

## Architectural Analysis

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## Common HUD Standards and Other Criteria for Sections 220 and 221(d)

**5A**

### A. Minimum Property Standards.

1. Design must meet HUD Handbook 4910.1, Minimum Property Standards for Housing (MPS).
  - a. Local Building codes or nationally recognized building codes accepted or designated by the local HUD Office are part of the MPS.
  - b. The Field Office enforces and interprets accepted local building codes for HUD.
  - c. The Field Office does not enforce local building codes for the local Government.
2. For community sewerage systems, use HUD Handbook 4940.3, Minimum Design Standards for Community Sewerage Systems.

### B. Accessibility for Persons with Disabilities.

1. Uniform Federal Accessibility Standards (UFAS) apply when compliance with Section 504 or specific program criteria is required.
2. Title VIII of the Civil Rights Act of 1968, as amended, commonly known as The Fair Housing Act (the Act) directs the Secretary of HUD to provide technical assistance to States, local governments, and other persons in implementing the accessibility requirements of the Act. Section 804(f)(3)(c) requires that all residential buildings which have four or more units and which are built for first occupancy after March 13, 1991 (referred to in the Act as “covered multifamily dwellings”), be designed and constructed to have at least one building entrance on an accessible route, unless it is impracticable to do so because of terrain or unusual site characteristics. Such dwellings must provide for accessibility in all common and public areas. In addition, certain accessibility requirements must be included in all of the dwelling units in buildings with elevators, and in all of the ground floor dwelling units in buildings without elevators. They are:
  - a. Public and common use areas must be readily accessible to and usable by persons with disabilities;
  - b. All doors designed to allow passage into and within all premises are wide enough to allow passage by persons in wheelchairs;
  - c. All premises contain the following:
    - (1) An accessible route into and through the dwelling unit;

- (2) Light switches, electrical outlets, thermostats, and other environmental controls in accessible locations;
- (3) Reinforcements in bathroom walls to allow later installation of grab bars; and
- (4) Usable kitchens and bathrooms such that an individual in a wheelchair can maneuver about the space.

As a part of processing and commitment, the Lender's analyst will review construction documents for covered multifamily dwellings pursuant to the MPS (HUD Handbook 4910.1), and the Fair Housing Accessibility Guidelines (the Guidelines). The Guidelines provide minimum accessibility standards. The Guidelines are found in the Federal Register, Vol. 56, No. 44, Wednesday, March 6, 1991. Additional material may be found in the Fair Housing Act Design Manual.

- C. Commercial Facilities. The term "Commercial" is applied to any space or facility permitted and acceptable for "Nonresidential Use" from which income is derived or anticipated. However, facilities such as swimming pools and garages to be use solely by occupants are not considered commercial even though fees may be collected.
1. The nature and extent of nonresidential use are important for underwriting determinations. Basis of determinations are suitability, market demand, economic feasibility in the utilization of space, and Regulatory or Statutory limitations.
  2. The aggregate commercial floor area may not exceed 10 percent of the gross building floor area and includes corridors, stairs, elevators, lobbies, and other service areas for commercial use, but excludes laundry space, project storage space, and interior tenant parking.
  3. Design of commercial facilities must be harmonious with the project and conform to standards of design and construction, and local zoning and building codes.
  4. Do not include fixtures, equipment, furnishings or finish for commercial spaces in the mortgage unless customarily provided in competitive projects.
- D. Day Care Facilities. Space for day care facilities must be adequate, appropriate to the market need, and conform to local and State requirements. In processing, it is considered as "Commercial" space except that the area of space for day care facilities may be provided over and above the maximum area allowed for commercial uses as stated in paragraph C above.
- E. Carpet and Cushion. Wall-to-wall carpet and cushion may be included as part of the mortgage security. Carpet and cushion selected by the architect must comply with current applicable Use of Materials Bulletins.
1. Carpet is acceptable in all public spaces except laundry rooms, storage rooms, boiler rooms, and similar service areas.

2. Carpet is acceptable in living units except in kitchens and bathrooms.
- F. Blinds and Draperies. Operable draperies, track and hardware, venetian blinds or shades are acceptable as part of the mortgage security when:
1. Appropriate to the property, considering types of windows, rental range, and occupants.
  2. Primary uses are to control the intensity of natural light and to provide privacy.
  3. The quality and type of materials, appearance, manufacture, manner of fastening and operations are suitable and sufficiently durable to avoid excessive replacement or maintenance expense.
- G. Air Conditioning. Where air conditioning is required to provide year-round indoor comfort, assure continued marketability, and prevent premature obsolescence, projects should be air-conditioned. In projects acceptable without air conditioning, assure air movement for summer comfort by adequate mechanical or cross ventilation. Particular attention should be given to the need for air conditioning in elevator structures, especially for senior citizens.
- H. Eligible Equipment.
1. Equipment included as part of the mortgage security must be acknowledged by the mortgagor and Lender to be part of the real estate and:
    - a. Be essential for successful operation and market acceptance.
    - b. Have qualities in design, construction, materials and finishes which are not subject to early deterioration or obsolescence.
    - c. Be appropriate to the location, the design of the building, and the anticipated occupants.
  2. Equipment needed for operation and market acceptance, such as ranges and refrigerators, should be included. The equipment should be relatively long-lived.
    - a. Replacement is paid for from a reserve for replacements account that is funded from project income.
    - b. Many items formerly considered chattels by custom and legal precedent now have status as part of the real estate.
    - c. Customs change and if doubts arise as to legal precedent concerning whether an item is chattel or real estate, essential and required items may be covered by a security agreement or chattel mortgage, as well as being covered by the mortgage on the real estate if deemed necessary by the Lender and its attorneys.

3. Equipment that may not be included:
  - a. Supply items, utensils, tools, vehicles, portable equipment, furniture, furnishings, or accessories normally provided by tenants or management
  - b. Built-in or attached furniture.
- I. Water and Sewerage. Public water and sewerage facilities are generally required for multifamily projects. If the extension of public facilities is infeasible, construct a water and/or sewerage system as part of the project or provide services from existing offsite privately owned systems with continuing service at reasonable rates.
  1. Water and/or sewerage facilities must:
    - a. Provide a sufficient supply of water with adequate pressure, and satisfactory bacterial and chemical qualities.
    - b. Provide a sewerage system with adequate collection, treatment and final disposal of domestic waste, which requires minimum maintenance and will not endanger the public health.
  2. Duplicate water and sewerage systems are not acceptable except where it is determined that the construction of a single system will be infeasible due to the topography of the site.
  3. Individual septic systems or sewerage systems designed to dispose of effluent by subsurface soil absorption methods are generally not suited for multifamily construction because of maintenance problems. Satisfactory operation can be expected only under unusually favorable soil conditions. When these methods of sewerage disposal are proposed, an environmental (sanitary) engineer, with no other interest in the project, should be hired by the mortgagor to investigate soil and site conditions and make recommendations. A copy of the report must be available to the mortgagor's Architect and be included in the exhibits submitted for review by the Lender's analyst.
  4. Privately Owned Offsite Water and Sewerage Systems.
    - a. Evidences of acceptable control are:
      - (1) Certificate of Convenience and Necessity from the State Utility Regulatory Commission.
      - (2) Franchise from local unit of Government
      - (3) Trust Deed
      - (4) Third Party Beneficiary Agreement

- (5) An incorporated nonprofit owners association.
  - b. If control of continuity of service and the equitability of the service rate schedule is other than (1) above, all legal documents and other appropriate exhibits must be acceptable to HUD's Counsel.
5. All community systems and privately owned systems must meet local health authority or EPA MCL standards.
- J. High Pressure Gas and Liquid Petroleum Transportation Pipelines.
1. All parts of a residential structure must be at least 10 feet from the outer boundary of the pipeline easement for pipeline maintenance access.
  2. Surveyor Identification of Gas and Hazardous Liquids Pipelines Regulated by 49 CFR Parts 192 and 195, and A&E Collection of Pipeline Operator Compliance Certifications.
    - a. PURPOSE:
      - (1) Eliminate requirements for surveyors to identify gas and hazardous liquids pipelines regulated by the Department of Transportation under 49 CFR Parts 192, Transportation of Natural Gas and Other Gas by Pipeline: Minimum Federal Standards, and 49 CFR Part 195, Transportation of Hazardous Liquids by Pipeline, for such pipelines that are within 220 yards of the project site; and
      - (2) Eliminate requirements for HUD A&E to collect documentation regarding compliance of gas and hazardous liquids transportation pipelines regulated by the Department of Transportation under 49 CFR Parts 192 and 195.
- Note: The surveyor must still identify all easements and pipelines that cross or are adjacent to the project, as otherwise prescribed by the Minimum Standard Detail Requirements and Classifications for ALTA/ACSM Land Title Surveys dated 1997, and Form HUD-92457, Surveyor Instructions and Report.
- b. HUD REQUIREMENTS:
    - (1) This cancels HUD requirements calling for identification on the survey of high pressure gas and liquid petroleum pipelines within 220 yards of the property; and regarding collection of pipeline operator certifications for compliance with 49 CFR Parts 192 and 195;
    - (2) Modifies the surveyor's certificate to read as follows:

"I made an on the ground survey per record description of the land shown hereon located in \_(city or town, county, township. etc.)\_, on \_(date)\_; and that it and this (these) map(s) was (were) made in accordance with the HUD Survey Instructions and Certificate, Form HUD-92457, and meet the requirements for an

Urban Survey, as defined in the 'Minimum Standard Detail Requirements for ALTA/ACSM Land Title Survey,' dated 1997."

"To the best of my knowledge, belief and information, except as shown hereon: There are no encroachments either way across property lines; title lines and lines of actual possession are the same; and the premises are free of any (subject to a) 100/500 year return frequency flood hazard, and such flood free (flood) condition is shown on the Federal Flood Insurance Rate Map, Community Panel No. \_\_\_ (state, if none)\_"

- K. Reports. The Lender's analyst must assure that the environmental and/or valuation required reports and requirements, such as seismic, flooding (Executive Order 11988), underground storage tanks, etc., contained in the application are properly evaluated and are adhered to in the project design.
- L. Subsurface Exploration. Before foundation design and application for Firm commitment, reliable information, i.e., soils reports, test boring logs, test pit data, soil bearing values, geotechnical study, etc., must be made available to the Lender's analyst by the mortgagor's Architect.
1. The Architect must advise the owner of the scope and type of soils information and/or subsurface investigation required for structural design.
  2. The mortgagor must provide the services of a soils engineer or other consultant for determining subsurface conditions. These services shall be provided in accordance with the Owner-Architect Agreement.
  3. The Lender's architectural analyst will assure that the architect has comprehensive, well-documented soils information and that project foundation design follows the report recommendations. When necessary, the Lender's architectural analyst may request engineering help in reviewing soil reports and related designs.
  4. Minimum soils reports requirements.
    - a. Soils must be identified and described by the nomenclature of the Unified Soils Classification System ASTM D2487 and/or Description of Soils, Visual Manual Procedures, ASTM D2488.
    - b. Borings must be in or adjacent to the proposed foundation area.
    - c. At least one boring must be made for every 2500 sq. ft. of foundation area. For buildings supported on piling, one boring must be made for every 1600 sq. ft. of foundation area.
    - d. Borings must be at least to the bottom of proposed footings and deep enough to locate bearing strata that will support the proposed structure. When rock is encountered,

depth of drilling into rock shall be at least 5 feet or enough to establish rock quality regarding voids, fissures and strength, or whether it is a boulder.

