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1. **Design Criteria:**

- a. Selection of interior finishes is the responsibility of the design consultant in coordination with the UVM project manager's approval. High moisture areas such as bathrooms, kitchens, and custodial rooms are candidates for tile flooring and walls. Other finishes are allowed if they are suitable for wet conditions.
 - i. Areas do not have to qualify as wet installations for tile to be used.
- b. Low VOC products are preferred.

2. **References**

- a. ANSI A118.4 Specifications for Latex Portland Cement Mortar.
- b. ANSI A136.1 Specifications for Organic Adhesives for Installation of Ceramic Tile.
- c. ANSI A118.3 Specifications for Chemical Resistant, Water Cleanable Tile-Setting and Grouting Epoxy and Water Cleanable Tile Setting Epoxy Adhesive.
- d. ANSI A118.3 Specifications for Chemical Resistant, Water Cleanable Tile Setting and Grouting Epoxy and Water Cleanable Tile Setting Epoxy Adhesive.
- e. ANSI A108.01 General Requirements: Subsurface and Preparations by Other Trades.
- f. ANSI A108.17 Installation of Crack Isolation Membranes.
- g. ANSI A108.13 Installation of Load Bearing, Bonded, Waterproof Membranes for Thin Set Ceramic Tile and Dimension Stone.
- h. ASTM D5957 Standard Guide for Flood Testing Horizontal Waterproofing Installations.
- i. Tile Council of North America "Handbook for Ceramic, Glass, and Stone Tile Installation.

3. **Required Submittals:**

- a. Product Data: Manufacturer's data including instructions, recommendations, and restrictions.
- b. Shop Drawings: Shop drawings for tiling are not required on every project. Areas with large areas of floor or wall tile and isolation or movement joints shall require shop drawings that depict the widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces. Review criteria for shop drawings with the UVM project manager.

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- c. Samples for Initial Selection: For each type of tile and grout indicated. Include samples of accessories involving color selection.

4. **Products, Materials & Equipment:**

- a. **Tile:** The design consultant shall be responsible for selection and specification of tile and grout products to meet the aesthetic, use, and durability requirements of the project. Specific tile types or manufacturers are not identified in this section.
 - i. **Cove tile shall be used at floor to wall transitions to simplify cleaning.**
- b. **Mortar:** The design consultant shall specify mortar appropriate for the tile floor assembly with respect to other components of the floor system including waterproofing membranes, decoupling membranes, and crack isolation membranes and materials. Drying and curing can be affected by moisture blocking materials, so selection of the proper mortar materials is critical.
- c. **Grout:** standard and epoxy grouts are allowed. All grouts must be sealed.
- d. **Water Proofing Membrane**
 - i. Products shall be included to resist the passage of water through floors where flooding is possible into rooms below (wet installations).
 - ii. Membranes may be sheet or liquid types.
 - iii. Membranes shall extent up the wall 12” from the floor level.
 - iv. Crack isolation or crack filling products shall be used to prepare imperfect substrates as required by tile, mortar, and waterproofing membrane manufacturers.
 - v. **Metal Trim for Tiling:**
 - 1. Use metal trim where bullnose, cove, or bullnose pieces are not available for use at corners and edges of tile against other materials.
 - vi. **Thresholds:**
 - 1. Thresholds between tile areas and other flooring types must be ADA compliant.
 - 2. Stone, metal, or resilient thresholds are allowed.
- e. **Maintenance Stock:** Review maintenance stock requirements with the UVM project manager to determine adequate quantities. A minimum of (1) box of maintenance stock shall be required at a minimum.
 - i. **Material:** Each type and color of tile used.
 - ii. **Packaging:** Factory sealed boxes.

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- iii. Labeling: Date, vendor, installer, product name, mill, and installation location.

5. Installation, Fabrication, and Construction:

- a. A preinstallation conference shall be held at the project site to review the existing conditions and preparation for the area to be tiled.
- b. GC to follow the following Tile Installation Basic Requirements:
 - i. Lay tile in grid pattern specified with joints accurately aligned throughout each installation area.
 - ii. Center tile in both directions.
 - iii. Avoid use of less than one half tile units.
 - iv. Extend tile into recesses and under and behind movable items.
 - v. Fit tile accurately at obstructions and perimeter.
 - vi. Do not damage visible tile surfaces or edges.
 - vii. Provide uniform grout joint width for each installation area.
 - viii. For tile installed in factory mounted sheets, make field joints match factory joints.
 - ix. Mix and install grout in compliance with manufacturer's instructions and recommendations.
 - x. Protect installed floor tile from traffic for ≥ 7 days after grouting.
 - xi. Clean tile to remove excess grout, mortar, and adhesive from finished tile surfaces.
- c. Protection after Completion:
 - i. Installed tile work shall be protected during the remaining construction period to prevent staining, damage, and wear.

6. Warranties:

- a. Provide installation system 10-year warranty from installation materials manufacturer.
 - i. Includes: Full labor and materials to repair or replace failed installation.
 - ii. Excludes: Tile manufacturing defects.
- b. Installer's standard one-year warranty on installation and craftsmanship.