SECTION 04 21 13

BRICK MASONRY

PART 1 GENERAL

1.1 SCOPE:

A. Examine all Drawings, Specifications, General Conditions, Supplementary General Conditions, and General Requirements which are part of this Contract. Furnish all labor, material, tools, equipment, scaffolding, and other items necessary to complete all masonry work, with all inclusions, inserts and provisions for inclusion, connection, or passage by other Trades.

1.2. RELATED SECTIONS

A. Section 04 05 13: Mortar

B. Section 05 50 00: Metal Fabrications-Loose lintels, anchor bolts, and steel bearing plates where anchored to, or bear on masonry:

C. Section 07 10 00: Waterproofing and Damp Proofing Through-wall membrane flashing system

D. Section 07 62 00: Flashings and Sheet Metal

E. Section 07 19 00: Water Repellent Coatings

F. Section 07 92 00: Sealants

G. Section 08 11 13: Hollow Metal Doors & Frames

1.3 REFERENCES

A. ASTM A153 – Zinc Coating (Hot Dip)

B. ASTM C67 – Test Methods of Sampling and testing Brick and Structural Clay Tile.

C. ASTM E 835 / E835M – Guide for Dimensional Coordination of Structural Clay Units, Concrete Masonry Units, and Clay Flue Linings.

1.4 MOCK-UP SAMPLE PANEL

A. Before commencing any work, Contractor shall erect a 4' x 4' panel of face brick with correct mortar color. Lay brick in pattern to simulate wall pattern. The panel is NOT PART OF BUILDING and is to remain in place until removal is authorized by the Architect. The contractor shall have sufficient brick on site to erect two panels if necessary.

B. Panel face shall show mortar, bond, widths, and tooling of joints.

C. Approval of Architect is required before proceeding with any part of the building.

D. Panel is to remain in place until completion of the work.

E. Construct mock-up panel in “cut-away” view, exposing all wall assembly components. Refer to Section 01 40 00 Quality Control-Mock-Ups.

PART 2 PRODUCTS

2.1 MATERIALS

A. Brick to be ASTM C652, or ASTM C216 grade SW, Type FBS (ASTM C216 & ASTM C652).

B. Face Brick: All face brick shall be of granite Red Velour by Sioux City Brick, contact Dan Olenberger with Acme Brick for supply, utility type (3 5/8” x 3 5/8”x 11 5/8”) and approved by the Architect.

C. All face brick shall be laid in accordance with the standards of Brick Institute of America.

D. Common brick for back-up shall be of sound #1 common brick.

E. Refer to Drawings for special brick shape profiles brick material to be same as face brick and locations.

F. **Brick Veneer Anchoring System to CMU Walls:**
Provide LoxAll Adjustable Joint reinforcement in masonry wall coursing with 2X-Hook 3/16” diameter clip hook ties and 270-2X Ladder Eye-Wire horizontal reinforcing manufactured by Hohmann & Barnard, Inc., or approved alternate in CMU coursing at 16” O.C. vertically. Weld eyes at max. 16" o.c. to receive adjustable hook ties. Provide “Pencil Rod”, 9 gage, continuous reinforcement at brick with Seismiclip Interlock System or approved equal attached to each hook tie. Install at 16” o.c. vertically.

G. **Brick Anchoring System To Concrete Walls:**
Provide 2X-Hook 3/16" diameter wire ties, with HB-5213, 14 gage adjustable anchor attached to concrete walls with 523 brass expansion bolt. Provide HB-213 washer to secure insulation in place. Manufactured by Hohmann & Barnard, Inc., or approved equal. Secure to walls at 16" o.c. vertically and 16" o.c. horizontally. Provide "Pencil Rod", 9 gage, continuous reinforcement at brick with Seismiclip Interlock System or approved equal attached to each wall tie. Install at 16" o.c. vertically.

H. All ties to be placed so as not to exceed 16" vertically and 16" on center.

I. Cavity Wall Flashing System: Components by Hohmann & Barnard or Mortar Net "Totalflash" masonry flashing system. See Section 07 10 00.

J. Provide solid brick at all rowlock sills, in areas where brick voids will be exposed to view, and where shown on plans. The color must match stretcher course brick.

K. Weep Vents:
1. Manufactured by Mortar Net, ½" thick, size as required to match brick head dimension. Refer to Section 07 10 00.
2. Install at 24" o.c. horizontally.
3. Provide ventilation vents at top of wall in same location and centering as weep vents.

PART 3 EXECUTIONS

3.1 GENERAL REQUIREMENTS

A. Deliver and store on the site, face brick, sufficient in quantity for the entire job, and secure approval of Architect before placing any of same in the work.

B. Lay no units having a film of water or frost on their surfaces.

C. Lay no masonry when temperature is below 40 degrees F. without Architect's permission. Such permission shall not relieve the Contractor of the responsibility for the work, however. If permitted to work below 40 degrees F., but above 32 degrees F., make provisions to heat and dry materials and protect work from freezing during the installation and curing period. No masonry is to be laid when temperatures are holding, dropping on are predicted to go below 32 degrees F. unless heated protection is provided during installation and curing period and has been approved by Architect.