- e. Borings and sizes and types of samples for standard tests must be according to ASTM D1586 and D1587. Alternate methods must be justified by soils engineer.
  - f. When ground water conditions influence the building design, observation of ground water levels must be recorded at the time of boring and at least 48 hours later.
5. Load tests must be required when the allowable safe load on the soil is in doubt. A structural engineer must supervise the test and certify the results.
6. Additional information must be required when unusual soil conditions may affect foundation design:
- a. Presence of alkali or other deleterious materials in quantities harmful to concrete, steel or masonry.
  - b. History or evidence of seismic activity, subsidence, or earth slides and rock movement.
  - c. Presence of stray electrical currents harmful to foundations.
  - d. History of any type of problem in project area.
- M. Noise Abatement and Control. The Lender's architectural analyst in collaboration with the mortgagor's Architect and the Lender's appraiser must identify existing and potential sources of noise which represent a threat to the serenity and quality of life in, and the economic soundness of, HUD-insured multifamily housing projects.
1. The mortgagor's Architect will recommend to the Lender's architectural analyst and to HUD, the appropriate means of separating uncontrollable noise sources from residential areas.
  2. External and interior noise exposure standards should be complied with.
- N. Other Tests. Other exploration or tests may be required for environmentally hazardous materials such as asbestos, radon, PCB, gasoline, methane, etc, if:
1. History indicates possible problems in project area.
  2. Previous usage of the site indicates possible contamination.
  3. There is evidence of possible contamination or presence of hazardous material.
- O. Energy Efficiency. The project design must achieve HUD energy efficiency standards for new construction, which shall meet or exceed the requirements of the Council of American



Building Officials (CABO) Model Energy Code, 1992, or in the case of multifamily high rises (defined as residential structures of 4 or more stories), the requirements of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Standard 90.1 - 1989 (or later versions as adopted by the Secretary of HUD), and shall be cost-effective with respect to construction and operating costs on a life-cycle cost basis.

For guidance on the life-cycle cost analysis, see 1999 ASHRAE Application Handbook, 35.8, and NIST "Building Life-Cycle Cost" Program, Version 4.3 User's Guide and Reference Manual.

## **Additional HUD Standards and Other Criteria for Sections 220 and 221(d) - Substantial Rehabilitation**

**5B**

STANDARDS. Substantial rehabilitation must comply with common HUD standards in Appendix 5A, except as modified herein, and applicable local codes, ordinances, and guidelines.

- A. All new construction or additions that enlarge existing buildings are not rehabilitation and must meet applicable codes and standards for new construction.
- B. Rehabilitation projects are subject to environmental requirements in:
  - 1. Title 24 of the Code of Federal Regulations (CFR), Parts 50 and 55, and
  - 2. The statutes, Executive Orders, and HUD Standards and criteria (24 CFR Part 51) cited in 24 CFR Part 50.4. Compliance shall be documented on Form HUD 4128.
- C. Historic Structures and/or Districts: Projects that include historic structures or affect historic structures or districts are subject to 24 CFR Part 50.4 and must comply with:
  - 1. Section 106 of the National Historic Preservation Act and
  - 2. Secretary of the Interior, Standards for Rehabilitating Historic Buildings.
- D. A full Environmental Assessment, Form HUD-4128, is required for the following activities which are not categorically excluded pursuant to 24 CFR 50.20 and involve or include:
  - 1. Additions (new construction);
  - 2. Rehabilitation with estimated costs that are more than 75 percent of the total estimated cost of replacement after rehabilitation;
  - 3. Conversion of non-residential use (hotels, offices, stores, lofts, etc.) to residential occupancy; or
  - 4. Change of unit density by more than 20 percent.
- E. Seismic Resistance. See Appendix 5D, paragraph A.
- F. Accessibility for Persons with Disabilities. Only if required by program or for properties built after March 13, 1991 containing Fair Housing Act violations. See Appendix 5A, paragraph B.
- G. Lead-Based Paint Hazard Elimination.

Refer to Part 35 of Title 24 of the code of Federal Regulations (24 CFR Part 35)

Note 1: Regulations for the abatement of Lead-Based Paint hazards do not apply to Section 232 or Section 232 pursuant to Section 223(f).

H. Asbestos Hazard Elimination.

Refer to Environmental Protection Agency regulations in Title 40, Part 61 of the Code of Federal Regulations (40 CFR Part 61).

I. Energy Savings.

HUD has published an informational booklet entitled “HUD Rehabilitation Energy Guidelines for multifamily Dwellings.”

## Additional HUD Standards and Other Criteria for Projects Insured Pursuant to Section 223(f)

**5C**

In general, all the instructions in Appendix 5A for Sections 220 and 221(d) of the National Housing Act apply to projects insured pursuant to Section 223(f), except as modified herein.

**STANDARDS.** Eligible properties are existing construction. The criteria for acceptance are not the same as for proposed construction. The property in its present condition, must meet the general criterion for livability without the necessity of substantial rehabilitation in order to be eligible for consideration under the Section 223(f) program. The objective is to assure an acceptable risk through only repair requirements. The Minimum Property Standards (MPS) apply in the following manner:

- A. The General Acceptability Criteria shall be met with the exception of the requirement for a primary entrance readily accessible to the physically handicapped.
- B. The property shall comply with the general intent of all other chapters of the MPS.
- C. Compliance with Statutory and Regulatory Requirements is mandatory. These include:
  1. Lead-based paint hazard elimination. See 24 CFR Part 35
  2. Asbestos hazard elimination. See 40 CFR Part 61.
  3. Flood hazard limitations.
  4. Smoke detector(s) installed near the sleeping location(s) for each living unit.
- D. Seismic Resistance. See Appendix 5D, Paragraph A.
- E. Accessibility for Persons with Disabilities. Only if required by program or for properties built after March 13, 1991 containing Fair Housing Act violations. If a project built after March 13, 1991 is submitted for 223(f) refinancing and the PCNA inspection reveals that it contains violations of the Fair Housing Act construction standards, the Department must require that the owner correct the violations as a condition of insurance. The extent of the violations and the cost of correction will determine whether the project is feasible as a 223(f) or whether to resubmit it as a substantial rehabilitation. In no case may the Department insure such a project with outstanding Fair Housing Act violations. See Appendix 5A, Paragraph B.2 for an outline of Fair Housing Act standards.

## Seismic Resistance and Fire Protection Standards for Substantial Rehabilitation and Projects Pursuant to Section 223(f)

**5D**

Projects must comply with the provisions of each referenced standard, and the following:

- A. Seismic Resistance for Substantial Rehabilitation and Existing Projects pursuant to Section 223(f). Structures in seismic zones 3 and 4 must meet three fourths (3/4) of the seismic force level resistance contained in FEMA-310, Handbook for the Seismic Evaluation of Buildings – A Prestandard, FEMA-356, Prestandard and Commentary for the Seismic Rehabilitation of Buildings, and FEMA-274, NEHRP Commentary on the Guidelines for Seismic Rehabilitation of Buildings.
  1. A seismic hazard analysis of the building(s) must be made by a registered engineer familiar with lateral force design, where applicable code requirements at the time of construction did not equal or exceed the referenced seismic standards.
  2. The evaluation must include an examination of the structure for continuity, ductility, and resistance to lateral forces.
  3. Structural elements and connections between elements must be strengthened and new elements installed as required, if the existing structure does not provide three fourths (3/4) of the seismic force level resistance required by paragraph A above.
- B. Fire Protection.
  1. Fire/smoke detection, alarm and communication systems must comply with the Life Safety Code, NFPA 101, for the entire project. Additionally, a smoke detector is required in each sleeping area.
  2. Any new construction must have a sprinkler system as required by NFPA 101.
  3. Nursing facilities (skilled and intermediate) must comply with NFPA 101.
  4. Substantial rehabilitation exceeding 50 percent of the replacement cost of the fully repaired structure (or floors/wing(s) to which work is limited) must with comply with NFPA 101 provisions for new construction.
  5. New additions must be separated from existing structures, even if the entire facility is included under one mortgage. Separation must equal or exceed:
    - a. Two-hour rated firewall;
    - b. One and one half (1 ½) hour protected openings;
    - c. Class B labeled fire doors;
  6. New work on substantial rehabilitation or existing 232/223f projects must comply with standards for new construction.

**Section 232 – Additional Codes, Standards and Guides****5E**

STANDARDS. All applicable standards in Appendices 5A, 5B, 5C, and 5D, in accordance with the type of construction or program, apply to Section 232 projects. The following additional standards also apply:

Priority and interpretation of referenced standards:

- The Minimum Property Standards (MPS) takes priority over all other codes and standards where a conflict exists, unless the other codes and/or standards require a greater degree of protection for life safety and accessibility than the MPS, in which case the other code and/or standard would control.
  - Projects must meet this Appendix's specific requirements for Section 232, even if excepted by other standards.
  - HUD is the final interpreter for codes and standards referenced for the Department's purpose.
  - Compliance with the referenced standards does not relieve the need for compliance with any other applicable Federal, State or local requirement.
- A. Minimum Property Standards for Housing (MPS), HUD Handbook 4910.1, including: Local Codes and/or Model Codes accepted by HUD for the municipal jurisdiction as per MPS Paragraph 102.
- B. Uniform Federal Accessibility Standards (UFAS); Note that the UFAS is scheduled to be replaced by the ABA/ADA Accessibility Guidelines in the year 2000.
- C. Fair Housing Accessibility Guidelines issued pursuant to the Fair Housing Act, P.L. 100-430, approved Sept. 13, 1988; Note: Must be met as a condition of insurance of insurance for Section 232 pursuant to Section (223f). See Appendix 5C, paragraph E for 232/223(f) project.
- D. Life Safety Code, NFPA 101;
- E. State Standards established, maintained and enforced by the State (or local authorities designated by the State) for each level of care facility, i.e. Skilled Nursing Facilities (SNF), Intermediate Care Facilities (ICF), Board and Care Facilities (B&C), and Assisted Living Facilities (ALF).
- F. Guidelines for Construction and Equipment of Hospital and Medical Facilities (AIA Press, Order No. R673);
- G. ASHRAE 1987 HVAC Systems and Applications, Chapter 23, Health Facilities;
- H. Uniform Building Code (UBC), 1982 Edition, Chapter 23, Earthquake Regulations;

- I. FEMA-273, NEHRP Guidelines for Seismic Rehabilitation of Buildings;
- J. FEMA-274, NEHRP Commentary on the Guidelines for Seismic Rehabilitation of Buildings.

#### **SOURCES OF CODES, STANDARDS, AND GUIDES**

- A. Government Publications. The Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402;
- B. Codes Accepted by HUD for Local Areas. MPS Paragraph 102 and Appendix I;
- C. State Standards: State agencies;
- D. Life Safety Code, NFPA 101. The National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269;
- E. Guidelines for Construction and Equipment of Hospital and Medical Facilities, AIA Press. The American Institute of Architects, 1735 New York Avenue, NW, Washington, DC 20006;
- F. ASHRAE 1987 HVAC Systems and Applications, American Society of Heating, Refrigerating and Air Conditioning Engineers, New York, NY;
- G. Uniform Building Code (UBC), 1982 Edition. International Conference of Building Officials, Whittier, CA;
- H. AHA Estimated Useful Lives of Depreciable Hospital Assets, American Hospital Association, 840 North Lake Shore Drive, Chicago, IL 60611.

**Section 232 – Additional Accessibility Requirements****5F**

Section 232 projects must comply with all applicable accessibility requirements, in accordance with the type of construction or program, in Appendices 5A through 5C. In addition, the following requirements apply:

- A. Skilled Nursing and Intermediate Care Facilities.
  1. Design must comply with UFAS.
  2. Accessibility for the mobility impaired must be provided for 100 percent of resident bedrooms and toilet rooms, public use spaces (primary entrances, elevators, etc.) and common use spaces (community rooms, dining rooms, etc.).
  3. Accessibility for the vision or hearing impaired must be provided for:
    - a. Two (2) percent of the resident bedrooms but not less than 1 unit;
    - b. All public use facilities and
    - c. Not less than one each of common use facilities.
  4. Require a furniture layout plan demonstrating accessibility for people with disabilities for:
    - a. Typical resident rooms, spaces and accommodations;
    - b. Public spaces;
    - c. Common use spaces including congregate dining areas.
- B. Board and Care Facilities and Assisted Living Facilities.
  1. Accessibility for the mobility impaired must be provided for 100 percent of the public areas, common use areas, and residential accommodations, except that the following applies to residential accommodation kitchens:
    - a. Ten percent of kitchens included for independent living units and other residential accommodations must comply with UFAS provisions for residential kitchens, except:
      - (1) A 30-inch wide counter work area with clear knee space (in addition to the sink area with clear knee space) is not required where a galley kitchenette (manufactured compact or site assembled components) of 6 or fewer feet is used, and



- (2) A pullout bread board work surface is provided in lieu of the counter work area with clear knee space beneath.
  - (3) Full compliance with UFAS is required where kitchen facilities exceed a 6-foot galley kitchenette.
- b. The balance of the kitchens included for independent living units and other residential accommodations must comply with UFAS provisions for residential kitchens, except:
- (1) A 30-inch wide clear knee space is not required at either the sink or for a separate work area, where a galley kitchenette (manufactured or site assembled components) of 5 or fewer feet is used, and
  - (2) Kitchenette counter tops need not be 34 inches high nor adaptable.
  - (3) Comply with item a. above, where accommodation kitchen facilities exceed a 5-foot galley kitchenette.
2. Accessibility for the vision or hearing impaired must be provided for:
- a. Two (2) percent of the resident bedrooms but not less than 1 unit;
  - b. All public use facilities and
  - c. Not less than one each of common use facilities.
3. Require a furniture layout plan demonstrating accessibility for persons with disabilities for:
- a. Typical resident rooms, spaces and accommodations;
  - b. Public spaces;
  - c. Common use spaces including congregate dining areas.

