

## CHAPTER 2. ARCHITECTURAL PROCESSING

2-1. STAGES. Multifamily processing consists of three stages: Site Appraisal and Market Analysis (SAMA) , Conditional Commitment, and Firm Commitment. The Field Office may allow the mortgagor to combine one or more of the processing stages. If stages are combined, the functions in these instructions will also be combined.

NOTE: If stages are skipped then detailed design review may have to be substituted for the architectural analysis of sequential stage processing.

- A. SAMA. Valuation determines market, rents, and site value. Normally, Architectural/Engineering (A&E) is not involved.
  - 1. If requested:
    - a. Make a site visit and report.
    - b. Attend finding conference.
  - 2. Always name Design Representative for inclusion in the SAMA letter.
- B. Conditional Commitment. Mortgagor and its architect develop schematic drawings and outline specifications. A&E will:
  - 1. Make site visit and report if not done at SAMA.
  - 2. Provide liaison with the mortgagor's architect during preparation of the drawings and specifications.
  - 3. Review architectural application exhibits to determine compliance with SAMA conditions and HUD requirements.
  - 4. Provide architectural conditions for conditional commitment letter. Complete Form [HUD-92264](#).
- C. Firm Commitment. Mortgagor and its architect develop contract drawings and specifications. A&E will:

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- (2-1) 1. Continue liaison with the architect during preparation of the contract drawings and specifications.
- 2. Review architectural application exhibits for compliance with conditional commitment conditions and HUD requirements.

3. Complete Form [HUD-92264](#).

2-2. FUNCTIONS.

A. Production Branch Chief through Team Leader.

1. Assign the Design Representative upon notification of receipt of an application.
  - a. Consider the technical qualifications and experience of available staff in relation to the complexity of the project.
  - b. Each Design Representative can handle several projects.
2. Provide Architectural and Engineering advice upon request.
3. Perform sufficient reviews to assure recommendations of staff are technically sound and work is done in accordance with current instructions and HUD policy.
4. Assure architectural target dates are met.
5. Keep Director, Multifamily Housing, informed of progress and problems.
6. Provide for proper distribution of HUD's three sets of contract drawings and specification.
7. Assure contractor's progress schedule is given to Mortgage Credit.
8. Provide Architectural/Engineering training.
9. Assure necessary technical data is available.
10. Collaborate and coordinate with other Field Office staff, and Headquarters' staff.

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(2-2) B. Design Representative.

1. Visit the site and prepare a written report on physical and economic aspects of on-site and offsite features.
  - a. Observe physical features such as existing construction, topography, soil conditions, drainage, vegetation, etc.
  - b. Include unusual site conditions and necessary demolition and offsite construction.
  - c. Determine and comment on building and zoning

ordinances, and HUD environmental conditions criteria which may affect the proposal.

- d. Send report to Director, Multifamily Housing.
- 2. Provide for continuous architectural liaison with the architect.
  - a. Evaluate the architect. (See paragraph 1-5.E. )
  - b. Arrange for "on-the-board" review during the development of drawings and specifications.
    - 1) In the architect's office.
    - 2) In the Field Office.
    - 3) By mail and telephone.
    - 4) Any other practicable means.
  - c. Agree on target dates for completion and submission of architectural/engineering exhibits.
- 3. Maintain a processing record of all Architectural Engineering actions. (See paragraph 2-3.)
- 4. Guide and assist the architect during design development to expedite orderly processing and avoid delays.
  - a. Assure the architect is licensed to practice within the State where the project is to be constructed.

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- (2-2) b. Assure the architect and mortgagor execute AIA Document B181, Owner-Architect Agreement, as early as possible, (See paragraphs 1-5.B. and C.).
  - c. Provide the architect with this Handbook, applicable program Handbook(s), HUD Minimum Property Standards (MPS) Handbook 4910.1, and other applicable guides and publications.
  - d. Inform the architect of local code, accepted or partially accepted, or model code applicable as part of MPS.
  - e. Discuss with architect HUD procedures and architect's responsibilities.
  - f. Discuss with architect any available housing design data and all HUD developed or industry norms which are applicable and beneficial to the project.

