



# **CITY OF MESA ENGINEERING DEPARTMENT**

## **BUILDING PROJECT SUBMITTAL GUIDELINES** *New Buildings, Additions, Renovations, Tenant Improvements, etc.*

January 2013



## PROGRAMMING

During the programming stage, the architect will meet with the end users of the facility (including City staff and key members of the general public, as appropriate) to determine the end users' needs and desires for the final design and function of the facility. Questions the architect asks may relate to desired building appearance, expectations for room function, etc. City Staff from several departments may also be interviewed (e.g., ITD, Telephone Services, Facility Maintenance) relative to their requirements or expectations for the facility. The information will be documented and summarized in the Programming Document.

### **Prepare the Program document based on the interviews/charettes conducted:**

1. Narrative description of the proposed facility use and purpose.
2. Listing of the functional goals, requirements, and expectations for the facility (on a facility-wide basis or on a room-by-room basis, as appropriate).
3. Listing of applicable national and local codes or standards and a summary of the salient criteria/requirements thereof.
4. Summary of site research performed to-date (e.g., site photos, site boundary information, utility  $\frac{1}{4}$  section maps, outside utility maps, any existing soil reports or similar information available for the site).
5. Copy of the applicable City standards and guidelines that govern the design, including City data room standards and City office size standards. The programmed square footages shall comply with said office standards.
6. One page for each room in the facility, showing the following information about each room in the planned facility:
  1. Room use and purpose.
  2. Occupancy type.
  3. Required size of the room in square feet (not including support and circulation space, which is referred to as "TARE" area).
  4. Required adjacencies (which other rooms each room needs to be located near or to which it needs to have direct access, etc.).
  5. List of equipment in the room (e.g., stove, microwave, pool treatment equipment, etc.).
  6. Special security arrangements (e.g., cameras, sensors, card readers, etc.).
7. "Bubble" diagrams demonstrating the required adjacencies and relationships between various rooms in the facility. The report does not include actual floor plans for facility. Floor plans will come at the schematic design stage.
8. Schematic level design information or criteria for unique systems or areas that will be located within the facility.
9. Summary of the required overall anticipated size of the facility (accounting for "TARE", which is square footage in addition to the square footage of rooms that you *have* programmed; to account for such things as wall thickness, stairs, halls and other circulation spaces. Also provides an allowance for support rooms or other areas that are required, but which can't be foreseen at this stage of design.).
10. Programmatic cost estimate based on the estimated overall size of the facility. May be part of the programming document, or provided as a separate submittal.
11. Submit one (1) un-bound reproducible copy of the report and cost estimate. City will distribute to user groups, other departments, utility companies, etc. for review and comment.



### **SCHEMATIC DESIGN (15% Submittal)**

The result of this design stage is the schematic floor plan, site plan, and exterior building elevations. Future design will be based on the schematic floor plan that is approved in this design stage.

#### **The schematic floor plans should comply with the following standards:**

1. Show all rooms at a true scale and in their correct proposed location.
2. Provide dimensions so that sizes of the rooms and spaces can be determined.
3. Comply with the required room square footages, adjacencies, functions, and relationships as identified in the programming document.
4. Show hallways, stairs, lobbies, elevators and other circulation areas.
5. Show rough outlines of cubicles, so that the City can verify size and configuration. Make allowances for cubicle wall thicknesses.
6. Establish the room numbering (and naming) scheme that will be maintained throughout the remainder of the project.
7. Show the overall exterior building footprint (basic shape and size).

#### **The schematic site plan should the following information:**

1. Show the overall exterior building footprint.
2. Show where the building will sit on the site in relation to onsite parking, adjacent streets, property lines, nearby buildings, onsite improvements to remain and other significant site improvements.
3. Show and identify onsite parking and landscape areas. The level of detail can be limited to showing the proposed outline of said areas within the context of the overall site.
4. Show vehicular and pedestrian traffic access points and patterns in relation to the building entrances and in relation to the surrounding streets and sidewalks. Show conceptual location of driveway and onsite sidewalks.

Schematic building exterior elevations, which are limited to giving an impression of the materials of construction, possible colors, general shape of the building, etc. Detailed elevations are not expected at this stage.