**Section 232 – Primary Facility Requirements****5G**

STANDARDS. Section 232 projects must comply with all applicable standards in Appendices 5A through 5F, in accordance with the type of construction or program. In addition, the following requirements apply:

A Skilled Nursing Facility, Intermediate Care Facility, Board and Care Facility or Assisted Living Facility must be either a free-standing building(s) or an identifiable, separate portion of one of the other facilities.

A. Skilled Nursing and Intermediate Care Facilities

1. Project size must equal or exceed 20 beds.
2. Areas of Design Concern to the AIA Guidelines for Construction and Equipment of Hospital and Medical Facilities apply:
  - a. Where State standards do not exist, or are not maintained or enforced;
  - b. To the unregulated area(s) where State standards do not regulate each Area of Concern.
3. Nursing facilities having patient use areas on more than one floor shall have electric or hydraulic elevator(s).
  - a. At least one hospital-type elevator shall be installed where resident beds are located on any floor other than the main entrance floor;
  - b. When 60 to 200 resident beds are located on floors other than the main entrance floor, at least 2 elevators (one of which shall be of the hospital type) shall be installed in the absence of an engineered traffic study.
4. Automatic Door Release, if installed, must be activated by the resident smoke detector.
5. Door closure devices on corridor doors are optional (resident rooms) and may be mandatory based on State/local codes.
6. Skilled Nursing and Intermediate Care Facilities must meet State/local licensing requirements, building codes and other occupancy standards.

B. Board and Care (B&C) Facilities.

1. Project Size must be five or more residential accommodations.
2. Residential Accommodations.

- a. A “residential accommodation” is:
- (1) A complete efficiency or one bedroom dwelling unit, or
  - (2) A single bedroom or suite of bedrooms in which the bedrooms:
    - (a) Are for single or shared occupancy;
    - (b) Have a bathroom per bedroom, or a bathroom shared by the residents of more than one bedroom, not to exceed four residents per bathroom, and
    - (c) May, but need not, include any combination of individual or shared living, cooking and dining areas in addition to required project community spaces and congregate cooking and dining facilities.
  - (3) In a B&C home, independent living accommodations, i.e. complete efficiency or one bedroom dwelling units, may not provide more than 25 percent of the total projected resident capacity.
    - (a) An independent living accommodation includes its own kitchen, bathroom, and sleeping area or bedroom;
    - (b) A kitchen consists of a sink, refrigerator, slip-in range with oven or built-in cooktop plus a built-in oven, and storage for cooking/eating utensils and foodstuffs.
      - (i) The range or cooktop must have two or more burners;
      - (ii) A conventional, convection or microwave oven may be used.
  - (4) A small refrigerator, and/or bar-type sink, two-burner cooktop and/or microwave for the convenience of the tenant (making tea, storing cold drinks or medicines) does not constitute a kitchen, but rather a kitchenette. However, provision of this kitchenette is generally only permissible in units (room and bath) that do not exceed 350 square feet or where the Lender’s market analyst specifically determines that the project does not appeal to the same limited market as Retirement Service Centers. This determination should be maintained in the project file.
    - (a) A bathroom must include a lavatory, toilet, and bathtub or shower meeting accessibility criteria for persons with disabilities;
    - (b) A bedroom must be separated from other spaces by a door and include a clothes closet(s).

- b. The maximum number of occupants per residential accommodation shall be regulated by State or local standards. If such standards do not exist or do not regulate such occupancy, no more than 4 persons may occupy a bedroom.
  3. Kitchen and Dining Criteria.
    - a. Program must provide congregate kitchen and dining facilities to serve all residents, including those in accommodations with individual or shared kitchens and dining areas.
    - b. If food is to be prepared at an offsite location, a serving area may be substituted for the congregate kitchen, if:
      - (1) The serving area is of sufficient size to permit subsequent installation of a congregate kitchen, if required, or
      - (2) The site and building layout permit the subsequent addition of a congregate kitchen.
    - c. A congregate kitchen may provide meals for several structures, including a skilled nursing or intermediate care facility that is part of the board and care or assisted living facility mortgage.
  4. Bathrooms. The maximum number of residents per bathroom shall be governed by State or local standards except:
    - a. Not less than one full bathroom must be provided for every four residents;
    - b. Hand-washing facilities must be included in each bedroom, except that they may be omitted when the bathroom serves only one single- or double-occupancy bedroom;
    - c. Access to required bathrooms from bedrooms served shall not be through public corridors or areas;
    - d. An additional bathroom(s) may be included for assisted bathing. Provide a lavatory, toilet, dressing area, and means for privacy for such bathrooms.
  5. Emergency Call Systems. Program must furnish each sleeping area and each bathroom with an emergency call system that:
    - a. Registers a call (annunciator and alarm) at one or more supervised locations, or
    - b. Has an intercommunicating telephone system connected to a switchboard which is monitored 24 hours a day, or

- c. Sounds an alarm (not the fire alarm) in the immediate corridor and automatically activates a visual signal in the corridor at the entrance to the residential accommodation.
6. Recreational Rooms must provide for:
    - a. Passive activities such as sitting, reading, conversing and parlor games;
    - b. Active functions such as crafts, group exercises, etc., and
    - c. Communal activities including meetings and group entertainment.

Multipurpose spaces may also serve as part or all of the congregate dining space.

7. Project Character.
  - a. The board and care facility must maintain a residential rather than a medical character.
  - b. Facilities requiring staffing in excess of 1 ½ hours per resident day indicate a tendency toward a medical rather than a residential facility. Such proposed physical improvements and operational plans must be closely reviewed by the Lender to assure compliance with board and care program objectives.
8. The program must meet State/local licensing requirements, building codes and other occupancy standards.

C. Assisted Living Facilities.

1. Zoning. An Assisted Living Facility (ALF) must comply with the local zoning ordinance. In addition to meeting HUD's program standards, the ALF shall meet any other applicable Federal, State or local requirements.
2. Project size must be five or more residential units.
3. Structure.
  - a. An ALF assisted living facility (ALF) shall be:
    - (1) One or more free-standing structures (architecturally independent of any other structure);
    - (2) An entity of an existing structure such as a board and care home, or
    - (3) Connected to a main building or identifiable separate portions of one or more free-standing structures.

- b. An ALF may be a component or an identifiable part of another HUD-insured facility (nursing facility, intermediate care facility or board and care facility).
- c. Additions.
  - (1) An addition to an existing facility may be insured under Section 232 as new construction.
  - (2) If the existing structure does not have an FHA-insured mortgage or is not being substantially rehabilitated, the addition qualifies as new construction under Section 232.
  - (3) An addition may consist of additional beds or other space such as additional administration areas.
- 4. Residential Units:
  - a. A Residential Unit may be:
    - (1) An efficiency or one-bedroom dwelling unit, or
    - (2) A single bedroom or suite of bedrooms in which the bedrooms provide separate dwelling units for residents.
  - b. A bedroom must be separated from other spaces by a door and include a clothes closet(s).
  - c. The maximum number of occupants per residential accommodation shall be regulated by State or local standards, not to exceed four persons per accommodation.
  - d. The assisted living unit may have a full bathroom per bedroom, or a bathroom shared by the residents of more than one bedroom, not to exceed four residents per bathroom. A bathroom must include a lavatory, toilet, and bathtub or shower meeting accessibility criteria for persons with disabilities.
  - e. The assisted living unit may contain a kitchen, kitchenette or no kitchen depending on the design and market conditions. Cooking facilities may be disconnectable for certain residents.
    - (1) A full kitchen consists of a sink, refrigerator, slip-in range with oven or built-in cooktop plus a built-in oven, cabinetry, and storage for cooking/eating utensils.
    - (2) A kitchenette has a small sink and small refrigerator, cooktop or microwave.
    - (3) A kitchen is not required in each unit.

- f. Assisted living facilities (ALF) are required to have an emergency call system, sprinklers and/or security systems, depending on State licensure or Life Safety Codes adopted by the NFPA (Limited Care Facility).
  - g. An ALF shall have an emergency response system (audio or visual) in each room and 24-hour staff coverage.
  - h. Individual dwelling doors may be locked depending on the licensure requirement and project management's policies.
  - i. Assisted living environments should be architecturally designed to allow for the needs of the residents, e.g. special care units for Alzheimer's residents with suitable outdoor areas, indoor walking area, appropriate lighting and decor, and suitable security (alarms, exits, doors, etc.).
5. The Assisted Living Facility:
- a. Shall not contain any nursing home or intermediate care beds;
  - b. May contain board and care beds;
  - c. Must provide areas for central dining, kitchen (or preparation area where food is supplied from an offsite location), lounges, recreation, and other multipurpose rooms. Where food is provided from an offsite location, the preparation area in the facility must be of sufficient size to allow for the installation of a full kitchen if it becomes necessary, or additional land must be available to add kitchen space.
  - d. Must meet State and local licensing requirements, governmental building code and other occupancy standards.
6. Additional design considerations for Assisted Living Facilities (ALF):
- a. Private rooms with a full bath are the standard. Because ALF residents generally are private pay and have a choice (unlike Medicaid recipients in nursing homes), private rooms with a full bath are the standard.
  - b. Semi-private rooms have generally not been successful in the ALF market. However, there may be a few semi-private rooms:
    - (1) Where market experience supports it;
    - (2) The developer wants to have some units affordable for SSI and low-income residents.
  - c. Alzheimer's facilities may be developed as free-standing facilities, but the trend is to build smaller facilities of 16 to 44 beds.

- d. No typical ALF model.
    - (1) There is no typical ALF model, but some developers use prototypes in multiple locations.
    - (2) Housing Finance Agencies may choose to develop ALFs with an affordable housing component.
      - (a) This is done by reducing construction costs and partnering with local communities.
      - (b) However, these facilities have less space, fewer services, and different design features.
  - e. Aging in place.
    - (1) Developers that initially build retirement communities with independent living units may have to retrofit and convert these units to ALFs due to aging in place.
    - (2) To qualify for Section 232 mortgage insurance, these converted units must comply with:
      - (a) Federal, State, local building and fire codes, and
      - (b) Federal and State accessibility requirements for persons with disabilities.
  - f. Facility should be home-like, rather than an institutional model.
  - g. Unit Sizes: The unit size ranges from 150 square feet (sf) for a semi-private room to 650 sf for a two-bedroom unit.
  - h. Common spaces: A minimum of 25 sf of dining area and 30 sf of recreational and common space per resident are recommended minimum standards.
- D. Mixed Use Buildings. Due to specific needs, B&C (personal care) or ALF (frail elderly care) residents are generally incompatible with SNF or ICF (medical care) patients, where personal and medical care facilities occupy the same building. Accordingly, the mixed use building program should minimize the shared use of the same building spaces and facilities between the personal care and medical care use groups.
- 1. The building design should not intermix B&C and ALF residential accommodations or services with SNF/ICF patient rooms or services. Personal or frail elderly care facilities should be located in a separate building wing or floor from medical care facilities.
  - 2. The building design should provide separate building entrances for the personal/frail elderly care and the medical care facilities where both are in the same building, except in an elevator structure where a common elevator(s) is used for all floors.



