

## **DIVISION 4 – MASONRY**

### **SECTION 042000 - UNIT MASONRY**

- A. **General Requirements:** In order to provide 50 year buildings for University of Minnesota use, brick/block/stone veneer faced walls shall utilize concrete masonry backup cavity construction including appropriate application of anchors, expansion joints, dampproofing, air/moisture barriers, vapor barriers, insulation systems, flashings/weepers, finishes and other elements necessary to meet state building code and to prevent water infiltration, air infiltration, and in-wall dewpoints. Steel stud backup construction may be acceptable in certain limited special applications with prior University of Minnesota approval, but steel stud backup may not be used comprehensively for any University of Minnesota building. Where limited steel stud backup is considered, A/E must submit a design narrative following the University of Minnesota exceptions policy for review and approval. Exceptions submittal must show that the proposed steel stud construction is designed to meet the more stringent deflection standards of the Brick Industry Association, rather than the Steel Stud Manufacturers Association (SSMA) standards and must include proposed graphic details and structural calculations.
- B. **Contractor Quality Control:** A/E shall specify that the contractor shall be required to conduct preconstruction testing by a university-approved independent testing laboratory. Provide test results that confirm mortar and masonry compatibility on all units.
- C. **Quality Control:** During construction, the University may retain an independent testing laboratory to conduct tests on the unit masonry system.
- D. **Construction Tolerances:** A/E shall specify tolerances in compliance with ACI 530.1/ASCE 6/TMS 602 and the following:
  - 1. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/4 inch in 20 feet, nor 1/2 inch maximum.
  - 2. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, nor 1/2 inch maximum.
  - 3. For conspicuous horizontal lines, such as exposed lintels, sills, parapets, and reveals, do not vary from level by more than 1/4 inch in 20 feet, nor 1/2 inch maximum.
  - 4. If Type FBS Rough or Type FBA brick is used, revise tolerances below to allow for variation in brick size. Consider restricting tolerances if Type FBX brick is used.
  - 5. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
  - 6. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.
- E. **Masonry Waste Disposal:**
  - a. **Recycling:** Unless otherwise indicated, excess masonry materials are Contractor's property.
  - b. Do not dispose of masonry waste as fill.
  - c. **Excess Masonry Waste:** Remove excess, and legally dispose of off University property.
- F. **Face Brick:** Face brick for exterior horizontal or sloping applications such as windowsills, parapet caps, copings, top of screen walls and planter walls is prohibited.
- G. **Brick Selection:** A/E shall select face brick and submit initial selection samples to the University for approval prior to requesting scaled assembly mock-ups.

- H. Brick Mock-ups: Prior to ordering bricks, the A/E shall provide a design with contractor instructions for completing a scaled brick assembly mock-up. The A.E shall insure the following;
1. The number and size of panels shall be appropriate to the scale of the project.
  2. Mock-up panels shall include intended wall construction with unique details, including but not limited to; final brick selections, mortar, parapet caps, lintels, metal and other copings, curtainwall and window framing, cavity weeps/vents and through-wall flashings.
  3. Mock-up panels shall be subject to A/E and University approval. Panels must be properly cleaned and fully dried prior to requesting A/E and University approvals.
  4. Approved panels may be incorporated into the Work as a standard of workmanship for acceptance of construction.
  5. Approved mock-up panels shall be retained until final acceptance of masonry work.

END OF SECTION 042000