- g. Review drawings and specifications during design development and identify questionable design concepts, elements or deficiencies early to avoid costly revisions at advanced stages of exhibit development.
- 5. Request assistance by the Technical Specialist, e.g., engineers, when necessary.
  - a. Review and use the Technical Specialist's Report.
  - b. Furnish the architect with consolidated design requirements, including recommendations or requirements of Technical Specialists and Director of Housing Development.
- 6. Assure project cost will fall within the established budget.
  - a. Evaluate appropriateness of type of structure, construction methods and materials considering initial costs and future maintenance.
  - b. If in doubt about cost or marketability, request assistance from Cost Analyst or Appraiser in your office.

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- (2-2) 7. Report any deviations from accepted concepts or HUD requirements which cannot be resolved with the architect to the Director, Multifamily Housing. (See paragraph 2-4.)
- 8. Be aware of design development progress in relation to established target dates and inform the Director, Multifamily Housing, of actual delays, or problems.
- 9. Review Architectural/Engineering exhibits submitted with the application at each processing stage.
  - a. Assure exhibits are as agreed during design development, meet conditions of the previous stage, and comply with all HUD standards and criteria.
  - b. Prepare the Architectural/Engineering portions of Form [HUD-92264](#), Rental Housing Project Income Analysis and Appraisal, upon completion of architectural analysis. (See reference (1) of the Foreword. )
- 10. Furnish information to the Cost Analyst as to the scope of the architect's work as a basis for the estimation of the architect's fee.

11. Assure drawings and specifications are complete and correct prior to issuance of a firm commitment.
12. Prior to initial endorsement: (See paragraphs 2-9 B and C.)
  - a. Review contractor's Progress Schedule.
  - b. Review Building Loan Agreement.
  - c. Review Construction Contract
  - d. Review the legal survey and Surveyor's Report.
  - e. Assure HUD sets of drawings and specifications are sealed and signed.
13. Attend preconstruction conference. (See paragraph 2-9.D.)

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- (2-2) C. Technical Specialists. Engineers (mechanical, structural, sanitary, site, etc.):
1. Provide engineering review, advice and guidance on specific project or problems on request.
    - a. Review at the Field Office.
    - b. Review exhibits sent by the Field Office.
  2. Provide training in specialty to Field Office staff.
  3. Supply data in specialty that is adequate, accurate and current to Field Office Director, Multifamily Housing.
- D. Sponsor's Architect.
1. Services. Provides architectural and engineering services in accordance with the Owner-Architect Agreement. (See paragraph 1-5.)
    - a. Develops documents that conform to concept of the sponsor's program and proposal.
    - b. Produces drawings and specifications that comply with local requirements and HUD standards and criteria.
  2. Data. The architect's work is shaped by data such as: expected rate of return, codes, transportation, parking, space and mechanical requirements. Data are

furnished by HUD, the sponsor, and the architect develops some through surveys and research.

3. Concurrence. The architect must concur in the target dates for Conditional and Firm Commitment submissions. The architect usually concurs in all schedules.
4. HUD Assistance. There must be continuous consultation between the architect and the Design Representative.
5. Conditional Commitment Stage. The architect must:

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- a. Visit the site.
  - b. Evaluate the sponsor's and users needs.
  - c. Become familiar with applicable codes, restrictions, and requirements.
  - d. Develop schematic drawings and outline specifications according to SAMA letter.
6. Firm Commitment Stage. The architect, from the schematics and outline specifications must:
  - a. Prepare basic construction drawings and specifications.
  - b. Submit basic exhibits to the sponsor for approval.
  - c. Prepare final construction documents after the basic exhibits are approved. These include contract drawings and specifications with:
    - 1) Applicable wage decision,
    - 2) Current edition of AIA Document A201, General Conditions of the Contract for Construction, and
    - 3) Form [HUD-2554](#), Supplementary Conditions of the Contract for Construction.
  - d. Submits the final construction documents to the sponsor for approval and submission to HUD.
7. Construction Documents must be complete and:
  - a. Clearly fix the scope of work.
  - b. Define and describe the materials to be used.
  - c. Illustrate the construction and methods of

assembly.

- d. Contain all necessary information for bidding (if required or Proposed) and constructing the project.