3. Where a common elevator lobby and elevators are used by B&C/ALF residents and SNF/ICF patients:
    - a. the elevator lobby must separate B&C/ALF residential accommodations from SNF/ICF patient bedrooms;
    - b. The route of travel between an elevator lobby and B&C/ALF residential accommodations must not pass SNF/ICF patient bedrooms, nor may the route of travel between the lobby and SNF/ICF patient bedrooms pass B&C/ALF residential accommodations.
  4. Interior and exterior passive and active recreation spaces must segregate B&C/ALF residents from SNF/ICF patients.
  5. Congregate dining facilities may be shared between B&C/ALF residents and SNF/ICF patients only if SNF/ICF patients can be successfully separated and screened from the B&C/ALF residents.
  6. Facilities for chapel, therapy and similar activities for which duplication is not warranted may be for common use by B&C/ALF residents and SNF/ICF patients.
- E. New Additions may be self-sufficient entities with independent means of ingress and egress, beds or space. Addition to an existing project that does not require substantial rehabilitation is processed as new construction under Section 232, and the existing facility is insured under Section 232 pursuant to Section 223(f).
1. If concurrent upgrading of the existing improvements (minus work associated with the new addition) meets the definition of substantial rehabilitation, then a single mortgage may cover the total property including the new addition and is processed as substantial rehabilitation.
  2. Standards for new construction apply to new additions.

**Section 232 – Nonresident Day Care Facility Requirements****5H**

STANDARDS. Section 232 projects must comply with all applicable standards in Appendices 5A through 5G, in accordance with the type of construction or program. In addition, the following requirements apply:

Nonresident day care facilities may be provided in conjunction with a skilled nursing facility (SNF), intermediate care facility (ICF), board and care facility (B&C), or an assisted living facility (ALF), but may not be the sole facility in the mortgage.

A. General Standards and Criteria.

1. Net nonresident day care area may not exceed 20 percent of the total project net area.
2. Nonresident day care area must provide space and facilities for any one or more of the three eligible programs, i.e. restorative, maintenance or social, identified for inclusion by the narrative program.
  - a. Various facilities may be shared with the SNF, ICF, B&C or ALF, provided that they do not cause objectionable infringement on patient or resident use or privacy, e.g. chapel or therapy facilities.
  - b. The care center program activity area, including multipurpose rooms, must be separate from SNF, ICF, B&C or ALF patient/resident activity areas.
3. The following facilities must be provided:
  - a. Kitchenette for minor food preparation and special events. This may be incorporated as part of a multipurpose room.
  - b. Dining area for snacks and meals. This may be incorporated as part of a multipurpose room.
  - c. Toilet rooms for both sexes providing one toilet for each 10 participants. Fifty percent of required toilets may be urinals in the men's room(s).
  - d. Rest area providing privacy for participants who become ill or need to rest, sized to accommodate one cot for every 15 participants. Where evening or night care is indicated by the narrative program, increase the facility according to need.
  - e. Cloak room and/or closets for participant and staff coats and similar personal items, and general storage closet(s) for equipment, material and supplies.
  - f. Room for private consultations.
  - g. Parking and passenger loading zone(s) close to one or more of the day care facility's primary entrances.

B. Separate Site Prohibited. The day care facility may not be on a different site than the primary facility.

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**Firm Commitment Drawings and Specifications to be Submitted by the Mortgage's Architect****51**

- A. Cover sheet:
1. Project name and identification number.
  2. Spaces for signatures of architect, owner, contractor, and bonding company.
  3. Tabulation of living units:
    - a. Number of units for each type.
    - b. Number of units and type in each building.
    - c. Non-rental living unit.
    - d. Number of parking spaces, open and covered.
- B. Index of drawings by name, numbered consecutively, with date of preparation and latest revision date.
- C. Topographic survey, that is, a “transit survey” at a minimum scale 1” = 40’-0”, recent, dated, and signed by a registered surveyor, and including:
1. Contours at one-or two foot intervals, except that for steeply sloping sites, the intervals may be five feet.
  2. City, county, state, and lot and block numbers of the property and adjacent sites.
  3. Distance to the nearest street, dimensioned length of each boundary, such as monuments, markers, fences, etc., and all encroachments or deviations from description of the subject property or conflicts with descriptions of adjacent properties.
  4. Easements, rights-of-way, setback lines, and other restrictions.
  5. Existing streets, alleys, and drives as well as surfacing, curbs, street names, and other data.
  6. Location and sizes of public utilities with invert sewer elevations and direction of flow.
  7. Preservable trees.
  8. Location and description of all existing structures.
  9. Legal description of the property, with total square footage and acreage.

- D. Plot plan at a scale not less than 1"=40'-0", showing:
1. Land boundaries, dimensions, and North Point.
  2. Streets, alleys, or roads adjacent or within the property 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.
    - a. Dimension or size with distance from location points, material indication for such items as walks and pavements, and extent of each.
    - b. Indications of "new" or "existing" and public dedication of any streets or alleys in the project.
  3. Buildings, building designations, location dimensions, and overall dimensions.
  4. Elevations of first floor, elevations of finish and existing grade at building corners and entrances, elevations of curbs and streets, and invert elevations of main sewer and direction of flow.
  5. Utilities servicing the property, or distance to point of connection and utility lead-ins of service connections; yard lighting; lawn hydrants and lawn sprinkler systems with the pipe sizes and controls; drains; and fire hydrants.
  6. Retaining and garden walls, fences, guard rails, garages and accessory structures, with dimensions.
  7. Existing trees and other natural features and whether to be removed or preserved.
- E. Grading and drainage plan at a scale not less than 1"=40'-0" when essential information cannot be clearly shown entirely on the plot plan.
1. Grade elevations at all building corners and at entrances, walks, drives, parking areas, terraces, yards, walls and steps, and first floor elevations. Existing and proposed grading contours at appropriate intervals.
    - a. Yard and roof drainage with controlling grades and dimensions of drainage lines, culverts, catch basins, drainage inlets, gutters, curbs, drainage disposals, and any existing facilities.
- F. Planting plan at a scale not less than 1"=20'-0", indicating:
1. Outline of buildings and other improvements with physical features of the site to establish the location and relationship of planting and landscape construction.

2. Distribution of plant material, location, quantity and key number of each general species in each group; outline of planting beds, primary lawn areas, secondary lawn areas and existing trees to be preserved or transplanted.
  3. List of plant material using English and Latin names, key number for each variety for reference to plan, and the size, quality or other description.
- G. Basement plans for each building type at a scale not less than 1/8"=1'-0". (Foundation plans when no basements.)
1. Dimensions and names indicating use of spaces, with the layout of permanent equipment.
  2. Location of structural elements with dimensions or notes as to: thickness and size; windows; vents; areaways; doors; lights and switches; drains; sumps; etc. Unless there is a separate foundation plan, show locations and size of footings, piling and other substructure work.
  3. Large-scale drawings or details of spaces not clearly shown.
- H. Floor plans:
1. Unit floor plans at a scale not less than 1/4"= 1'-0" for each basic type living unit and any major variation. Separate unit plans are not required when the general floor plans are provided at 1/4-inch scale and contain all essential information.
    - a. Partitions to scale; rooms, closets and hall dimensions; over-all dimensions; window locations and type designations referring to schedule showing design, thickness, and size; dimensioned stair locations, runs and width, landings and handrails.
    - b. Plumbing fixtures; soil and vent stacks; kitchen cabinets and equipment; electric lights; switches, receptacles, and special power outlets; closet shelving and clothes rods; radiators or other heating devices, chimneys, and all other such items.
    - c. Location of structural elements such as columns, lintels, joists, beams, girders, and bearing partitions. Show sizes, spacing and direction of members. Separate structural drawings are required where the structural information would obscure other information.
    - d. All conditions where units are to join other units; end-unit conditions.
    - e. Identification of living unit types by a number or letter.
  2. General floor plans at a scale not less than 1/8"=1'-0".
    - a. Dimensional relation of living and building units with over-all dimensions of building units and buildings, partition arrangement and fenestration of end units, units at corners and units at offsets; other partitions as necessary to show variations from the

typical unit plans and relation of rooms in adjacent living units, wall separating building units, and their material and thickness.

- b. Buildings and those units identified by numbers or letters.
- I. Roof plans at a scale not less than  $1/8''=1'-0''$ .
    1. Relation of intersection of the various building unit roofs; direction of slopes; parapets, chimneys, vents, and other projections; downspout locations and sizes.
    2. Omit where the essential information can be shown clearly on the plot plan or other drawings.
  - J. Elevations:
    1. General elevations at a scale not less than  $1/8''=1'-0''$ . Exterior design of all sides of buildings with existing and proposed grades at buildings, floor lines and elevations, floor height dimensions, roofs, attic vents, parapets, cornices, downspouts, openings, material notes, and other essential features.
    2. Typical elevations at a scale not less than  $1/4''=1'-0''$  to show portions of facade with a special exterior design. Show materials, jointing, special features, windows, doorways, cornices, parapets, and details.
  - K. Sections:
    1. Outline sections - scale not less than  $1/4''=1'-0''$ . Show various height conditions, cross sectional characteristics, and floor level relations, when other drawing information is not adequate.
    2. Detail sections - scale not less than  $3/8''=1'-0''$ . Show each type of exterior wall and bearing wall or partition, from footings to roof.
    3. Exterior wall sections - scale not less than  $3/8''=1'-0''$ . Show complete construction of walls with thickness at various stories, floors, furring, waterproofing, ceilings, roofs, including pitch and flashings, room heights, anchorage and bearings, cornice and gutter, insulation, vapor barrier, foundation walls and footings, conditions at various basement depths, basement floors or access space, roof space, attic and foundation vents.
  - L. Details at a scale not less than  $3/8''=1'-0''$ . Provide the following except where such features do not occur:
    1. Front and rear entrances, plan of each with elevations and sections.
    2. Stair plans and sections showing stringers, treads, risers, newels, balusters, handrails, rise, run, and headroom.
    3. Kitchen cabinet plans, elevations and sections.

4. Bathroom plans with elevations showing accessories and cabinets.
5. Entrance lobbies.
6. Platforms and areaways.
7. Special exterior and interior details, such as bay windows, dormers, cupolas, vents, fireplaces, and built-in furniture.

M. Schedules:

1. Door schedules - size, thickness, material and design of each door, with plan identification. Fire doors, show rating.
2. Window schedule - size, thickness, materials and design of each window, with plan identification.
3. Finish schedule - material and type finish of floors, base or wainscot (with height), walls, ceilings and trim for various rooms or spaces.

N. Structural: Drawings and details as appropriate, with complete structural information, must be provided when such information cannot be shown on general drawings without obscuring other information.

O. Mechanical: Heating, cooling, plumbing and electrical layouts on separate drawings unless the systems are simple enough to be shown on other drawings. Include all pertinent design data. Show special mechanical installations separately.

1. Heating drawings for each system (information in specification should not be on drawings).
  - a. Location and size of boilers, furnaces, or heaters; the make, model number or type and net output of each.
  - b. Layout, location, and sizes of supply and return piping, ducts, risers, and branches, and insulation locations.
  - c. Location, sizes and output in BTU of radiators, registers, grille and panel surfaces, valves, vents, traps, dampers and other accessories; make, model number or type of each.
  - d. Make, model number, and firing rate of all firing equipment, and similar detailed data on other components of each system, such as, controls, pumps, blowers, and filters.
  - e. Location, type, manufacturer's name, and model number of domestic water heating and related equipment including: storage, arrangement and sizes of connecting piping; make and model number and other pertinent information for control equipment and safety devices.



