04 00 00 Masonry

Revision 01/04/2019

Purpose:

The Architect and/or Engineer shall incorporate the Rice specific requirements indicated in this standard's section into their design. The Architect and/or Engineer shall further produce project specifications in line with industry standards that are updated to reflect these Rice specific requirements.

1. **General requirements**
    a. Veneer Construction: Concrete masonry backup is preferred for masonry and stone veneer construction. Metal stud backup may be considered with approval by the Rice Project Manager.
    b. Façade Design:
        i. The campus has a strong heritage of stone and masonry façade design. The University desires that architects respect and acknowledge this heritage using it as a resource while creating innovative and quality design for the façades for new buildings.
        ii. Historically, natural limestone block and trim has been used in the façade design. Cast stone and precast elements have been utilized in combination with the natural stone in recent designs to respond to budget. The Architect's selection of material shall be sensitive to budget considerations, visual aesthetics including adjacencies, closeness of visual inspection, and importantly, the long term performance and maintenance requirements. Final decisions on the selection and use of these materials shall be as approved by the Rice Project Manager.
    c. Field Mock-ups: The use of field mock-ups is encouraged to both demonstrate important façade design elements and material selection while also providing the contractor an opportunity to work out sequence and procedures for anchorage and cavity moisture control, and waterproofing systems. See section 01 45 00 Field Constructed Mock-Ups for more information.
    d. The Architect shall work with the Rice Project Manager to determine if a field mock-up is required.
2. Materials:
    a. Stone
        i. Ensure that stone units are inspected at quarry or fabrication plant for compliance with requirements for appearance, vein cut, finish material, and fabrication. The Architect shall ensure that stone sizes and shapes comply with the requirements indicated.
        ii. Granite to comply with recommendations of NBGQA's "Specifications for Architectural Granite."

iii. Limestone to comply with recommendations of ILI's "Indiana Limestone Handbook." The limestone used on campus includes Indiana Cream and Texas Leuters.

b. Attachments
   i. Embedded anchors, horizontal joint reinforcing and related accessories for all masonry veneer construction shall be fabricated from type 304 2D finish stainless steel.
   ii. Horizontal joint reinforcing for unit masonry back up wall construction shall be stainless steel.
   iii. No galvanized permitted

c. Face Brick
   i. The traditional face brick used on campus are the light rose and dark rose blends as manufactured by St. Joe Brickworks Inc.

d. Precast Concrete
   i. Architectural Precast Concrete elements shall comply with PCI Design Handbook and with applicable portions of ACI 301.

e. Mortar
   i. St Joe Brick or other "soft brick" use mason type "N" mortar mix only
   ii. Hard fired or glazed brick use Portland/lime mix
   iii. Stone to stone joints shall have the mortar rakes and the joint filled with Dow 790 Silicone caulk.

f. Weep Holes
   i. All weep holes shall have a honeycomb weep insert

3. PERFORMANCE STANDARDS
   a. Specification for all natural stone products shall include the source information including contact information: name, phone number, and address.
   b. For architectural precast concrete elements, it is best to procure an actual sample prior to the bid process. For bidding purposes, the specification shall describe the technical process of providing the finish and indicate that the fabricator is to match that architect's sample.
   c. Request that fabrication/installation of Architectural Precast Concrete comply with:
      i. Request that Architectural Precast Concrete be coated with clear penetrating water repellent coatings, specified in Section 07 10 00 Dampproofing and Waterproofing
      ii. Prohibit field patching unless reviewed and accepted by Architect
      iii. Request that Architect must review and accept first full unit cast before fabrication of either panels/elements.
   d. Specify thru-wall flashing for veneer composite wall. Specify type, location and spacing of weep holes.
   e. The Fabricator/Installer of Exterior Materials/Finishes:
      i. Fabricator shall have a minimum of ten years of experience in producing units similar to those required for project. Installer of the Masonry Wall products shall

have a minimum of five years of experience in projects of similar scale and complexity.

ii. The architect shall make provisions to ensure that the contractor does not proceed with installation until unsatisfactory field conditions have been corrected. The architect shall ensure that the contractor coordinates with installers of other work about specific requirements for the placement of reinforcement, anchors, ties, flashing, and other similar items to be built into stone masonry veneer.

iii. The Architect shall request shop drawings showing location and extent of each application and installation details, together with structural calculations signed and sealed by structural engineer registered in the State of Texas.

iv. Request samples for verification for each color, texture, and pattern specified, showing the full range of variations expected in these characteristics.

v. Request maintenance data indicating cleaning procedures and recommended cleaning agents. Muriatic acid is not permitted as a cleaning agent.