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- (2-2) 8. Alternates. The architect may include alternates if they are of equal quality, safety, and performance and within the budget. Alternates must be selected before a Firm Commitment is issued. (See program Handbooks for exception.)
- 2-3. Project Record. A binder must be set up by the Design Representative when the proposal is first assigned.
  - A. File all forms, reports, decisions and documents relevant to architectural actions in chronological order.
  - B. Record all architectural actions, counteractions by others, or actions that may affect design or construction.
  - C. Record the receipt of forms and documents, the issuance of letters and memoranda, the completion of forms and worksheets, contacts with the architect, etc.
  - D. Log and briefly describe contacts, including telephone calls, with the architect.
  - E. Keep journal of architectural actions on the left side of the binder and forms and documents on the right.  
Include:
    - 1. Applications for SAMA, Conditional and Firm Commitments, Form HUD-92013.
    - 2. HUD Environmental Assessment, Form HUD-4128, and Conditions.
    - 3. Reports of site visit (including technical specialist's if made).
    - 4. Drawings and specifications accepted at each stage, identified and dated (though filed elsewhere, reference in journal).
    - 5. Owner-Architect Agreement.
    - 6. Data used to process. (If filed elsewhere, reference in journal.)
    - 7. Liaison meetings and telephone calls with architect. (Remarks in journal or notes)

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- (2-3) 8. Letters, memoranda, notes and worksheets.
9. Utility Analysis (if required).
  10. Soil boring report or other soil exploration data (if received-not required.)
  11. Form [HUD-92264](#) with any memorandum for SAMA letter, Conditional and Firm Commitments.
  12. SAMA letter, Conditional and Firm Commitments.
  13. Surveyor's Report, Form HUD-92457 (Initial Endorsement)
  14. Building Loan Agreement, Form HUD-92441.
  15. Construction Contract, Form HUD-92442 or 92442A.
  16. Progress Schedule.

NOTE: Required inspection records may be added or separately bound (see paragraph 3-5 for requirements).

2-4. NEGOTIATIONS.

- A. The Design Representative provides guidance to the architect. Request the assistance of the Production Branch Chief through the Team Leader if the architect or sponsor is reluctant to follow such guidance.
1. Maintain a fair and reasonable attitude.
  2. Make constructive suggestions to assure compliance or improvement.
  3. Provide a competent presentation so that benefits are clearly evident to all.
  4. Do not pursue a suggestion for improvement or betterment if unacceptable to the sponsor.
  5. HUD mandatory standards and criteria may not be modified or waived.
- B. Report to the Director, Multifamily Housing, when resolution is not possible.

- (2-4) 1. Recommend rejection only if the design fails to comply with prescribed requirements, laws, ordinances or restrictions, or is inadequate in some major respect.
2. Request intervention and assistance, describing the

deficiency or inadequacy that the architect and/or sponsor are unwilling or unable to correct.

2-5. SAMA EXHIBITS.

- A. No architectural/engineering exhibits required.
- B. Exception, for the site visit.
  - 1. Form HUD-92013, Application for Project Mortgage Insurance.
  - 2. Location map with property clearly indicated.
  - 3. Sketch plan of the site.

2-6. CONDITIONAL COMMITMENT EXHIBITS.

- A. Form HUD-92013, Application for Project Mortgage Insurance.
- B. Location map with property clearly indicated.
- C. Form HUD-5087, Outline Specifications.
- D. Schematic drawings, minimum requirements.
  - 1. Site plan, scale 1"=40'.
    - a. Lot lines and dimensions.
    - b. Adjacent offsite buildings, outline and number of floors.
    - c. Adjacent streets and utilities with size of lines, serving the site. If public utilities are not available, proposed location of water and sewer facilities and lines.
    - d. Necessary offsite work.
    - e. On-site utility lines, existing and proposed.

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- (2-6) f. Roads and driveways.
  - g. Parking areas.
  - h. All buildings, outline and dimensions.
  - i. Patios, recreation and other areas.
  - j. Contours, existing and proposed, if topography or drainage is a design factor.
  - k. North arrow.

1. Tabulation:
  - 1) Site and gross building floor areas.
  - 2) Number of parking spaces.
  - 3) Living units types, composition, number and total.
2. Floor Plans, scale 1/8"=1'-0".
  - a. Foundation or basement.
  - b. First floor, if not typical.
  - c. Typical floor.
  - d. Show dwelling units and mechanical, service, storage, commercial, and common areas in basement and on each floor.
3. Typical dwelling unit plans, scale 1/4"=1'-0".
  - a. Room sizes or dimensions.
  - b. Furniture layout.
4. Elevations of each typical building.
- E. Owner-Architect Agreement, AIA Document B181.
- F. Architect's Resume.
- G. Utility Analysis, if required by program.
- H. Response to any HUD Environmental conditions or requirements.

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2-7. FIRM COMMITMENT EXHIBITS.