- f. Design data for the system, including outside design temperature, boiler operating temperature, BTU output, pressure or temperature drops, air temperatures at registers, pump or fan capacities, volumes, and velocities, heat loss of each building and total calculated heat load connected to each heating system; net output in BTU of each boiler and system.
  - g. Design data for each domestic hot water system and, when connected to a heating system, the additional heat load included in the total for the connected system.
2. Plumbing drawings:
    - a. Horizontal sewer and drain systems with soil, waste, and vent stacks; branch wastes and vents; drains, cleanouts, traps, sump pumps, etc., connections to sewer, sizes of lines and stacks. Diagram of typical stack including soil, waste, and vents.
    - b. Cold water distribution system, size of mains and branches, location of hose bibs, valves and drains.
    - c. Hot water distribution system together with circulating lines and pumps, valves, sizes of mains and branches.
    - d. Gas distribution system, size of mains and branches, meters, etc.
  3. Electrical drawings:
    - a. Service lines, primary distribution and secondary distribution, service characteristics and wire sizes.
    - b. Meter and panel locations and manner of mounting.
    - c. Interior distribution and wiring of typical units.
    - d. Lights, receptacles, switches, special purpose outlets, and connections to equipment if not on the architectural plans.
    - e. Yard and grounds lighting and lighting of all public and common spaces and controls.
    - f. Power riser diagram and switchboard schedule.
    - g. Fire detection and alarm system riser diagram and schedule.
    - h. Symbol list.
  4. Air conditioning drawings:

- a. Locations, cooling capacity, and horsepower of compressor; cooling tower condensing units; and individual cooling units. Make, model number, and rating.
  - b. Layout of system including ducts, grilles, registers, diffusers, pipe sizes, and location of valves, vents, dampers and controls.
  - c. BTU load for each space, size and rating of equipment.
  - d. Design data for the system, including: CFM space requirements; blower ratings, type condenser cooling; inlet and outlet water temperature; and GPM water-flow rate.
  - e. Electric wiring layout, location of motors, fans, pumps, switches, and their load requirements.
- P. Any other drawings required by lender.
- Q. Appropriate general and supplementary conditions and Davis-Bacon wage rates (where applicable).
- R. Contract specifications: Use 16 basic divisions of the Masterformat Construction Specifications Institute (CSI).
1. Describe all materials, equipment, and construction and include two, and preferably three, comparable products where practicable, or specify by performance characteristics.
  2. Include the latest edition of the "General Conditions of the Contract for Construction", AIA Document A201.
  3. Fully describe all materials, including alternates, and do not use general references to HUD's Minimum Property Standards. Do not include the words "or equal".
  4. Divide into sections separately describing the work to be done by each trade essential to project completion. Consecutively number pages and include:
    - a. A cover sheet: Must include Title of project, the lender project number, project location, and a signature block setting forth:

#### IDENTIFICATION

Architect (Print Name) by (Signature)  
Owner (Print Name) by (Signature and Title)  
Contractor (Print Name) by (Signature and Title)  
Bonding Co.(Print Name) by (Signature and Title)  
Date \_\_\_\_\_

- b. Index.

- (1) Divisions with name.
  - (a) Trade, name and page number.
  - (b) Trade section, name and page number.
- (2) Pages numbered consecutively
- c. Conditions.
  - (1) General Conditions of the Contract for Construction, AIA Document A201, latest edition.
  - (2) Supplementary Conditions of the Construction Contract, Form HUD-2554, latest edition.
  - (3) Architect's Supplementary Conditions, if any.
- d. Trade sections. Include:
  - (1) Complete description of all work to be performed. This will include scope of work, materials and workmanship.
  - (2) Necessary specific instructions for coordinating the work with other trades.
- e. Methods of Specifying.
  - (1) Performance. List required qualities of products and assemblies and end result.
  - (2) 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).
  - (3) Proprietary. List products and assemblies by manufacturer or brand name, and grade or model.
    - (a) Include at least two comparables.
    - (b) Use a single brand only if there is no comparable.
- f. Unacceptable.
  - (1) Use of the words "or equal".
  - (2) Reference to HUD or HUD publications, such as:
    - (a) Minimum Property Standards (MPS),

- (b) Materials Bulleting (UM),
- (c) Materials Releases (MR), and
- (d) Structural Engineering Bulleting (SEB).

(3) Cash or lump sum allowances.

S. Offsite Drawings and Specifications.

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.
2. Offsite improvements 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.

T. Utility Analysis. If required by the Hub Director, the mortgagor's Architect will prepare a utility analysis. For HUD energy efficiency standards see Appendix 5A, Paragraph O. For guidance on the life-cycle cost analysis, see 1999 ASHRAE Applications Handbook, 35.8, and NIST "Building Life-Cycle Cost" Program, Version 4.3 User's Guide and Reference Manual.

## Specification Guide

5J

### Division 1 - General Requirements

01010 Summary of Work  
 01020 Allowances  
 01025 Measurement and Payment  
 01030 Alternates/Alternatives  
 01040 Coordination  
 01050 Field Engineering  
 01060 Regulatory Requirements  
 01070 Abbreviations and Symbols  
 01080 Identification Systems  
 01090 Reference Standards  
 01100 Special Project Procedures  
 01200 Project Meetings  
 01300 Submittals  
 01400 Quality Control  
 01500 Construction Facilities and Temporary Controls  
 01600 Material and Equipment  
 01650 Starting of Systems/Commissioning  
 01700 Contract Closeout  
 01800 Maintenance

### Division 2 - Sitework

02010 Subsurface Investigation  
 02050 Demolition  
 02100 Site Preparation  
 02140 Dewatering  
 02150 Shoring and Underpinning  
 02160 Excavation Support Systems  
 02170 Cofferdams  
 02200 Earthwork  
 02300 Tunneling  
 02350 Piles and Caissons  
 02450 Railroad work  
 02480 Marine work  
 02500 Paving and Surfacing  
 02600 Piped Utility Materials  
 02660 Water Distribution  
 02680 Fuel Distribution  
 02700 Sewerage and Drainage  
 02760 Restoration of Underground Pipelines  
 02770 Ponds and Reservoirs  
 02780 Power and Communications  
 02800 Site Improvements  
 02900 Landscaping

### Division 3 - Concrete

03100 Concrete Formwork  
 03200 Concrete Reinforcement  
 03250 Concrete Accessories  
 03300 Cast-in-Place Concrete  
 03370 Concrete Curing  
 03400 Precast Concrete  
 03500 Cementitious Decks  
 03600 Grout  
 03700 Concrete Restoration and Cleaning  
 03800 Mass Concrete

### Division 4 - Masonry

04100 Mortar  
 04150 Mortar Accessories  
 04200 Unit Masonry  
 04400 Stone  
 04500 Masonry Restoration and Cleaning  
 04550 Refractories  
 04600 Corrosion Resistant Masonry

### Division 5 - Metals

05010 Metal Materials  
 05030 Metal Finishes  
 05050 Metal Fastening  
 05100 Structural Metal Framing  
 05200 Metal Joists  
 05300 Metal Decking  
 05400 Cold-Formed Metal Framing  
 05500 Metal Fabrications  
 05580 Sheet Metal Fabrications  
 05700 Ornamental Metal  
 05800 Expansion Control  
 05900 Hydraulic Structures

### Division 6 - Wood and Plastics

06050 Fasteners and Adhesives  
 06100 Rough Carpentry  
 06130 Heavy Timber Construction  
 06150 Wood-Metal Systems

06170 Prefabricated Structural Wood  
 06200 Finish Carpentry  
 06300 Wood Treatment  
 06400 Architectural Woodwork  
 06500 Prefabricated Structural Plastics  
 06600 Plastic Fabrications

### **Division 7 - Thermal and Moisture Protection**

07100 Waterproofing  
 07150 Dampproofing  
 07190 Vapor and Air Retarders  
 07210 Insulation  
 07310 Shingles and Roofing Tiles  
 07400 Preformed Roofing and Cladding/Siding  
 07500 Membrane Roofing  
 07610 Sheet Metal Roofing  
 07700 Roof Specialties and Accessories  
 07800 Skylights  
 07900 Joint Sealers

### **Division 8 - Doors and Windows**

08100 Metal Doors and Frame  
 08200 Wood and Plastic Doors  
 08250 Door Opening Assemblies  
 08300 Special Doors  
 08400 Entrances and Storefronts  
 08500 Metal Windows  
 08600 Wood and Plastic Windows  
 08650 Special Windows  
 08700 Hardware  
 08800 Glazing  
 08900 Glazed Curtain Walls

### **Division 9 - Finishes**

09100 Metal Support Systems  
 09200 Lath and Plaster  
 09230 Aggregate Coatings  
 09250 Gypsum Board  
 09300 Tile  
 09400 Terrazzo  
 09500 Acoustical Treatment  
 09540 Special Surfaces  
 09560 Wood Flooring  
 09635 Brick Flooring  
 09660 Resilient Flooring  
 09680 Carpet  
 09700 Special Flooring  
 09780 Floor Treatment

09800 Special Coatings  
 09900 Painting  
 09950 All Coverings

### **Division 10 - Specialties**

10100 Chalkboards and Tackboards  
 10150 Compartments and Cubicles  
 10200 Louvers and Writs  
 10240 Grilles and Screens  
 10250 Service Wall Systems  
 10260 Wall and Corner Guards  
 10270 Access Flooring  
 10280 Specialty Modules  
 10290 Pest Control  
 10300 Fireplaces and Stoves  
 10340 Prefabricated Exterior Specialties  
 10350 Flagpoles  
 10400 Identifying Devices  
 10450 Pedestrian Control Devices  
 10500 Lockers  
 10520 Fire Protection Specialties  
 10530 Protective Covers  
 10550 Postal Specialties  
 10600 Partitions  
 10650 Operable Partitions  
 10670 Storage Shelving  
 10700 Exterior Sun Control Devices  
 10750 Telephone Specialties  
 10800 Toilet and Bath Accessories  
 10880 Scales  
 10900 Wardrobe and Closet Specialties

### **Division 11-Equipment**

11010 Maintenance Equipment  
 11020 Security and Vault Equipment  
 11030 Teller and Service Equipment  
 11040 Ecclesiastical Equipment  
 11050 Library Equipment  
 11060 Theater and Stage Equipment  
 11070 Instrumental Equipment  
 11080 Registration Equipment  
 11090 Checkroom Equipment  
 11100 Mercantile Equipment  
 11110 Commercial Laundry and Dry Cleaning  
 Equipment  
 11120 Vending Equipment  
 11130 Audio-Visual Equipment  
 11140 Service Station Equipment  
 11150 Parking Control Equipment

11160 Loading Dock Equipment  
 11170 Solid Waste Handling Equipment  
 11190 Detention Equipment  
 11200 Water Supply and Treatment Equipment  
 11280 Hydraulic Gates and Valves  
 11300 Fluid Waste Treatment and Disposal  
 Equipment  
 11400 Food Service Equipment  
 11450 Residential Equipment  
 11460 Unit Kitchens  
 11470 Darkroom Equipment  
 11480 Athletic, Recreational and Therapeutic  
 Equipment  
 11500 Industrial and Process Equipment  
 11600 Laboratory Equipment  
 11650 Planetarium Equipment  
 11660 Observatory Equipment  
 11700 Medical Equipment  
 11780 Mortuary Equipment  
 11850 Navigation Equipment

### **Division 12-Furnishings**

12050 Fabrics  
 12100 Artwork  
 12300 Manufactured Casework  
 12500 Window Treatment  
 12600 Furniture and Accessories  
 12670 Rugs and Mats  
 12700 Multiple Seating  
 12800 Interior Plants and Planters

### **Division 13 - Special Construction**

13010 Air Supported Structures  
 13020 Integrated Assemblies  
 13030 Special Purpose Rooms  
 13080 Sound, Vibration, and Seismic Control  
 13090 Radiation Protection  
 13100 Nuclear Reactors  
 13120 Pre-Engineered Structures  
 13150 Pools  
 13160 Ice Rinks  
 13170 Kennels and Animal Shelters  
 13180 Site Constructed Incinerators  
 13200 Liquid and Gas Storage Tanks  
 13220 Filter Underdrains and Media  
 13230 Digestion Tank Covers and Appurtenances  
 13240 Oxygenation Systems  
 13260 Sludge Conditioning Systems  
 13300 Utility Control Systems

13400 Industrial and Process Control Systems  
 13500 Recording Instrumentation  
 13600 Solar Energy Systems  
 13700 Wind Energy Systems  
 13800 Building Automation Systems  
 13900 Fire Suppression and Supervisory Systems

### **Division 14 - Conveying Systems**

14100 Dumbwaiters  
 14200 Elevators  
 14300 Moving Stairs and Walks  
 14400 Lifts  
 14500 Material Handling Systems  
 14600 Hoists and Cranes  
 14700 Turntables  
 14800 Scaffolding  
 14900 Transportation Systems

### **Division 15 - Mechanical**

15050 Basic Mechanical Materials and Methods  
 15250 Mechanical Insulation  
 15300 Fire Protection  
 15400 Plumbing  
 15500 Heating, Ventilating, and Air  
 Conditioning (HVAC)  
 15550 Heat Generation  
 15650 Refrigeration  
 15750 Heat Transfer  
 15850 Air Handling  
 15880 Air Distribution  
 15950 Controls  
 15990 Testing, Adjusting, and Balancing

### **Division 16 - Electrical**

16050 Basic Electrical Materials and Methods  
 16200 Power Generation  
 16300 High Voltage Distribution (Above 600-Volt)  
 16400 Service and Distribution (600-Volt and  
 Below)  
 16500 Lighting  
 16600 Special Systems  
 16700 Communications  
 16850 Electric Resistance Heating  
 16900 Controls  
 16950 Testing

## Planning and Preparation of Equipment List for a Nursing Home

**5K**

Nursing homes play an important role in today's comprehensive health programs. Nursing homes are providing more and better nursing care, admitting sicker patients, containing costs in a competitive environment, and maximizing reimbursements.