Schematic cost estimate.

### **DESIGN DEVELOPMENT (30% Submittal)**

During this design stage, design progresses using the schematic plans approved in the previous review stage. At the Design Development submittal, the project will be about 30% complete.

#### **Design Development Plans (full size plan sheets)**

1. General Sheets:
  - a. Coversheet
  - b. Code analysis sheets that set forth the basic code data for the project

2. Civil and/or Architectural Site plan that shows the following:
  - a. Parking areas, driveways, drive lanes, fire lanes, landscape islands in the parking lot, parking spaces, handicap parking spaces, sidewalks, plazas, handicap ramps, landscape areas, trash enclosures, service yards, loading docks.
  - b. All of the above should be shown, but call-outs for these items can be missing or incomplete as long as it is clear what each item is. The objective is to be able to approve the layout and concept of the site plan, not to yet approve the actual construction details.
  - c. Dimensioning on the site plan can be minimal and spotty. However, dimensioning should be complete enough to allow you to approve critical dimensions such as width of parking spaces, widths of sidewalks, and clearances off of property lines. Dimensioning need not be complete enough to allow someone to construct the improvements.
  - d. Site furniture does not need to be shown at this stage.
3. Civil sheets:
  - a. Topographic/boundary survey should be complete and be included in this set. This drawing can also serve as the background for other sheets.
  - b. Demolition site plans.
  - c. Conceptual grading plan that shows directions of drainage, locations of retention basins and conceptually verifies that the retention areas are large enough. Also, demonstrates ability to bleed off the basins after the storm event is over. No need for a separate drainage report at this stage.
  - d. Paving need not be called-out yet.
  - e. Utility service plans that conceptually show how the project will be served with water, sewer, and gas (as applicable). Show the services from the mains in the street to the building. Show line sizes and meter locations. Complete call-outs are not required. Profiles are not necessary at this stage, although information about inverts (shown in the plan view) is helpful if available at this stage.
4. Conceptual landscape plans:
  - a. Show the planting palette; show plant locations and planting densities. Show plant sizes.
  - b. Show turf areas and decomposed granite (D.G.) areas. Indicate the proposed size and color of D.G.
  - c. Complete call-outs are not necessary.
  - c. Landscape irrigation plans are not necessary at this stage
5. Structural drawings should show the main building framing, roof framing and foundation, but can be otherwise incomplete.
6. Architectural plans should be about 30% complete and include the following plans:
  - a. Existing and demolition floor plans, complete.
  - b. Complete floor plans for each floor. Some of the construction call-outs may be missing as long as wall construction types are indicated.



- c. Exterior building elevations for each major view direction, with heights noted. Construction call-outs may be incomplete as long as the materials of construction for the major wall/building components are clear.
  - d. Room finish schedule
  - e. Door hardware schedules
  - f. Draft reflected ceiling plans
  - g. Building sections
7. Drawings for the other disciplines can be limited to the following:
- a. HVAC plan
  - b. Mechanical piping plans
  - c. Energy management controls system points list
  - d. Plumbing plan
  - e. Electrical site plan (exterior to the building for bringing electrical, telephone, CATV, data or similar services from the surrounding service grid to the building)
  - f. Electrical lighting plans
  - g. Electrical power plans
  - h. Electrical special systems plans (fire alarm, security, CCTV, CATV, paging, etc.)
8. Drawings that are NOT required at this stage include the following:
- a. Horizontal control sheets
  - b. Section views through the building
  - c. Enlarged toilet plans
  - d. Detail sheets for the various disciplines
  - e. Mechanical drawings
  - f. Mechanical control drawings
  - g. Site details
  - h. General structural notes
  - i. General structural details
  - j. Door and window framing details and elevations
  - k. Roof plans (including roof drain calculations)
  - l. Interior elevations
  - m. Wall sections
  - n. Enlarged restroom plans
  - o. Millwork details
  - p. Disciplines' demolition plans (as necessary for remodels, including demo plans for HVAC, piping, mechanical, plumbing, power, lighting, special systems, etc.)
  - q. Energy management system architecture
  - r. Energy management sequence of operation
  - s. Energy management control plan
  - t. Equipment schedules
  - u. Mechanical details
  - v. Plumbing isometrics
  - w. Plumbing details
  - x. Plumbing fixture schedule
  - y. Fire protection (i.e., fire sprinkler) drawings
  - z. Electrical details
  - aa. Riser diagrams (fire alarm, security, CCTV, CATV, paging system, voice/data, etc.)
  - bb. One-line diagrams
  - cc. Panel schedules