- A. Form HUD-92013, Application.
- B. Contract Drawings, minimum requirements.
  1. Cover Sheet.
    - a. Project name, location, and HUD project number.
    - b. Names of design architect, architect providing contract administration if not the same, owner, contractor and bonding company with spaces for signature, title if appropriate, and date.

IDENTIFICATION

Architect	(Print Name)	by (Signature, title, date)
Owner	(Print Name)	by (Signature, title, date)
Contractor	(Print Name)	by (Signature, title, date)

Bonding Co.

(Print Co. Name) by (Signature, title, date)

- c. Tabulation of living units:
  - 1) Number of units of each type.
  - 2) Number of units and type in each building.
  - 3) Number of nonrental living units.
  - 4) Totals.
- d. Location map.
- e. The number of parking spaces, open and covered.
- 2. Index of Drawings.
  - a. Drawing numbers, consecutive.
  - b. Drawing titles.
  - c. Date of last revision date for each drawing.
- 3. Topographic Survey, scale 1"=40'. (Transit survey, made at site.)

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- a. Contours at no more than two foot intervals. For steeply sloping site, maximum interval of five feet.
- b. Name of city, county and state of property location.
- c. North arrow, magnetic and true.
- d. Lot and block numbers of property and adjacent properties.
- e. Distance to nearest street.
- f. Dimension, length and direction, of each boundary and physical indication of boundary (monuments, markers, fences, etc.).
- g. All easements, right-of-way, set-back lines, and other restrictions.
- h. Existing streets, alleys, drives and walks.
  - 1) Provide street names or designations.
  - 2) Indicate surfacing, curbs and other pertinent data.

- i. Location and size of all utility lines and facilities. Include sewer invert elevations and direction of flow.
- j. Location of natural features such as preservable trees, streams, rock outcropping, etc.
- k. On-site and adjacent existing structures with description.
- l. Available information about subsoil, ground water, fill, and buried foundations, tanks, debris, etc.
- m. Legal description of the property, and total square feet and acreage.
- n. All encroachments or deviations from the description of the property or conflicts with descriptions of adjoining properties.

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- o. Name of registered surveyor, signature and date of survey.
4. Plot Plan, scale 1"=40'.
- a. North arrow, magnetic and true.
  - b. Site boundaries with dimensions.
  - c. Streets, alleys or roads adjacent or within the project boundaries, together with walks, curbs, pavements, steps, ramps, play areas, parking areas and drying yards, and utilities such as gas, water, electric and sewer lines.
    - 1) Note dimensions or size for each, and distance from structures or other locating points; materials to be used for such its as walks and pavements, and the extent of each.
    - 2) Note as "New" or "Existing", and indicate any streets or alleys within the project boundaries to be dedicated for public use and maintenance.
  - d. Buildings, locating dimensions, over-all dimensions, and building designations.
  - e. Elevations of first floor, together with elevations of finish and existing grade at

building corners and entrances (including ramps, landings and steps); elevations of curbs and streets; invert elevations of main sewers and direction of flow.

- f. Utilities servicing the property, or distance to point of connection and utility lead-ins or service connections; yard lighting, lawn hydrants and lawn sprinkler systems with pipe sizes, controls, drains, and fire hydrants.
- g. Retaining and garden walls, fences, guard rails, garages and accessory structures; dimensions and details as necessary.
- h. Existing trees and other natural features and whether to be removed or preserved; details as necessary.

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- (2-7) 5. Grading and Drainage Plan, scale 1'=40'. Required if required information cannot be clearly shown on Plot Plan.
  - a. Existing and new grade elevations of all building corners and new grade elevations at entrances, walks, drives, parking areas, terraces, yards, walls and steps and first floor elevations. Proposed grading contours at appropriate intervals indicated in solid line with existing contours indicated with dotted line.
  - b. Site drainage. Indicate controlling grades and dimensions of all tile lines; culverts, catch basins, drain inlets, gutters, and all curbs; drainage disposal, and any existing facilities to be used.
- 6. Landscape or Planting Plan, scale 1"=20'.
  - a. Outlines of structures and other improvements, together with physical features of the site to establish the location and relationship of planting and related construction.
  - b. Distribution of plant material.
    - 1) Location, quantity and key number of each species in each group.
    - 2) Outline of all planting beds and primary and secondary lawn areas.
    - 3) Existing trees and shrubs to be preserved or transplanted.

c. List of plant material. Use standardized names.