In planning and equipping a skilled nursing facility or intermediate care facility, the administrator should determine the equipment requirements and prepare an equipment list.

1. Assign room numbers.
2. Prepare a room legend sheet.
3. Determine equipment provided by equipment contract.
4. List major movable equipment.
5. List minor movable equipment.
6. Price the equipment.
7. Total the costs by department or cost center.
8. List building/leasehold improvements.
9. List operating lease by department, term of lease, and cost.
10. Calculate the facility's cost for equipment and furnishings.

The following equipment list has been developed as a general guide for a 120-bed nursing home. The list does not purport to establish minimum or maximum equipment requirements. The equipment required for each nursing home will vary with the services each facility offers. There will be variations based on the facility design, size, operations, ownership, and scope of services rendered.

Note: The nursing home industry uses straight line depreciation in determining the estimated value of the asset, based on the useful life.



**Nursing Home Equipment List  
120-Bed Nursing Facility**

Equipment Description	Life (years) Expectancy
<b>Lobby</b>	
Brass Table Lamps	10
Directory	10
Lamp Tables	15
Love Seat	10
Magazine Table	10
Sofa Chairs	10
<b>Conference Room</b>	
Arm Chairs	15
Conference Table	15
Console T.V./Video Unit	10
Table Lamp	10
<b>Business Office</b>	
Arm Chairs	15
Bulletin Board	5
Calculator	5
Copy Machine with stand	5
CRT Stand	10
Electronic Mail Station w/ Scale	5
Executive Chair	15
Executive Desks	15
Fax Machine	5
File Cabinets	15
Key Cabinet	15
Metal Shelving	20
Mobile Forms Rack	10
Personal Computer System	5
Printer	10
Safe	20
Secretarial Chairs	15
Time Clock	10
Typewriter (Electronic)	10
<b>Administrator's Office</b>	
Arm Chairs	15
Bookcase	15
Brass Table Lamps	10
Credenza	15

Equipment Description	Life (years) Expectancy
CRT Console	10
Executive Desk	15
Love Seat	15
Personal Computer System	5
<b>Director of Nursing's Office</b>	
Arm Chairs	15
Bookcase	15
Calculator	5
Executive Chair	15
Executive Desk	15
File Cabinet – 4 Drawer	15
Personal Computer System	5
<b>Social Worker's Office</b>	
Arm Chairs	15
Bookcase	15
Brass Table Lamps	10
Executive Chair	15
Executive Desk	15
Love Seat	10
<b>Director of Maintenance Office</b>	
Bookcase	15
Calculator	5
File Cabinet – 2 Drawer	15
Pedestal Desk	15
Secretarial Chair	15
Stack Chair	15
<b>Dietician's Office</b>	
Bookcase	15
Bulletin Board	5
Calculator	5
Chair	15
Desk	15

File Cabinet – 2 Drawer	15	Cordless Telephone	5
Stack Chairs	15	Desk	10
<b>Outdoor/Patio Furniture</b>		Diagnostic Set	8
Benches	10	EKG Machine	8
Chairs	10	Electronic Thermometer	8
Patio Tables with 4 Chairs	10	Exam Lamp	10
Umbrellas	10	Exam Screen	5
<b>Nursing Units</b>		Exam Table	15
Chest of 3 Drawers	15	Footstool	10
Convalescent Chairs	15	IV Poles	8
Desk	15	Secretarial Chair	15
Entertainment Center	10	Swivel Chair with Castors	10
Mattresses 76"	15	Upright Scale	10
Non-Electric Beds	15	Utility Cart	10
Over Bed Tables	15	Whirlpool (Portable)	15
<b>Audio Visual</b>		<b>Therapy (Physical, Occupational, &amp; Speech)</b>	
Camcorder	5	Bookcase	15
Camera	8	Bulletin Board	10
Color TV 19" (Portable)	5	Desk	15
Over Head Projector	5	Exam Table	15
Screen (Portable)	5	Exercise Bike	5
Tape Recorder	5	Exercise Mats	5
Utility Carts	10	Exercise Weights	5
Video Cassette Recorder	5	File Cabinet –2 Drawer	15
<b>Beauty/Barber Shop</b>		Hydrocollator	10
Convalescent Chair	10	Parallel Bar 7"	15
Dryer Lounge with Chair	8	Safe-T Mirror	5
Dryer on Wheel Stand	8	Secretarial Chair	15
Hydraulic Chair	15	Side Chairs	15
Hydraulic Styling Chair	15	Whirlpool (Portable)	15
Love Seat	10	<b>Nurses Station</b>	
Stack Chairs	15	Bulletin Boards	5
Sterilizer	15	Chart (CPR)	20
<b>Treatment Room</b>		Cordless Telephones	5
Arm Chair	10	Personal Computer	5
Blood Pressure Unit (Portable)	5	Personal Computer Stand	10
Blood Pressure Wall Unit	8		
Bookcase	15		

Resident Chart Holder	5	Scale	10
Secretarial Chairs	15	Slicer	10
<b>Clean Utility Room</b>		Storage Receptacle with Covers	5
Gerry Chairs	10	Toasters (Commercial)	10
Ice Machine	10	Tray Carts	10
IV Poles	8	Utility Carts	10
Microwave	5	Walk In Refrigerator	10
Refrigerator	10	<b>Dietary Closet</b>	
Stretchers	10	Mop Bucket Wringers	5
Wheel Chairs	10	Mop Buckets	5
<b>Morgue Room</b>		Pressure Spray Machine -Portable	8
Cabinet – 2 Door (locked)	10	Two Wheel Hand Truck	8
Litter Stretcher/Mattress	15	<b>Maintenance Shop</b>	
<b>Medicine Room</b>		Drills/Hand Tools	8
Cabinet (locked)	10	Ladder, 10'	8
Medication Refrigerator	5	Ladder, 16'	8
Pharmacy Mobile Charts	5	Ladder, 4'	8
Stethoscopes	5	Ladder, 6'	8
Suction Pumps	10	Ladder, 8'	8
Tray Dispensers	10	Metal Shelving	10
<b>Janitor's Closet</b>		Mobile Tool Cart	10
Metal Shelving	10	Paint Sprayer	5
Mop Bucket Ringer	5	Platform Truck	10
Mop Buckets	5	Pressure Spray Machine	8
Utility Carts	10	Sidewalk Edger	4
<b>Dietary</b>		Snow Blower	5
Cash Register	10	Tool Racks	10
China Heater	10	Two Hand Wheel Truck	8
Cold Food Unit	10	Wet Vac	5
Dish Carts	10	Wheelbarrow	8
Electronic Can Opener (Comm.)	10	<b>Housekeeping Store Room</b>	
Food Carts	10	Buffer	8
Food Processor	10	Maid Carts	10
Hot Food Unit	10	Metal Shelving	10
Metal Shelving	10	Recycle Bins	8
Microwave	5		
Mixer, Beater	10		
Open Tray Carts	10		

Soiled Trash Containers	8	Step Stools	10
Step Stools	10	Trapeze Bar	10
Utility Carts	8	Walkers	8
Vacuum Cleaners	10	Wheel Chairs	10
Wet Vacuum	10		
<b>Laundry</b>		<b>Staff Lounge Room</b>	
Closed Linen Carts	10	Bookcase	15
Floor Fans	10	Bulletin Boards	5
Folding Tables	15	Clothes Rack	5
Laundry Carts	8	Metal Lockers	10
Metal Shelving	10	Microwave	5
Mop Bucket Wringers	5	Mirrors	5
Mop Buckets	5	Recycle Bins	8
Open Linen Storage Carts	10	Refrigerator	10
Pedestal Fans	10	Round Tables	10
Scale	15	Upholstered Stack Chairs	10
Side Chairs	8		
<b>Housekeeping Office</b>		<b>Oxygen Storage Room</b>	
Desk	15	Cylinder Truck	10
Secretarial Chair	10	Oxygen Cylinders	10
Stack Chairs	10	Oxygen Cylinders Caddies	10
<b>Equipment and Supply Storage</b>		<b>Paint Room</b>	
Beds (Electric)	8	Metal Shelving	10
Blood Pressure Units	5		
Cabinets (Locked)	10		
Canes	8		
Footboards	8		
Geriatric Chairs	10		
Gooseneck Lamps	10		
Hoyer Lifts	15		
Humidifiers	5		
In Bed Scale	15		
IV Monitor Sets	8		
IV Stand on Wheels	8		
Lockers	10		
Metal Shelving	10		
Reclining Chairs	10		
Restraint Belts	8		
Safety Rails	8		

**HUD Architectural Review Report for Pre-Application Exhibits****5L.1**

HUD Office Name \_\_\_\_\_

Pre-Application Submission Date \_\_\_\_\_

Project Name \_\_\_\_\_

Project Location (City, State) \_\_\_\_\_ , \_\_\_\_\_

MAP Lender Name \_\_\_\_\_

**Summary of HUD Architectural Review**

A. Architectural/Engineering exhibits (including Mortgagor's Architect's Basic Work Write-up for Substantial Rehabilitation projects)

If incomplete, specify:

B. Conformance to HUD Standards

If unacceptable, indicate reasons:

C. Site conditions:

1. New construction projects:

- a. Placement of residential building(s)
- b. Unusual site conditions

If unacceptable, indicate reasons:

2. Substantial rehabilitation projects:

- a. Mortgagor's Architect's Basic Work Write-up

If unacceptable, indicate reasons:

D. Residential building(s):

1. Lobby floor:

- a. Circulation
- b. Mortgagor's Architect's Basic Work Write-up (for substantial rehabilitation projects)

If unacceptable, indicate reasons:

- 2. Typical floor:
  - a. Circulation
  - b. Mortgagor’s Architect’s Basic Work Write-up (for substantial rehabilitation projects)
  - c. Acceptability of design

If unacceptable, indicate reasons:

- 3. Typical apartment layout(s):
  - a. Circulation
  - b. Mortgagor’s Architect’s Basic Work Write-up (for substantial rehabilitation projects)
  - c. Size and marketability (determined by appraiser)
  - d. Acceptability of design

If unacceptable, indicate reasons:

- 4. Structural system (Include Mortgagor’s Architect’s Basic Work Write-up for substantial rehabilitation projects)

If unacceptable, indicate reasons:

- 5. Exterior finish (Include Mortgagor’s Architect’s Basic Work Write-up for exterior doors, windows and building finish for substantial rehabilitation projects)

If unacceptable, indicate reasons:

