dressing is required for maintaining specified joint tolerances.

3.07 Veneer Joints:

A. Horizontal (Bed) and Vertical (Head) Joints shall be constructed uniformly at 3/8" to 1/2", or as allowed, dependent on accepted layout. Exposed surfaces shall be uniformly rodded, concave, "v"-shaped, weathered, or as approved.

B. Collar joints shall be uniformly complete and flush between the surfaces being bonded, typically stone-to-cast concrete.

3.08 Veneer Ties & Reinforcing: Provide approved tie-backs at minimum spacing of 18" O. C. horizontally and vertically.

3.09 Graffiti Protection for Veneer:

A. All graffiti protection material shall be delivered to the job site in original containers with labels and seals unbroken. Protect all adjacent surfaces from damage and contamination.

B. Prior to applying graffiti protection, clean masonry to remove all traces of dirt, mortar stains, and efflorescence. Use only cleaners recommended by manufacturer. Do not use caustic or alkaline type cleaners. Test masonry for proper dryness as recommended by sealer manufacturer, and delay application until conditions are acceptable.

C. Graffiti protection to be applied in strict adherence to manufacturer's instructions.

3.10 Cleaning:

A. After completion of stone work and possibility of stain from other operations has passed, work shall be carefully cleaned. Remove loose mortar and grout materials, dirt or other defacements from all exposed surfaces and the site in general.

B. Leave premises clean and free of residue from work in this section, including trash, materials, containers, mason line, and stone or mortar rubble.

END OF SECTION