- 1) Key number for each species.
- 2) Size, quality and quantity of each.
- 3) Any other pertinent data.

NOTE: Topo, plot, grading and drainage, and landscape may be combined, in whole or part, if all required information can be clearly shown on a site or plot plan.

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(2-7) 7. Floor Plans, scale 1/8"=1'.

- a. Foundation or basement, typical floor, and any non-typical floor for each type of building.
- b. Show dwelling units; mechanical, service, storage, commercial, and common areas; walls and corridors, stairs, elevators, lobbies, and other circulation areas.
  - 1) Dimensions: overall, column centers, building breaks and set backs; locate openings and walls.
  - 2) Rooms: name and/or number, reference to details.
  - 3) Floors: elevations, patterns, changes in material, ramps, curbs, base, and recesses.
  - 4) Walls: material indication, pipe and duct spaces, recesses, panels.
  - 5) Ceilings: breaks or changes in height, skylights; reflected for the patterns showing lights and diffuses.
  - 6) Doors: swings and number (type designation)
  - 7) Windows: location and number (type designation) .
  - 8) Toilet Rooms: fixtures, stalls, drains.
  - 9) Stairs: well dimensions, traffic direction, number of risers.
  - 10) Miscellaneous: drinking fountains, hand rails, fire extinguisher or hose

cabinets, shelving, lockers, folding partitions, expansion joints, and other proposed features.

- c. Provide additional enlarged scale drawing of areas not clearly shown at this scale.

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- (2-7) 8. Dwelling Unit Floor Plans, scale 1/4"=1', each basic type unit and any variation.
  - a. All conditions where units are to join other units, including end unit conditions.
  - b. Living unit types identified by a number or letter.
  - c. Partitions to scale; rooms, closet and hall dimensions; overall dimensions; window locations and type designations referring to schedule showing sizes; door swings and type designations referring to schedule showing design, thickness and size; dimensioned stair location, runs and width, landings, handrails.
  - d. Plumbing fixtures; soil and vent stacks; kitchen cabinets and equipment; electric lights, switches, receptacles and special power outlets; closets, shelving and clothes rods; radiators or other heating devices, chimneys, and all other such items. Provide separate mechanical drawings where plumbing, electrical, or heating and cooling information would obscure other essential information.
  - e. Locate structural elements such as columns, lintels, joists, beams, girders, and bearing partitions. Show sizes, spacing and direction of members. Provide separate structural drawings where the structural information would obscure other essential information.
- 9. Roof Plan, scale 1/8"=1'.
  - a. Dimensions: overall of building and roof surface; overhangs and canopies.
  - b. Drainage: roof drains or gutters and leaders; pitch to drains or pitch and expansion joints in gutters; high and low points on flat roofs and direction of drainage.
  - c. Materials: type of roofing, cornice or parapet, copings and drip edges.

- d. Other: chimneys and crickets, skylights, scuttles, hatches and bulkheads, railings, expansion joints, and equipment located on roof.

NOTE: All plans must reference applicable details and schedules by section lines and notes.

10. Elevations.

- a. General Elevations, scale 1/8"=1'. Exterior design of all sides of buildings together with existing grades and proposed grades at buildings, floor lines and elevations, floor height dimensions, roofs, attic vents, parapets, cornices, downspouts, window and door opening outlines with type for each opening (some having doors and windows completely indicated), material notes, and other essential features.
- b. Typical Elevations, scale 1/4"=1' Typical elevations to show the portions of each type facade with the exterior design, including materials, jointing, special features, windows, doorways, cornices, parapets and all details, unless clearly shown on general elevations.

11. Sections.

- a. Building Cross Sections, scale 1/4"=1'. Various height conditions and indications to show the cross sectional characteristics of the buildings and floor level relations, when such information cannot be presented adequately on other drawings.
- b. Detail Sections, scale 3/8"=1'. Each type of exterior wall and bearing wall or partition complete from footings to roof.
  - 1) Exterior Sections. Complete construction of:
    - walls with thickness at various stories; floors; furring;
    - waterproofing; ceilings; roofs, including pitch and material; window heads and sills; window heights; flashings; room heights; anchorage and bearings; cornice and gutter; insulation; vapor barrier; foundation walls and footings; conditions at various depth basements, basement floors or access space; roof

space; attic and foundation vents.