- 6. Rehabilitation of roof(s) (substantial rehabilitation projects)
  - a. Mortgagor’s Architect’s Basic Work Write-up

If unacceptable, indicate reasons:

I have reviewed the subject project and hereby make the following recommendation(s):

**Reviewer:**

Name of Reviewer \_\_\_\_\_

Signature and Date of Review \_\_\_\_\_ Date \_\_\_\_\_

**Concurrence:**

Name of Team Leader \_\_\_\_\_

Signature and Date of Concurrence \_\_\_\_\_ Date \_\_\_\_\_



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**HUD Architectural Review of Lender's Architectural Analyst's Report  
for Firm Exhibits - New Construction & Substantial Rehabilitation****5L.2**

HUD Office Name \_\_\_\_\_

Firm Commitment Submission Date \_\_\_\_\_

Project Name \_\_\_\_\_

Project Location (City,State) \_\_\_\_\_ , \_\_\_\_\_

MAP Lender Name \_\_\_\_\_

**Summary of HUD Architectural Review****A. Firm Commitment deliverables:**

If incomplete, specify:

**B. Lender's Architectural Analyst's Review Report:****1. Site design and conditions:****a. New construction:**

- (1) Placement of buildings and parking
- (2) Erosion containment and drainage

**b. Substantial Rehabilitation: Detail Work Write-up regarding:**

- (1) Site utilities
- (2) Roads, walks, parking
- (3) Site improvements
- (4) Erosion containment and drainage

**c. Accessibility for persons with disabilities (For Substantial Rehabilitation projects only if required by program or local code and for all Section 232 projects):**

- (1) From street to residential and non-residential building(s)

- (2) From parking lot(s) to residential and non-residential building(s)
- (3) Throughout site
- (4) Any violation of Fair Housing Act requirements for Substantial Rehabilitation projects constructed after March 13, 1991.

If unacceptable, indicate reasons:

2. Building design and conditions (include Detail Work Write-up for Substantial Rehabilitation):
  - a. Fire safety
  - b. Structural adequacy
  - c. Accessibility for persons with disabilities - residential and non-residential structures for common use (For Substantial Rehabilitation projects only if required by program or local code and for all Section 232 projects):
    - (1) Circulation and community spaces
    - (2) Offices and other public spaces
    - (3) Typical residential units

If unacceptable, indicate reasons:

3. Major and Minor Movable Equipment (for Section 232 Health Care Facilities projects)

If unacceptable, indicate reasons:

- C. Review of A/E portion of completed Form HUD-92264 (HUD-92264-HCF for Section 232 Health Care Facilities projects) for accuracy with respect to A/E exhibits (Include Detail Work Write-up for Substantial Rehabilitation projects):

If unacceptable, indicate reasons:

- D. Review of A/E exhibits for consistency with Lender's Review Report (Include Detail Work Write-up for Substantial Rehabilitation projects):

1. Sitework (and site elevations for new construction):

If unacceptable, indicate reasons:

2. Foundation design and placement (new construction):

If unacceptable, indicate reasons:

3. Residential and non-residential structures:

If unacceptable, indicate reasons:

4. Accessibility for persons with disabilities (For Substantial Rehabilitation projects only if required by program or local code and for all Section 232 projects):

- a. From street and parking lots to residential and non-residential buildings
- b. Throughout site
- c. Throughout residential and common non-residential structures and spaces.

If unacceptable, indicate reasons:

5. Design features unusual for the particular structure type and/or system.

If unacceptable, indicate reasons:

6. Major and Minor Movable Equipment (for Section 232 Health Care Facilities projects)

If unacceptable, indicate reasons:

E. Other A/E exhibits (indicate):

If unacceptable, indicate reasons:

I have reviewed the subject project and hereby make the following recommendation(s):

**Reviewer:**

Name of Reviewer \_\_\_\_\_

Signature and Date of Review \_\_\_\_\_ Date \_\_\_\_\_

**Concurrence:**

Name of Team Leader \_\_\_\_\_

Signature and Date of Concurrence \_\_\_\_\_ Date \_\_\_\_\_

## HUD Architectural Review of Lender's Architectural Analyst's Report for Firm Exhibits - Section 223(f)

**5L.3**

HUD Office Name \_\_\_\_\_

Firm Commitment Submission Date \_\_\_\_\_

Project Name \_\_\_\_\_

Project Location (City,State) \_\_\_\_\_ , \_\_\_\_\_

MAP Lender Name \_\_\_\_\_

**NOTE:** Although UFAS requirements technically apply only to new construction and alterations to existing buildings, the Department still requires compliance with UFAS on refinance transactions. This is true even though most repairs under Section 223(f) would not meet the definition of "alteration" as indicated in UFAS. State and local entities have the authority to require non-conforming health care facilities to upgrade their facilities to acceptable standards of accessibility, such as found in the UFAS. Any non-conforming health care facility with State and/or local accessibility citations that is refinancing under Section 232/223(f) must include these mandatory upgrades in the Critical Repairs portion of the PCNA. Furthermore, even if a non-conforming HCF has no outstanding accessibility citations, it is HUD's responsibility to determine whether the project will be viable for the duration of the mortgage.

### Summary of HUD Architectural Review

#### A. Firm Commitment deliverables:

1. Lender's Project Capital Needs Assessment and Replacement Reserve Escrow (PCNA) Report
2. Lender's review of PCNA Report
3. Completed Form HUD-92264 with signatures (Form HUD-92264-HCF for Section 232 Health Care Facility projects)
4. Lists of Major and Minor movable Equipment (for Section 232 Health Care Facility projects)

If incomplete, specify:

#### B. Lender's Review of PCNA Report:

1. Physical Inspection Report (PIR):
  - a. Condition of project
  - b. Project's:

(1) Immediate repair needs

(2) Expected repair, replacement, and major maintenance needs

If unacceptable, indicate reasons:

2. Statement of Resources and Needs

a. Lender review/adjustment to PIR

b. Critical repairs and non-critical repairs to be completed before endorsement

c. Non-critical repairs to be completed after endorsement

If unacceptable, indicate reasons:

3. Accessibility for persons with disabilities (for all Section 232 projects and all other projects constructed after March 13, 1991):

a. From streets and parking lots to residential and non-residential building(s)

b. Throughout site

c. Residential and non-residential structures for common use:

(1) Circulation and community spaces

(2) Offices and other public spaces

(3) Typical residential units

d. Any violation of Fair Housing Act requirements for projects constructed after March 13, 1991.

If unacceptable, indicate reasons:

4. Major and Minor Movable Equipment(for Section 232 Health Care Facility projects)

a. Existing equipment to be retained

b. Equipment to be newly purchased

If unacceptable, indicate reasons:

C. Review of A/E portion of completed Form HUD-92264 (HUD-92264-HCF for Section 232 Health Care Facility projects) for accuracy with respect to Lender's PCNA Report:

If unacceptable, indicate reasons:

D. Review of A/E exhibits for consistency with Lender's PCNA Report:

1. Critical repairs

If unacceptable, indicate reasons:

2. Accessibility for persons with disabilities (for all Section 232 projects and all other projects constructed after March 13, 1991):

- a. From street and parking lots to residential and non-residential buildings
- b. Throughout site
- c. Throughout residential and common non-residential structures and spaces.

If unacceptable, indicate reasons:

I have reviewed the subject project and hereby make the following recommendation(s):

**Reviewer:**

Name of Reviewer \_\_\_\_\_

Signature and Date of Review \_\_\_\_\_ Date \_\_\_\_\_

**Concurrence:**

Name of Team Leader \_\_\_\_\_

Signature and Date of Concurrence \_\_\_\_\_ Date \_\_\_\_\_

## Project Capital Needs Assessment

5M

### I. WHAT IS A PROJECT CAPITAL NEEDS ASSESSMENT?

A Project Capital Needs Assessment (PCNA) defines what a Project's immediate and long term capital needs are and provides a plan for financing the capital needs. It consists of several components:

- The Physical Inspection Report;
- Lender Review of Physical Inspection Report;
- Lender Computation of Replacement Reserve Account;
- Lender Statement of Resources and Needs.

These are described separately below; HUD Review is also described.

### II. THE PHYSICAL INSPECTION REPORT (PIR)

#### A. The Lender hires a "Needs Assessor" to prepare a PIR on the Project.

1. A Needs Assessor is any firm or individuals, including the Lender's architectural and cost analysts, qualified by training and experience to evaluate building systems and site conditions and to provide cost estimates.
2. The Needs Assessor and its Subcontractors participating in the preparation of the PIR may not have an Identity of Interest with the Mortgagor, sponsor, and managing agent (if any) of the proposed Project. An arms-length relationship is essential.

#### B. The PIR describes the current and future physical needs of the proposed multifamily Project. The PIR supplies the Lender and HUD with detailed information regarding:

1. The condition of the Project.
2. An identification of the Project's:
  - a. Immediate critical and non-critical repair needs;
  - b. Expected component replacement and major maintenance needs;

- c. Compliance with accessibility laws for persons with disabilities (for projects built after March 13, 1991).

3. The total estimated cost, adjusted for inflation, for all repair, component replacement and major maintenance items.

C. PIR Format:

1. Cover Sheet must include:

- a. The Project name, number and location.
- b. Name, address, and telephone number of the preparer(s).

2. Table of Contents.

3. Project description.

4. Project Inspection Report(s) indicating existing conditions.

5. Repair Work Write-Up indicating scope of repairs:

- a. "Critical" (health and safety) repairs to be completed by initial/final endorsement of the mortgage;
- b. "Non-critical" repairs which may be deferred (subject to approval by the Hub or HUD Program Center Office) until after endorsement, but which must be completed within 12 months thereafter.

6. Component replacement and major maintenance schedule(s):

- a. "Near Term" from the initial/final endorsement through the tenth year of the mortgage.



b. "Long Term" from the eleventh through the twentieth year of the mortgage.

c. "Remainder" from the twenty-first year until about two years beyond the maturity date of the Note and Mortgage.

7. Cost Estimate(s):

a. The cost of "critical" [health and safety] and "non-critical" repairs.

b. The Initial Deposit to the Reserve for Replacement Account and the Annual Deposit to the Reserve for Replacement Account based on the cost of "Near Term" replacement and major maintenance needs of the Project.

c. The cost of "Long Term" replacement and major maintenance needs of the Project.

d. The cost of "Remaining Term" replacement and major maintenance needs of the Project.

8. Engineering and Specialty Reports.

9. Standard size color photographs necessary to illustrate the conditions discussed in the report and a narrative describing each photograph.

D. Conducting the Inspections.

1. The Needs Assessor may find it desirable to subcontract with other entities or persons for portions of the Project's physical inspection. For example, the Needs Assessor may wish to engage the services of a roofing subcontractor to furnish a roof inspection, a paving subcontractor to inspect the parking lots and sidewalks, a plumbing subcontractor to inspect the plumbing system, etc.

2. The Department is leaving the working details of these arrangements to the Lender and the Needs Assessor hired by the Lender.

3. The Needs Assessor must inspect enough dwelling units to be able to formulate an accurate estimate of repair, replacement and major maintenance needs.

- a. In some cases, depending on the size and condition of the Project, all or nearly all units will need to be inspected by the Needs Assessor.
- b. In other cases, a lesser number of units may need to be inspected by the Needs Assessor.
- c. The Department expects that appropriate statistical sampling methods and techniques will be used by the Needs Assessors to reach their conclusions about repair needs.

E. Estimating Repair, Replacement and Major Maintenance Needs Costs.

Regardless of the inspection procedures used, the final cost estimates of repairs, replacements and major maintenance items should be as accurate as practical in terms of present dollar values. The present dollar values will then be trended for future scheduled work using a reasonable inflation factor supplied by the Lender.

1. The Needs Assessor should assume that the Project will be in a better than “Satisfactory” condition when the Project’s Note and Mortgage is paid off.

- a. This assumption is made explicit only for the purpose of standardizing or normalizing the data that will be furnished by the Department.
- b. Assume the Project to be in such a financial and physical condition that no unfunded major capital repairs would be anticipated for a period ending about two years after the maturity date of the Note. In other words, the PIR should not anticipate that the buildings would be run down or in need of the unfunded major repairs as of the maturity dates of their Notes and Mortgages.

