SECTION 04 21 00 – BRICK MASONRY UNITS

PART 1: GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.2 WORK INCLUDED

A. Brick units.
B. Reinforcement, anchors, and accessories.

1.3 WORK INSTALLED BUT FURNISHED UNDER OTHER SECTIONS

A. Section 05 50 00 – Miscellaneous Metals: Loose steel lintels, foundation vents.
B. Section 07 60 00 – Flashing and Sheet Metal.
C. Section 07 67 00 – Thru-Wall Flashing.

1.4 RELATED WORK

A. Section 03 30 00 – Cast in Place Concrete.
B. Section 04 10 00 – Mortar and Grout.
C. Section 06 10 00 - Rough Carpentry.
D. Section 07 92 00 - Caulking and Sealant.

1.5 SUBMITTALS

A. Submit samples of brick to reflect the full range of color, shades and surface texture of brick specified.

1.6 MOCKUP

A. As soon as the brick and stone samples have been approved, deliver enough brick to the job site to construct a 6’-0” x 4’-0” sample wall panel, incorporating both metal stud backup and CMU backup.

B. Construct the panel using the brick, mortar, and reinforcing, weeping holes, tooling, and cleaning as specified.

C. The approved sample panel shall be standard of workmanship.

D. Panel shall not be removed until masonry work as required by this section has been completed.

1.7 ENVIRONMENTAL CONDITIONS

A. Masonry erected when the ambient air has a temperature of more than 99°F, in the shade, and has a relative humidity of less than 50% shall be protected from direct exposure to wind and sun for 48 hours after installation.

1.8 DELIVERY, STORAGE AND HANDLING OF MATERIALS

A. Deliver, store, and handle materials to prevent inclusion of foreign materials and damage by water or weather. Store packaged materials in their original packages. Damaged or deteriorated materials shall be removed from the premises.

PART 2: PRODUCTS

2.1 ACCEPTABLE BRICK MANUFACTURERS

A. Products specified are manufactured by Acme Brick Company and are listed as a standard of quality.

B. Substitutions: Under provisions of Section 01 60 00.

2.2 BRICK UNITS

A. Standard Face Brick: Shall be modular in size, 2¼"x 3⅝" x 7⅝", and conform to the requirements of ASTM C 216, Grade SW. Brick shall be FBS and shall be as follows:

B. Special shape cast face bricks shall be as detailed and at locations as indicated on the drawings.

C. Furnish special non-cored face brick in locations where cores would be exposed in finish work.

2.3 ANCHORS AND TIES

A. Acceptable Manufacturers:

1. Products specified are manufactured by Hohmann & Barnard and are listed as a standard of quality.
2. Substitutions: Under provisions of the General Provisions.

B. Anchors:

1. Dovetail Anchors: Corrugated bar type, minimum 16 gauge and hot-dipped galvanized. Dovetail anchor slots furnished and installed in Section 03 10 00.

2. Anchors and ties for stone veneer shall be as recommended by the manufacturer.

C. Adjustable Anchors and Ties:

1. Anchors & Ties: Hohmann & Barnard DW10.

2. Zinc coating shall comply with ASTM A153-B2.

2.4 MORTAR

A. Install Brick Veneer with Type N mortar, and as recommended by manufacturer in accordance with BIA Guidelines.

B. Mortar color as selected by Architect from manufacturer's standard list of colors.

2.5 ACCESSORIES

A. Weep Holes: Open head joints every third brick at lintels and other locations.

B. Compressible Filler: Pre-molded, flexible cellular neoprene rubber filler strips complying with ASTM D 1056, Grade RE41E1, capable of compression up to 35% of width and thickness indicated.

C. Mortar Net: Provide continuous Mortar Net along base of air space to catch mortar drippings. High-density polyethylene, 90% open mesh, dovetail shape.

D. Thru Wall Flashing: Provide WR Grace Perm-a-Barrier; 40 Mil (min.).

E. As an alternate to Mortar Net, every third brick may be left out at base of air space and cavity cleaned and inspected to be free of mortar droppings.

PART 3: EXECUTION

3.1 LAYING AND SETTING BRICK

A. Wet all brick having initial rate of absorption greater than 30 grams per minute complying with ASTM 67 before laying the brick.

B. Heat water and sand in cold weather. Do not lay brick in temperature below freezing unless such heating of materials and protection of work is properly provided for.