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- (2-7) 2) Interior Sections. All types of walls and partitions with floor, ceiling and roof construction: supporting walls or members, columns and girders; foundations and footings, size and spacing of all members; joints; splices or ties, sub and finished floors; walls and ceilings.
- 3) Non-Typical Sections. Any condition not clearly shown on other sections, such as intersections of roof with wall, flat roof with sloped roof, retaining wall with foundation or exterior wall, etc.
12. Details, scale 1/4"=1', plan, elevations and sections.
- a. Main, secondary, and service entrances and lobbies.
  - b. Stairs. (Sections must show stringers, treads, risers, newels and balusters; rise, run and headroom; and dimensions.)
  - c. Elevators, machine rooms, equipment rooms, and boiler rooms.
  - d. Kitchens, bathrooms, and common areas, such as community and meeting rooms.
  - e. Special exterior and interior details, such as platforms, areaways, bay windows, dormers, cupolas, fireplaces, and millwork.
13. Schedules, complete information for convenient references.
- a. Door Schedule. Size, thickness, material and design of each door, with designation on plan. Fire doors, indicate approved rating.
  - b. Window Schedule. Size, thickness, material and design of each window, with designation on plan.
  - c. Finish Schedule. Material and type finish of floors, base or wainscot (with height), walls, ceilings and trim for various rooms or spaces.

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- (2-7) 14. Structural, appropriate scale, complete information plans,

elevations, sections, details and schedules coordinated with architectural drawings.

- a. Locate columns, lintels, joists, beams, girders, and bearing partitions. Show size, spacing and direction of members.
  - b. Details for connections of members, foundations, and anchorage. Reflect level of safety against progressive collapse.
  - c. Details for construction of unusual or special features.
  - d. General structural design notes, showing live and dead loads, seismic zone, table of allowable stresses and modulus of elasticity for all structural materials, limits of deflection-to-span ratio and other pertinent data.
  - e. Information may be shown on architectural drawings unless it obscures other essential information.
  - f. Drawings shall be titled, numbered, dated and stamped by a registered architect or professional engineer.
15. Mechanical, appropriate scale, complete information on plans, elevations, sections, details and schedules coordinated with architectural drawings. Simple systems may be shown on architectural drawings unless it obscures other essential information. Architect's or professional engineer's seal required.
- a. Heating, each system.
    - (1) Location and size of boilers, furnaces, or heaters; make, model number or type and net output of each.
    - (2) Layout, location and size of supply and return piping, ducts, raisers and branches. Locations requiring insulation.
    - (3) Location, sizes and output in Btu of all radiators, fan coil units, registers, grille and panel surfaces, together with valves, vents, traps, dampers and other accessories; make, model number or type of each.

- (4) Make, model number and firing rate of all firing equipment, and similar detailed data on all other component parts of each system such as controls, pumps, blowers, filters, and similar items.
- (5) Location, type, manufacturer's name and model number of all domestic water heating and related equipment including storage; arrangement and sizes of connecting piping, and make and model number, and other pertinent information of all control equipment and safety devices.
- (6) System design data, include: outside and inside design temperature; boiler operating pressure and temperature; Btu output; pressure or temperature drops; air temperatures at registers; pump or fan capacities, volumes, and velocities; heat loss for each space to be heated; output capacity in Btu of each radiator, convertor, fan coil unit, register, or panel surfaces; total heat loss of each building and total calculated heat load connected to each heating system; net output in Btu of each boiler and each system.
- (7) Design data for each domestic hot water system. If connected to heating system, include additional heat load in total for heating system.

b. Plumbing.

- (1) Horizontal sewer and drain system together with soil, waste and vent stacks; branch wastes and vents; drains, cleanouts, traps, sump pumps, etc.,

- (2-7) connections to sewer, size of all lines and stacks, and invert elevations of site utility lines. Riser diagram of typical stack including soils, wastes, and vents.
- (2) Cold water distribution system, size of mains and branches, location of hose bibbs, valves and drains. Including sprinkler system (fire and

lawn).

- (3) Hot water distribution system together with circulating lines and pumps, valves, sizes of mains and branches.
- (4) Gas distribution system, size of mains and branches, meters, etc.
- (5) Gas piping riser diagram, size of pipes.
- (6) Hot water heater piping diagram.
- (7) Symbol list.
- (8) Fixture schedule.
- (9) Layout, scale 1/4"=1", of typical bathrooms, equipment rooms, and congested areas; indicate size of pipe.

c. Electrical.

