1. **Design Criteria**:
    a. The exterior appearance and durability of materials used on campus buildings is extremely important to UVM. Masonry veneer selection to be based on compatibility with materials used on adjacent buildings and appropriateness of materials in the context of that area of campus. Architect to provide suitable and reasonable variety of options for review by UVM during design process.
    b. Ensure that water drainage patterns do not allow for undue wear and frost action.
    c. Care shall be taken to design the veneer assembly to avoid efflorescence. The following options exist to reduce the change of efflorescence but are not known to be 100% effective. List is organized in order of effect of reducing efflorescence:
        i. Specify low alkali Portland cement (0.6% alkali or less, by weight) to reduce the presence of alkalies in mortar mix.
        ii. Use "non-efflorescing" (ASTM C67) fired clay brick with balanced chemical additives to immobilize sulfates found in brick to reduce their ability to become soluble.
        iii. Use clean, washed sand to reduce the presence of soluble salts in the mortar mix.
        iv. Use clean potable water in the mortar mix and during cleaning.
        v. Specify densely tooled concave or V type joints that compact the surface mortar to reduce water infiltration into wall and reduce pores in mortar joints.
        vi. Detail masonry walls with proper drainage and air circulation behind the veneer. Keep airspace clear during construction.
        vii. Detail walls with architectural elements that reduce the amount of water exposed to the brick such as overhangs, careful placement of landscape irrigation, and proper flashings.
    d. Ensure compatibility of all materials to be in contact with each other.
    e. Graffiti control coating required-refer to 4f below.

2. **Reference Standards:**
    a. Masonry Institute of America: Efflorescence: Cause and Control.

b. Brick Industry Association: Brick Brief August 2009: "Efflorescence Prevention and Control"
c. Brick Industry Association: Technical Notes; Review entire inventory of notes for topics that apply to the design including #23A "Efflorescence, Causes and Prevention"

3. **Submittals to be reviewed by University**:
   a. Final selection of material samples to be approved by UVM project manager and design consultant.
   b. Ensure that mock-ups are specified and constructed prior to construction to allow for sufficient review time by UVM.

4. **Products, Materials & Equipment**:
   a. As selected by design consultant. Ensure long term durability, and compatibility with adjacent materials.
   b. Ensure positive flow of moisture to weeps and exterior face of veneer.
   c. Provide airspace behind brick veneer and keep the airspace clear of mortar droppings that would block air and water flow by specifying anti-clog nets or other measures.
   d. Do not specify the use of rope wicks or plastic weep tubes.
   e. Steel lintels at masonry openings to be stainless steel and not painted. Do not allow field cutting. Do not assume UVM will re-paint lintels as part of on-going maintenance work.
      i. Stainless is preferred over galvanized to avoid issues with:
         1. Chipped galvanized coatings
         2. Improper thickness of galvanized coatings
   f. Graffiti Control Spray-on coatings:
      i. Coordinate locations and height of installation with UVM
      ii. Basis of Design: Prosoco: Bloc-Guard and Graffiti Control (or approved equivalent).
      iii. Product must be breathable to allow moisture in brick to evaporate through exterior brick face.
      iv. Require test application to determine effect on brick color and appearance.
   g. Provide expansion joints as required.

5. **Installation, Fabrication, and Construction**:
    a. To be specified by design consultant.
    b. Ensure compliance with industry standards.