SECTION 04100
MORTAR AND GROUT

PART 1 - GENERAL

1.1 SUMMARY:

A. Section Includes:
   1. Mortar for Unit Masonry.
   3. Grout for Unit Masonry.

B. Related Sections:
   2. Section 04150 - Masonry: Reinforcement and accessories.
   3. Section 04200 - Unit Masonry: Block and brick.
   4. Section 04400 - Stone.

1.2 SUBMITTALS:

A. Samples: Submit colored mortar samples and provide coloring for masonry sample wall mock-up.

B. Grout Mix Design: Prior to any masonry work, submit grout mix design in accordance with Section 01400.

C. Test Reports: Reports of tests shall be distributed in accordance with Section 01400. Submit mortar and grout tests for proposed materials and mixes in accordance with code requirements.

LEED MRe4: Recycled Content
Provide a statement from the manufacturer including recycled content percentage, by weight, and whether the recycled content is post-industrial or post-consumer.

MRe5: Regional Materials
Provide a statement from the manufacturer stating the materials provided were manufactured within 500 miles of the project. Indicate location.
1.3 QUALITY ASSURANCE:

A. Testing Agency: Testing will be conducted by an approved testing laboratory engaged by the Owner.

B. Sole Source Requirements: Obtain mortar materials from one manufacturer or source for each type of masonry for the project.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Portland Cement for Unit Masonry: ASTM C150, Type I, except Type III may be used for cold weather construction.

1. Do not use masonry cement.

2. Colored Mortar For Brick and Block: Provide natural color or white cement as required to produce the desired color.

3. Stone Work Mortar: Provide non-staining portland cement complying with the non-staining requirements of ASTM C91 for not more than 0.03% water soluble alkali.


B. Hydrated Lime: ASTM C207, Type S.

C. Aggregates for Mortar: ASTM C144.

D. Aggregates for Grout: ASTM C404, size 1 for fine aggregate, size 8 or 89 for course.

E. Water: Clean and free from deleterious amounts of acids, alkalis or organic materials which could cause efflorescence or other impurities affecting strength or appearance.
F. Mortar Color For Brick and Block:
   Pre-packaged, factory mixed
   mineral oxide pigments.

   **BRICK AND BLOCK MORTAR COLOR IS OPTIONAL.**

   1. Color:
      a. As selected by Architect.
      b. Match existing at patching of existing work.

G. Other Admixtures:

   1. Antifreeze Compounds:
      Calcium chloride or other antifreeze agents not allowed.

   2. The use of accelerators not allowed.

   3. Latex Additive for Stone Work: Manufacturer's standard acrylic type, but not containing a retarder.

   **LEED MRc4: Recycled Content**
   100% post-industrial fly ash

2.2 MIXES:

   A. Mortar Materials and Proportions: Comply with ASTM C270.

   B. Unit Masonry Setting Mortar:

      1. Type S for Load-Bearing Masonry if deemed necessary by the designer:
         Containing Type I Portland cement, hydrated lime and aggregate. 1800 psi average compressive strength in 28 days.

      2. Type N for Face Brick and Non-Load-Bearing Interior CMU: Containing Type I Portland cement, hydrated lime and aggregate. 750 psi average compressive strength in 28 days.
1. Provide colored mortar to match accepted samples at face brick.

B. Non-Staining Stone Setting Mortar:

1. Complying with ASTM C270, Type S, with three parts sand to 1 part portland cement to 1/2 part hydrated lime.

2. Add 1 pound of dark buff colored pigment to each sack of cement.

3. Add latex additive per manufacturer's instructions.

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL:

A. Not used

END OF SECTION 04100