- (1) Service lines, service characteristics, type and size of conduits and service wires; and service panel type, size, rating, circuit breaker trip and frame rating, fuse type and rating. Primary and secondary distribution lines, unless in the scope of work, should be shown only if necessary to clarify scope of work.
- (2) Meter and panel locations and manner of mounting.
- (3) Interior distribution and wiring of typical units: number of wires in circuits, wire and conduit type and size and manner of installation, i.e., surface mounted, above ceiling, through wall studs in-furred walls, bedded in concrete slab, etc.

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- (2-7) (4) Lights, receptacles, switches, special purpose outlets and connections to all equipment if not shown on architectural plans.
- (5) Yard and grounds lighting, public and common spaces lighting, and controls.
- (6) Power riser diagram and switchboard

schedule.

- (7) File alarm riser diagram.
- (8) File detection and alarm system riser diagram and schedule.
- (9) Symbol list.

d. Air Conditioning.

- (1) Location, cooling capacity, and horsepower of compressor; cooling tower and condensing units; and individual cooling units. Make, model number, and rating.
- (2) Layout of system including ducts, grilles, registers, diffuses, sizes, and location of valves, vents, dampers and controls.
- (3) Btu load requirements for each individual space. Size and rating of equipment.
- (4) System design data: duct system external static pressure, pressure drop per foot CFM space requirements, blower ratings, type of condenser cooling, inlet and outlet water temperature, and water flow rate in GPM.
- (5) Electric wiring layout: location of motors, fans, pumps, switches, and load requirements.

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(2-7) C. Contract Specifications.

1. Cover Sheet.

- a. Project name, location, and HUD project number.
- b. Names of Architect, Architect providing contract administration if not the same, Owner, Contractor, and Bonding Company with spaces for signature, title if appropriate, and date.

IDENTIFICATION

Architect (Print Name)  
Owner (Print Name)

by (Signature, title, date)  
by (Signature, title, date)

Contractor (Print Name)  
Bonding Co. (Print Co. Name)

by (Signature, title, date)  
by (Signature, title, date)

2. Index.
  - a. Divisions with name.
    - (1) Trade, name and page number.
    - (2) Trade section, name and page number.
  - b. Pages numbered consecutively.
3. Conditions.
  - a. General Conditions of the Contract for Construction, AIA Document A201, latest edition.
  - b. Supplementary Conditions of the Construction Contract, Form [HUD-2554](#), latest edition.
  - c. Architect's Supplementary conditions, if any.
4. Divisions. Use 16 basic divisions of Masterformat Construction Specifications Institute (CSI) . (See Appendix 1).
5. Trade Sections.
  - (2-7) a. Complete description of all work to be performed.
  - b. Scope of work, materials, and workmanship.
  - c. Coordinate instruction with other trades.
6. Methods of Specifying.
  - a. Performance, list required qualities of products and assemblies, and end result.
  - b. Reference Standards, incorporate references to nationally recognized standards published by industry associations, testing organizations, and government, such as, American National Standards Institute (ANSI) , Underwriters' Laboratories (UL) , and Department of Commerce (DOC).
  - c. Proprietary, list products and assemblies by manufacturer or brand name, and grade or model.

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- (1) Include two and preferably three or more comparables.
- (2) Single brand only if there is no comparable.

7. Unacceptable.

- a. Use of the words "or equal".
- b. Reference to HUD or HUD publications, such as,
  - (1) Minimum Property Standards (MPS)
  - (2) Materials Bulletins (UM).
  - (3) Materials Releases (MR), and
  - (4) Structural Engineering Bulletins (SEB)
- c. Cash or lump sum allowances.

D. Offsite Drawings and Specifications.

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- (2-7) 1. Offsite improvements are those required to service the project but outside of the property boundary lines.
  - a. Include utilities, walks, curbs, gutters, streets, drainage structures, landscaping, and similar improvements beyond the property lines.
  - b. Do not include short extensions of utilities, walks, drives, drainage structures and similar improvements beyond the property lines which connect with those next to the property lines. Public sidewalks next to the property lines are not included.
- 2. Offsite improvement may be included in the contract drawings and specifications but the extent must be clearly defined on the plot plan and in the specifications.
- 3. Complete, separate offsite drawings and specifications are preferred.

2-8. FIRM COMMITMENT CONTRACT DOCUMENTS. Prior to issuance of a firm commitment:

- A. Drawings and specifications must be complete and correct.
- B. Acceptable evidence must be provided that the project has or will have necessary utility services and pedestrian and

vehicular access.