2. The Department realizes that these long term estimates are projections that are subject to change.

F. Projections of Repairs, Replacements and Major Maintenance Costs. The Needs Assessor itemizes repairs, replacements, and major maintenance needs and breaks out the estimated dates by year that repairs, replacements and major maintenance needs will be needed according to the following format:

1. “Critical” [health and safety] repairs (to be completed before initial/final endorsement of the mortgage), and “non-critical” repairs (which may be completed after initial/final endorsement of the mortgage.) The following items must be addressed:

- a. Accessibility for persons with disabilities (for properties constructed after March 13, 1991). The report must state whether the project appears to be in compliance with the Fair Housing Act and any other applicable accessibility laws. All violations discovered must be reported in detail.
- b. Abatement of lead-based paint and asbestos.
- c. Items of deferred maintenance: Defined as "Postponed, infrequent, or inadequate maintenance practices on a building or property, often resulting in physical depreciation and loss of value." Conditions that should have been prevented or repaired as part of a previous year's (or multiple years') project maintenance program are considered deferred maintenance. Items that coincidentally become necessary at the time of underwriting are not considered deferred maintenance.

- (1) Where such items bring about a condition(s) that requires a Critical Repair(s), all such repairs must be completed before initial/final endorsement.
- (2) Where the condition(s) requires Non-Critical Repairs, if the project is being processed as:
  - (a) A refinance transaction, the items must be completed before initial/final endorsement of the mortgage.
  - (b) A purchase transaction, the items may be included in the non-critical repairs list to be completed after initial/final endorsement.

## 2. Replacements and Major Maintenance Schedule:

The Needs Assessor will prepare a schedule to estimate the remaining useful life of all short-lived building components and equipment included in the Project. The Remaining Useful Life estimate must come from a nationally recognized source such as "Marshall and Swift." The schedule will be itemized according to the three main categories defined above:

- a. "Near Term",
- b. "Long Term", and
- c. "Remainder".

## III. LENDER REVIEW OF THE PHYSICAL INSPECTION REPORT

The Lender reviews the PIR and makes any appropriate adjustments as indicated below.

### A. The Lender's review is to determine whether:

1. The PIR covers the appropriate mortgage term;

2. All items requiring action during the mortgage term are included in the PIR;
3. An adequate sampling of units was made, and management reported replacements have been verified and considered;
4. Appropriate ages are given for individual elements and whether any deviations from the expected useful lives are adequately justified; and
5. The PIR contains any material mathematical errors.

B. Some items identified in the PIR may be part of the current operating budget for the Project.

1. If these items (such as replacement of garbage disposals or smoke detectors) are included in the normal operating budget for the Project, funds for their maintenance or replacement should not be included in the Replacement Reserve.
2. The Lender should only remove such items from the Needs Assessor's estimate if there is clear evidence that the operating budget for the Project includes these items and the items are of relatively nominal cost.
3. The Lender should also ensure, in the review of prior operating statements for the Project, that any "capital" items deleted from the maintenance line items are addressed in the calculation of reserves if they are likely to recur during the term covered by the PCNA.

C. The Lender should review the PIR to assure that all items indicated below are appropriately listed, and the Needs Assessor's cost estimates and projected dates of completion are reasonable.

1. Review all repair, replacement or major maintenance items that could potentially impact the health or safety of tenants (e.g., installation of exit lighting at a basement exit), or that violate applicable codes; these should be listed as Critical Repairs to be completed before initial/final endorsement.
2. Review all other repair, replacement or major maintenance items not included in the operating budget. Included in this category are any items that are necessary to:
  - a. Correct any deferred maintenance;
  - b. Prevent physical deterioration of the Project; and
  - c. Correct conditions that decrease the marketability of the Project (e.g., items of functional obsolescence.)
3. The Lender must determine the dates for the completion of all work.
  - a. These completion dates must be appropriate for the significance of the work being done.
  - b. However, in all events, the critical repairs must be completed before, and non-critical repairs no later than 12 months after, initial/final endorsement.

D. The Lender should review the PIR to ascertain that the number of years over which replacements and major maintenance items are expected to occur represents a reasonable

conclusion and that the Needs Assessor's cost estimate is reasonable and adequate to address the Project's needs. The Lender should ensure that the Needs Assessor has not:

1. Estimated costs based on the worst case (e.g., replacement of all aging refrigerators in a single year).
2. Been unduly optimistic in determining the schedule or costs (e.g., replacement of only a small percentage of refrigerators per year such that replacements exceed life expectancy or are stretched beyond the term of the Mortgage without justification).

#### E. Completion of Repairs:

The Lender is expected to exercise independent judgment when recommending which items must be completed before initial/final endorsement and which items are non-critical items that may be completed after initial/final endorsement.

1. At initial/final endorsement of the mortgage, the Project shall not have any conditions that threaten the health or safety of tenants.
2. Non-critical repairs may be completed after initial/final endorsement (with concurrence of the Department).

### IV. COMPUTATION OF THE REPLACEMENT RESERVE ACCOUNT BY THE LENDER.

The Needs Assessor prepares an analysis of the remaining useful life of short-lived building components and systems, and other Project features. Lender uses this to evaluate the adequacy of the replacement reserve account and any necessary initial deposit to that account.

A. Ineligible items. Items generally considered routine maintenance are not included in the calculation of Replacement Reserve Account.

#### B. Remaining useful life:

1. To derive the remaining useful life of an item, subtract the actual age of the item from the estimated economic life of the item.
2. The schedule shall provide a description of the item, actual age and estimated economic life of the item.

#### C. Reserve for Replacement Account for Near Term items:

The Lender must, in the Statement of Resources and Needs, determine and recommend to HUD the Total Near Term Reserve for Replacement Account for the Project.

To provide for anticipated Near Term replacements and major maintenance needs, prepare a 100 percent replacement cost estimate (less salvage) for each item in the group whose estimated remaining useful life is expected to expire in the first 10 years.

1. Include the sum of the costs of labor/installation, materials, and appropriate fees, when applicable. Using a cost adjustment factor for inflation, project the cost of each item from the date (month and year) of the estimate to the expected expiration date. The sum of the

estimated cost is the Total Near Term Reserve for Replacement Account, which includes the initial deposit and the annual deposits required from the Mortgagor.

- a. The Total Near Term Reserve for Replacement Account must be at least equal to the total estimated cost (adjusted for inflation) of completing the items shown in the Near Term replacement and major maintenance needs schedule of the Project.
  - b. The total deposits by the Mortgagor in the Near Term Reserve for Replacement Account should equal the Total Near Term Reserve for Replacement amount.
  - c. If the Mortgagor is required to make an initial deposit into the Reserve for Replacement, the Lender may subtract the amount of the initial deposit from the Total Near Term Reserve for Replacement amount in determining the amount of the monthly deposits to the Reserve for Replacements to be made by the Mortgagor.
2. Davis-Bacon Requirements do not apply and, therefore, the costs of labor shall not include the provisions of Davis-Bacon.
  3. Identify the location of items, if required for clarification.
  4. The Total Near Term Reserve for Replacement Account must be at least equal to \$150 per unit, per annum.

D. Evaluation of the Reserve Account for Long Term and Remainder items:

1. An additional evaluation must be made by the Lender every ten years to determine whether annual deposits to the reserve account are sufficient (See VI.C).
2. The Lender must address how later adjustments in the annual deposit will be made and the financial risk to HUD.

E. Funding Schedules for Near Term, Long Term, and Remainder items in the Reserve for Replacement Account.

The Lender's Statement of Resources and Needs must set forth a funding schedule for the entire mortgage term, and demonstrate that the funding schedule shows that money will be there yearly to meet the physical needs of the Project and the overall underwriting of the loan.

The Lender recommends to HUD the appropriate funding structure for Near Term, Long Term, and Remainder items in the Reserve for Replacement, based on the timing of the expected replacements, and/or whether the Mortgagor will receive cash upon closing the Mortgage. If HUD accepts the Lender's recommendation, the funding schedule (along with the requirement for a re-evaluation every ten years) will be inserted into the Regulatory Agreement by HUD.

The following are examples of alternative *funding schedules*:

1. No initial deposit and large monthly deposits because the repairs and replacements are

concentrated in the later years of the Mortgage term.

2. Monthly deposits that increase over the term of the Mortgage (e.g., payments which increase 5 percent per year over the term of the Mortgage) to match the estimated timing of repairs and replacements may be appropriate in some instances.

**Note: If there is no initial deposit, a disproportionately small monthly deposit in the first year, designed to reduce the impact on underwriting, is unacceptable.**

## V. STATEMENT OF RESOURCES AND NEEDS.

The Lender's statement must:

- A. Address the quality of the PIR; and
- B. Discuss any adjustment made to the PIR by the Lender.
- C. Identify the replacement and major maintenance items for which the owner may be reimbursed from the Replacement Reserve.

Note: HUD will only disburse funds for those replacement or major maintenance items specifically listed in the Statement.

D. Recommend to HUD the dollar amount of:

1. The cost of repairs to be completed before initial/final endorsement of the mortgage.
2. The cost of, and the amount to escrowed for, non-critical repairs to be completed within one year of date of initial/final endorsement of the mortgage.
3. Initial deposit, if any, and the amount of the monthly deposits and the funding schedule of such deposits into the Replacement Reserve based on "Near Term" projections of replacement and major maintenance costs.

E. Describe:

1. Current financial or other assistance needs and resources of the Project.
2. Future financial or other assistance needs and resources. Specifically how "Long Term" and "Remainder" projected replacement and major maintenance costs will be covered.

## VI. HUD REVIEW.

A. The HUD Office should:

1. Review the PCNA for completeness and adequacy. The review should include a careful examination of the Department's long-term risk associated with non-traditional calculation of annual deposits to the replacement reserve.
2. Discuss all weaknesses or inadequacies of the PCNA with the Lender in an effort to reach consensus about the needs and resources of the project. The results of these discussions and agreements reached must be incorporated into the firm commitment and loan closing documents.

- B. If the HUD Office determines that a PCNA is substantially incomplete or inadequate:
1. Notify the Lender of the portion(s) of the PCNA that require completion or revision and require the Lender to submit an amended PCNA within thirty (30) days from receipt of the Field Office's notification.
  2. If HUD and the Lender fail to reach closure, HUD will impose its own methodology for computation of annual deposit to the replacement reserve.
- C. The Lender will recommend and HUD may set up the Total Near Term Replacement Reserve Account.
1. HUD will reevaluate the Project's Replacement Reserve needs and, if appropriate, adjust the Mortgagor's required deposits to the Replacement Reserve every ten years.
    - a. To assist in completing this evaluation, the Lender must obtain a new PCNA every 10 years which covers the next ten years [or the remaining term of the Mortgage] plus two years.
    - b. Replacement Reserve funds may be used to pay for the additional PCNAs.
  2. The Hub or Program Center at the time of initial/final endorsement will have a rider signed by the Lender and HUD and attached to the Lender's Certificate which will require the Lender to comply with the requirements of C.1. above.



**Design Architect's Certification****5N**

HUD Project Name

HUD Project Number

Mortgagor

I, the undersigned Design Architect, to the best of my knowledge, belief and professional judgement, hereby certify that the proposed construction in accordance with the working drawings and specifications prepared for the subject Project (a) is permissible under the applicable zoning, building, housing, and other codes, ordinances and/or regulations, as modified by any waivers obtained from appropriate officials, and (b) complies with the HUD Minimum Property Standards, applicable accessibility laws for persons with disabilities, and other applicable HUD Standards, guidelines and criteria.

Waiver of codes, etc., were obtained as listed in attachment (identify):

Signed

Date

Architect's Name

Business Address

License Number

Warning: Title 18 U.S.C. 1001, provides in part that whoever knowingly and willfully makes or uses a document containing any false, fictitious, or fraudulent statement or entry, in any manner in the jurisdiction of any department or agency of the United States, shall be fined not more than \$10,000 or imprisoned not more than five years or both.