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 MRc4: 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.

MRc5: 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, alkalies 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.

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.

COLORED MORTAR FOR BRICK AND BLOCK IS OPTIONAL.

COLORED STONE MORTAR IS A REQUIREMENT.

BRICK AND BLOCK MORTAR COLOR IS OPTIONAL.

A NEW COLOR OF MORTAR MAY BE ACCEPTABLE AT ADDITIONS WHERE MATCHING OF AN EXISTING COLOR IS DETERMINED TO BE TOO DIFFICULT.
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