- dd. Audiovisual plans
- ee. Light fixture schedules

100% complete code study for review by the City's Development and Sustainability Department (may not be required for small to medium sized projects). If a Hazardous Materials Inventory Statement (HMIS) is required for the facility to know what chemicals you are dealing with, the City will prepare the HMIS and provide it to the consultant.

Outline for future Technical Specifications for review by the City of Mesa.

Cut sheets for light fixtures (interior and exterior), exterior light poles, site furniture, door hardware, windows, plumbing fixtures, and other fixtures and furnishings that the architect is proposing for the building for client/end user review and approval (can include with the outline of the Technical Specifications). If approved by the end user, these materials will be written into the Technical Specifications to be submitted to the owner at the next design stage. Cut sheets for major equipment to be installed with the project should also be included.

Complete materials required for the Design Review Board process. They may require some or all of the following:

1. Colorized elevation views.
2. Colorized site plan.
3. Colorized landscape plan.
4. Conceptual grading and utility plans.
5. Color boards and material sample boards.
6. As desired by the end user and/or as required the DDC or DRB: Colorized rendering of the facility or birds-eye view of the new facility.

Complete materials required for the public involvement process (if applicable).

Updated project cost estimate that reflects the additional project detail known at this design stage.

Submit one (1) full size bond copy of plans and cost estimate. City will distribute plans to utility companies, user groups, other departments for review and comment.

Determine which outside agencies will require permits and approvals.

### **PRELIMINARY CONSTRUCTION DOCUMENTS (60% Submittal)**

Preparation of the formal construction documents occurs in earnest in this stage. The project must secure DRB approval before proceeding beyond Design Development. If applicable, it should also secure approval from Development and Sustainability Department for the major points of the Code Study before proceeding beyond Design Development. Only relatively minor items should be left unresolved by the time this stage is reached.

With the possible exception of small or simple projects, the 60% complete construction drawings should be submitted to the Development and Sustainability Department for a courtesy informal review at the end of this stage. This will help assure a smoother Development and



Sustainability Department review process at the “Draft Final (90-95%)” documents submittal stage.

#### 60% Complete Construction Document Drawings

1. General Sheets:
  - a. Coversheet
  - b. Code analysis sheets
  - c. Site details
  
2. Civil Sheets:
  - a. Civil coversheet
  - b. Topographic and boundary survey
  - c. Civil site plan
  - d. Demolition site plan
  - e. Draft horizontal control sheet
  - f. Grading plan
  - g. Site utility service plan (sewer, water, gas, storm drain, etc.)
  
3. Landscape plans:
  - a. Landscape plan
  - b. Landscape irrigation plan
  
4. Structural plans:
  - a. General structural notes
  - b. General structural details
  - c. Foundation plan
  - d. Framing plan
  - e. Roof framing plan
  - f. Foundation details and schedules
  - g. Framing details
  - h. Wall sections
  - i. Steel or wood connection details
  - j. Lintel details
  - k. Truss details and schedule
  - l. Required schedules (i.e., anchor bolts, framing, foundation, reinforcing, etc.)
  - m. Column and pier schedule
  - n. Enlarged stair plans
  
5. Architectural plans:
  - a. Architectural site plan
  - b. Existing and demolition floor plans
  - c. Floor plan for each floor
  - d. Door hardware schedules
  - e. Door and window framing details and elevations
  - f. Reflected ceiling plans
  - g. Roof plans (including roof drain calculations)
  - h. Building elevations
  - i. Interior elevations
  - j. Building sections