C. The exterior surfaces of concrete shall be damp proofed before face brick is laid.

D. All brickwork shall be laid true to dimensions, plumb, square, and in bond. All courses shall be level with joints of uniform width.

E. Vertical joints in facing bond work shall be spaced so as to line up plumb and true, and all joints shall be as uniform as the type of brick will allow.

F. Lay facing brick in full mortar bed with shoved joint. Completely fill joints with mortar. Do not furrow bed joints with point of trowel.

G. Allow space for caulking of joints at frames.

H. Bond for facing brick shall be running bond or as shown on drawings. Typically, match existing bond pattern.

I. Anchor facing brick to metal studs or masonry backup at 16" o.c. vertically and 16" o.c. horizontally with adjustable anchors and ties.

J. Joint thickness shall be such as to provide coursing pattern to match existing brickwork. When the joints have become thumbprint hard, all exposed joints shall be tooled with a sled-jointing tool. The jointer shall be larger than the width of the joints so that a complete contact is made along the edges of the units, compressing and sealing the surface of the joint. Joints shall be pointed as the tool proceeds.

K. Form weep holes in head joints at face brick over shelf angles and lintels and where shown on the drawings. Weep holes shall be formed with preformed aluminum grill type vent in head joints not more than 24" o.c.

L. Keep air space clean of mortar at all times. Where brick is below grade, fill solid, form mortar to slope (wick) to outside.

M. When flashing is to be laid on or against masonry, the surface of the masonry shall be smooth and free from projections which might puncture the flashing material.

N. Where fresh masonry joins masonry that is partially set or totally set, the exposed surface of the set masonry shall be cleaned and lightly wetted so as to obtain the best possible bond with the new work. All loose brick and mortar shall be removed.

O. Control Joints:

1. Vertical: Locate where indicated on drawings. Lay units to form a vertical joint free of mortar and of same as normal head joint.

2. Horizontal: Locate under shelf angles and other dissimilar materials abutted by brick. Leave bed joint free of mortar. Use compressible filler.

3. Sealant: Shall be in accordance with Section 07 92 00.

3.5 FLASHINGS

A. Build in, as the work progresses all flashings which enter the masonry using the material and following the instructions of the appropriate section of the specifications.

B. Extend all flexible flashing 1" past face of wall and trim after tooling joints.

C. Where metal flashing or drip edge is shown, align drip to overhang face of brick ¼".

3.6 OPENINGS AND HOLES

A. Provide all openings and holes in masonry work. Provide all chases and recesses in masonry work of all types as indicated on the drawings and as required for pipes, ducts, and other work of Mechanical and Electrical contractors. Such work shall be accurately located by the contractor requiring the work, but masonry work shall not be constructed without giving other contractors due notices and opportunity to lay-out or install such items as may be required for their work.

B. Where required for installation of work of other contractors, leave openings as indicated on the drawing or as required to receive a later installation.

C. After work of other contractors is in place, openings shall be neatly filled with masonry of the same type as in the adjoining surfaces.

3.7 SETTING AND BUILDING-IN

A. Build-in materials occurring in any type of masonry construction that are furnished by other contractors. All build-in work shall be accurately placed, secured, held in position, and located by the contractor requiring the work.

B. Set and build-in items of miscellaneous iron such as loose lintels and anchors required to complete all parts not connected to steel.

C. Set all anchor bolts required for the attachment of work to masonry.

D. Build-in recesses, flashings, receivers, slots, anchors, sleeves and other work required by the drawings.

3.8 PROTECTION

A. At the end of each day's work, cover the tops of walls with canvas or other suitable material weighted down to exclude weather.

3.9 CLEANING BRICKWORK

A. After pointing is done and wall is dry, clean face brick surface with dry brush.

B. After 7 days clean with water and mild detergent or cleaners recommended by brick manufacturer. Do not use muriatic acid.

1. Wet brick surfaces thoroughly before applying cleaning solution.
2. Apply cleaning solution with bucket and brush or LOW PRESSURE spray.
3. Remove all stains and mortar streaks using stiff fiber bristle brush.
4. Rinse THOROUGHLY with water.
5. Protect windows, landscaping, and surrounding masonry surfaces from cleaning solution and rinse water.

END OF SECTION 04 21 00