

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 4339

VISUAL MOCK-UPS AND BENCHMARKS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to the Work of this Section.

1.2 SUMMARY

- A. This Section describes the requirements for visual mock ups and Benchmarks of exterior and interior constructions noted. Sections include:

1.3 VISUAL MOCK-UPS

- A. Visual Mock-Ups: Special construction used to illustrate materials and workmanship, which will not be part of the finished construction.
- B. Sitework Mockups:
 - 1. Site Concrete:
 - a. Flatwork: Construct 6-ft-0-in by 6-ft-0-in mock-up for each concrete type and finish.
 - b. Paving Module: Construct a mock-up of one special paving module, including banding, 12-ft-0-in by 12-ft-0-in. Construct a mock-up of curved radial paving, approximately 180 sq.ft.
 - 2. Exposed Aggregate Paving:
 - a. One horizontal field sample panel, 4-ft long by 4-ft wide, of each concrete finish and color with respective sawcut and expansion joints, with full aggregate color range represented
- C. Building Facade: Scope as indicated on Drawings. Provide evaluation mock-up at location as indicated on the Drawings to illustrate erection, anchorage of aluminum storefront, windows, sealants, glass, glazing, and finishes. Include CMU walls.
 - 1. Design Concept: Mock-up requirements shown on the Drawings are intended to establish general configuration and scope. Design the mock-up as a complete and independent structure, including required structural supports. Contractor shall make necessary additions and modifications to the details as may be required to comply with aesthetic requirements while maintaining the design.
 - 2. Evaluation mock-up shall be built of the same materials, components and using the construction procedures and subcontractors proposed for the Work.
 - 3. Modifications to the Work, if needed, to obtain the quality of workmanship and finish required in the finished structure shall be made during construction of the mock-up.

- D. Cell and Chase Units: Provide a full-size mock-up of a modular steel wall and ceiling system cell and chase with structural components, embeds, attachments, finishes, electrical, heating, ventilation and security system components and equipment, security fixtures and equipment. Review and obtain written acceptance by Architect and Owner prior to commencing further work.
1. Service Chases: Prepare for review by CM, Architect and Owner. Prior to construction of full chase and cell mock-up, fabricate a triangular chase comprised of plywood and wood framing as required to support the mock-up. Simulate in height and size, the cell unit chase. Install all mechanical, electrical and plumbing items indicated and specified. Include connections for piping, ductwork and conduit to fixtures that are mounted in cell unit.
 2. Provide mock-up to establish level of acceptable quality after acceptance, and provide for coordination of work of other Sections for the module, overall coordination of modular cell work, and coordination of modular cell with building components. Reviewed cell mock-up will include the following items:
 - a. Location and suitability of embeds.
 - b. Location and suitability of connectors.
 - c. Built-in conduits and junction boxes.
 - d. Built-in window frames.
 - e. Acceptable tolerances.
 - f. Panel finish, interior and exterior.
 - g. Detention equipment and furnishings.
 - h. Plumbing fixtures, fittings and wall openings for plumbing pipe penetrations.
 - i. HVAC air grilles.
 - j. Interior and exterior finishes including shop applied coatings.
 3. Correct work not in compliance with Contract Documents, at no additional cost to Owner.
 4. Incorporate changes to modular cell mock-up and modular cell design requested by CM prior to CM and Architect's acceptance of modular cell mock-up.
 5. After the modular cell mock-up is accepted in writing, erect mock-up on site and incorporate into the Work.
 6. Protect and preserve mock-up until acceptance of modular cell work. Provide procedures and ensure implementation for protection and preservation of cell mock-up.
- E. CMU Sample Panels: Build sample panels to verify selections made under sample submittals and to demonstrate aesthetic effects.
1. Build sample panels for each type of exposed unit masonry construction in sizes approximately 48 inches by 48 inches high.
 2. Include mock-up for CMU infill wall fire rated condition.
 3. Provide CMU block and fire rated sealants at one full opening.
 4. Protect approved sample panels from the elements with weather-resistant membrane.
 5. Approval of sample panels is for color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; aesthetic qualities of workmanship; and other material and construction qualities specifically approved by Architect in writing.
 - a. Approval of sample panels does not constitute approval of deviations from the Contract Documents contained in sample panels unless such deviations are specifically approved by Architect in writing.
- F. CMU / Pre-Cast Concrete Wall Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockup of typical wall area as shown on Drawings.
2. Build mockups for each type of exposed unit masonry construction in sizes shown by full thickness, including face and backup wythes and accessories.
 - a. Include a sealant-filled joint at least 16 inches long in exterior wall mockup.
 - b. Include lower corner of window opening at upper corner of exterior wall mockup. Make opening approximately 12 inches wide by 16 inches high.
 - c. Include through-wall flashing installed for a 24-inch length in corner of exterior wall mockup approximately 16 inches down from top of mockup, with a 12-inch length of flashing left exposed to view (omit masonry above half of flashing).
3. Protect accepted mockups from the elements with weather-resistant membrane.
4. Approval of mockups is for color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; and aesthetic qualities of workmanship.
5. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

G. Other Mockups:

1. Water Repellent Coatings:
 - a. Use visual mock-up to establish actual application rates necessary to meet Project requirements. At no time shall the rate of coverage be less than that recommended by the manufacturer's printed data sheets.
 - b. Apply water repellent to mockup, for full coverage as directed, before proceeding with installation. Comply with installation requirements of this Section.
2. Sprayed-On Fire-Resistive Materials (07 81 00): Before installing sprayed fire-resistive material, apply products specified to demonstrate aesthetic effects (exposed applications) and qualities of materials and execution.
3. Mechanical Systems (Divisions 22 and 23): Provide cell chase mock-ups as described in the Division 22 plumbing narrative and Division 23 HVAC narrative.

1.4 BENCHMARKS

- A. Benchmarks: Benchmarks are first construction of assemblies to be repeated throughout. Approved benchmarks are intended to serve as a standard of quality during construction. Protect from damage to ensure they are undisturbed at time of Substantial Completion and may become part of the completed Work.
1. Build benchmark mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution and set quality standards for fabrication and installation.
 2. Approval of mockups is also for other material and construction qualities specifically approved by Architect in writing.
 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by Architect in writing.
- B. Interior Construction / Finishes:
1. Door Hardware, Steel Doors and Frames, and Flush Doors:
 - a. First 180-degree opening door assembly.
 - b. First set of cross corridor door assemblies.
 2. Ceramic Tile (09 31 00):
 - a. One flight of stair type indicated on Drawings.
 - b. First 200 sq.ft. of tile, including divider strips.

1.5 EVALUATION

- A. Completed mock-ups and benchmarks as accepted by the Architect shall be maintained in good condition during the Work as standards of workmanship and appearance for the completed Project.

END OF SECTION