- k. Wall sections
  - l. Enlarged restroom plans
  - m. Millwork details
  - n. Room finish schedule
6. Plans for other disciplines:
- a. Demolition plans (as necessary for remodels, including demo plans for HVAC, piping, mechanical, plumbing, power, lighting, special systems, etc.)
  - b. HVAC plan
  - c. Mechanical piping plans
  - d. Energy management controls system points list
  - e. Energy management system architecture
  - f. Energy management sequence of operation
  - g. Energy management control plan
  - h. Equipment schedules
  - i. Mechanical details
  - j. Plumbing plan, including gas load calcs
  - k. Plumbing isometrics
  - l. Plumbing details
  - m. Plumbing fixture schedule
  - n. Fire protection (i.e., fire sprinkler) drawings
    - 1. Fire flow test summary
    - 2. Design calculations
    - 3. System demand
  - o. Fire protection details
  - p. Electrical site plan (exterior to the building)
  - q. Electrical details
  - r. Riser diagrams (fire alarm, security, CCTV, CATV, paging system, voice/data, etc.)
  - s. Electrical lighting plans
  - t. Electrical power plans
  - u. Electrical special systems plans (fire alarm, security, CCTV, CATV, paging, etc.)
  - v. One line diagrams
  - w. Panel schedules
  - x. Audiovisual plans (if required)
  - y. Light fixture schedules
  - z. Electrical load calculations
7. Furniture layouts (usually systems furniture layout). These drawings are usually prepared by another consultant hired directly by the City and given to the architect for coordination with his/her work.
8. Drawings that may not be included at this stage
- a. Various detail sheets for various disciplines may be missing
9. Revised code study for review by the City's Development and Sustainability Department—Comments from Development and Sustainability Department's previous review of the code study should have been addressed. The code study should be fully approved at this end of this design stage. Do not move to later design stages until the code study is fully approved.





10. Hazardous Materials Inventory Statement (HMIS) for the facility
11. Complete draft technical specifications
12. Special provisions and bid schedule-by City
13. Structural calculations
14. Updated project cost estimate that reflects the additional project detail known at this design stage
15. Value engineering report (if required)
16. Drainage report demonstrating retention and bleed off
17. Please note the following general requirements:
  - a. Include all Standard and Special Details
  - b. Include General Notes and Construction Notes
  - c. Prepare a draft construction sequencing specification if required
  - d. Continue to coordinate with outside agencies for permits and approvals (Electrical, Commercial)
  - e. Submit 8.5" X 11" sealed legal descriptions and exhibits for acquisition of R/W, PUFES or TCE's if required
  - f. Submit one (1) full size bond copy of Plans, Specifications and Estimate (PS&E)
  - g. Return 30% comments with your responses
  - h. Resolve 60% review comments before proceeding to 90% submittal

### **FINAL CONSTRUCTION DOCUMENTS (95% Submittal)**

During final design the drawings are advanced from the previous design stage, incorporating the comments from the previous design stage, including comments from Development and Sustainability Department's informal review of the documents. The architect should advance the documents to at least the 95% complete stage for them to be acceptable as final documents. The final drawings will be reviewed by Engineering, the end user, numerous other City departments, and Development and Sustainability Department. This submittal is Development and Sustainability Department's first formal review.

1. Prepare 90% PS&E package addressing all 60% comments
2. Technical Specifications
3. Finalize construction sequencing specification if required/needed
4. Confirm R/W, PUFES & TCE's are being finalized if needed
5. Confirm all permits/approvals from other agencies have been submitted
6. Submit one (1) full size bond copy of 90% PS&E Submittal, including 60% redlines with your responses
7. Submit PS&E package to MCESD (Approval to Construct).
8. Submit Catalog cuts marked for all exterior lighting fixture types to be used on the project showing how fixture housing and lamp placement within fixture provide 100% horizontal light cutoff.



9. Submit Structural calculations for all buildings, light pole foundations, retaining walls, and any ramadas which are not on the Building Inspections pre-approved list.
10. Resolve 90% review comments before proceeding to Final Submittal
11. LEED issues

**BID DOCUMENTS (100% Submittal)**

1. Prepare Final PS&E addressing all prior review comments
2. Submit sealed mylars, specifications and estimate
3. Confirm all permits and approvals are completed
4. Confirm that all Utility Relocations are being completed (Qwest, SRP, Cox, etc)
5. Compare cost estimate to available construction budget and adjust if necessary by coordinating with the CIP Office