1. Adequate assurance of continuing service by local utility companies and/or local public authorities, or
2. Construction documents and contract for completion by sponsor's contractor.

2-9. FIRM COMMITMENT TO INITIAL ENDORSEMENT.

A. Changes After Firm Commitment. Prior to initial endorsement:

1. Drawings and specifications may be amended by addendum when the change(s) will have no affect on cost or value.

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- a. Addenda must clearly state or show the change with specific reference to the location of the item on the drawings or in the specifications.
  - b. Amendments shall be clearly noted and dated.
  - c. Addenda are not to be used to correct errors noted during firm commitment processing.
2. Firm commitment reprocessing is required for major changes adding or deleting work, or effecting cost or value. Drawings and specifications affected must have sheets and pages revised and replaced.

NOTE: This is the preferred way of making a change.

B. Estimated Contractors Progress Schedule. Article 3.10.1 of the AIA General Conditions requires the general contractor to prepare and submit an "estimated progress schedule for the work" to the sponsor and architect.

1. The sponsor or architect must submit a copy to the Field Office at least 30 days before initial endorsement.
2. Architectural staff must review to assure it relates to the entire project to the extent required by the contract documents. (Inclusive dates for stages of construction.) Copies of the approved schedule are given to:
  - a. HUD representative (inspector) to determine scheduled progress at each site visit.
  - b. Mortgage credit staff to use in processing insured advances of mortgage proceeds.
3. The Field Office uses the schedule to determine when construction is falling behind, triggering a meeting

of all parties to the contract, and the mortgagee and bonding company. The meeting is to determine the reason for delays and to advise of the consequences.

- C. Contract Documents. Architectural staff must review prior to initial endorsement.

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(2-9)

1. Building Loan Agreement, Form HUD-92441, and Construction Contract, Form HUD-92442 or 92442-A.
  - a. Correct identification of drawings and specifications on forms.
    - (1) Project name, HUD project number, and design architect's name.
    - (2) Drawings and specifications by sheets, pages and date or by index with date of last revision of sheet and page.
    - (3) Addendum by number and date.
  - b. Compliance with any architectural requirement or condition.
2. Survey and Surveyor's Report, Form HUD-92457, must be reviewed:
  - a. For compliance with Survey Instructions and Certificate.
  - b. To assure legal description and survey property boundaries agree (close).
  - c. To assure that the surveyor's report is complete per instructions.
3. Drawings and Specifications, three sets.
  - a. Master set and sets No. 1 and 2, are the same as accepted and identified in the firm commitment.
  - b. Cover sheets signed by representatives of design architect, architect administering contract, owner, contractor, and bonding company, if any.
  - c. Master set initialed by signatories on face of each sheet and page. (Signatories initial opposite any "last minute" revisions not covered by firm commitment or addendum.)

- D. Preconstruction Conference. The Production Branch Chief

and/or Team Leader, Design Representative, and Inspector attend. The HUD technical representative shall:

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- (2-9)
1. Meet the contractor, subcontractors and inspecting architect.
  2. Discuss contract documents and HUD requirements.
  3. Explain HUD's role and requirements during construction.

NOTE: May be part of wage and equal employment conference or separate.

E. Distribution of Drawings and Specifications. After initial endorsement distribute drawing and specifications as follows:

1. Set No. 1 Master Set is the legal contract document.
  - a. Retain until the last guarantee inspection.
    - (1) Add copy of each Change Order, Form HUD-92437.
    - (2) Add copy of each Architect's Supplemental Instruction.
  - b. Review and certify on Form HUD-92488, Certificate and Transfer Master Plans, Specifications and Change Orders.
  - c. Package in a tightly rolled bundle with drawings on the outside, attach Form HUD-92488, and send to the Regional Federal Records Center one year after completion of construction.
2. Set No. 2 is the Field Office's review set.
  - a. Use for processing change orders, review of inspections, and similar functions. Do not use Master Set.
  - b. Dispose of after final endorsement.
3. Set No. 3 is the Field Office's job site set.
  - a. Use for inspection of the project.

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- (2-9)
- b. HUD Inspector conforms it to the contractor's "record set". (Contractor is required to maintain at the site a record set for the

Owner.)

- c. HUD Inspector returns to Field Office upon completion of construction. They are the HUD "as-built" set.
- d. Use for guarantee inspections.
- e. Send HUD "as-built" set to the Director, Asset Management, one year after completion of construction for use in project servicing.