D. Build in bolts, ties, other metal anchors, sleeves, miscellaneous metals, and wood nailing strips as necessary to secure masonry together or to other materials. Use no continuous wood nailing strips.

E. Build in steel lintels, bearing plates and flashings in contact with masonry. Bed flashing in mortar.

F. Close up any recesses after pipes, ducts, conduits, and other items are in and have been inspected by Architect and/or other proper authorities and do all patching after other trades have completed their work.

G. Cut exposed masonry with masonry saw to produce clean-cut edges.

H. At end of each workday or shut down period cover walls with strong waterproof membrane overlapping walls 12" minimum on each side and securely anchor in place.

I. Use a full height story pole at all corners. Level first and frequent courses with instrument.

J. Carefully ship and stack upon delivery to avoid chipping. Do not stack directly on ground.

K. Cutting and Patching: Consult other trades in advance and make provisions for installation of their work to avoid unnecessary cutting and patching. Do all cutting with a power saw designed for the purpose.

L. Fully butter head and bed joints prior to laying.

3.2 WORKMANSHIP

A. Lay all masonry in full bed of mortar, plumb and true to line with accurately spaced course and reveals. Keep bond plumb throughout, with head points of alternate courses in straight vertical lines.

B. Provide tooled, concave joints where brick will be left exposed as a finished product, unless specifically called out to be otherwise. Verify and match existing joint strike if brick is adjoining existing brick.

C. Where fresh masonry adjoins previously set masonry, clean, roughen, and lightly wet the set masonry before joining with the new.

D. Where stop-offs are necessary in horizontal runs, rake back the unfinished work for joining the new work. Toothing is not permitted unless approved by the Architect.

E. Initial rate of absorption (IRA) of the units is determined by the laboratory method described in Section 9 of Test Methods C67. IRA in the field depends on the moisture content of the masonry unit and is determined in accordance with Section 14 of Test Methods C67. Units having an average field IRA exceeding 30 g/min -30 sq. in. (30 g/min-194 cm squared) should have their IRA reduced below 30 g/min-30 sq.in. prior to laying. It is preferable to wet masonry units thoroughly 3 to 24 hrs prior to their use so as to allow time for moisture to become distributed throughout the unit except when in judgment of Architect the temperature is too low. No freshly wet masonry units or those having film of water or frost on surface shall be laid.

F. Horizontal & Vertical Face Joints: Use tooled joints, approximately 1/4" deep and 3/8" wide.

G. Construction/Control Joints: Construction/Control joints shall be spaced as shown on the drawings, but space no more than 24'-0" o.c. and no more than 12'-0' from corners. Provide backer rod and caulk joints in accordance with Section 07 92 00.

H. Bond Pattern: Face Brick to be laid in running bond pattern.

I. If brick sills are to be installed, slope minimum 15 percent unless shown otherwise.

J. Where masonry is installed, all vertical and horizontal joints to align according to bond types. Where differing masonry types are installed in same wall, joints are to align between each masonry unit type unless noted otherwise.

3.3 MASONRY WEEPS & CAVITY-WALL FLASHING MEMBRANE TERMINATION

A. It will be the responsibility of the Contractor and the Mason to coordinate installation elevation of all weeps and cavity wall flashing membrane termination in masonry walls at specified locations. Adjust as needed to terminate above concrete walks. Where masonry cavity walls occur at slab-on grade conditions, locate weeps one brick course below finished floor elevation unless items such as a sidewalk, etc, interferes, in which case the weeps would be located at finished floor elevation. If finish grade elevation extends beyond 16 inches below finished floor elevation, locate weeps approximately 2-4" above finish grade unless noted otherwise. Continue through-wall flashing between weep elevation changes, keeping waterproofing integrity. Finish grade to be a minimum 2" below weeps. **WEEPS ARE TO REMAIN EXPOSED. DO NOT COVER WEEPS WITH SOIL, FLASHING, CONCRETE, OR ROOFING MATERIAL.**

3.4 CLEANING

A. Remove excess materials, mortar droppings. Remove mortar droppings on connecting or adjoining work before its final set.

B. Exposed Masonry: At completion of work, point holes in joints of exposed exterior masonry surfaces, completely fill with mortar, tool properly. After pointing has set, hardened, wet exposed masonry surfaces. Clean soiled surfaces with a solution which will not harm masonry or adjacent materials equal to Sure Klean 600 manufactured by ProSoCo, Inc. Cleaner must be approved by brick manufacturer. Apply with stiff fiber brush, leave masonry clean, free of mortar daubs, with tight mortar joints throughout. Immediately after cleaning, rinse masonry surfaces with clear water. DO NOT USE PRESSURE SPRAY WASHER TO CLEAN OR RINSE OFF MASONRY.

C. Protect all other trade's work and other items set into wall.

D. Remove, replace defective materials, correct defective workmanship, and leave masonry clean.

E. Replace defective mortar. Match adjacent work.

F. Remove excess mortar and smears.

G. Use non-metallic tools in cleaning operations.

3.5 WATER REPELLANT COATING:

A. At completion of cleaning, apply water repellent coating. Refer to Section 07 19 00, Water Repellent Coating.

B. Application is to be done only with approval of the Architect and may be delayed for an extended period due to time of year or weather conditions.

END OF SECTION