



**Alabama Housing Finance Authority's
Design Quality Standards and Construction Manual**

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WITHOUT LIMITING ANY OTHER PROVISION OF THIS HOME ACTION PLAN, ALL DETERMINATIONS, CALCULATIONS, JUDGMENTS, ASSESSMENTS OR OTHER DECISIONS MADE BY AHFA UNDER THIS ADDENDUM, INCLUDING WITHOUT LIMITATION RELATED APPLICATION INSTRUCTIONS, AHFA FORMS AND THE QAP ITSELF, SHALL BE MADE IN AHFA'S SOLE AND ABSOLUTE DISCRETION.

I. Introduction

All projects must be designed and constructed in accordance with the applicable requirements of the 2010 Americans with Disabilities Act Accessibility Guidelines, Section 504 of the Rehabilitation Act, Fair Housing Act, state and local disaster mitigation standards, 2009 or 2012 International Building Code- International Residential Code, 2009 International Energy Conservation Code for single-family homes, 2007 American Society of Heating, Refrigerating and Air-conditioning Engineers 90.2 for multifamily buildings and any more restrictive local building code requirements.

Any deviations from these standards must have the written approval of AHFA prior to submitting an application for funding. The request for approval, with all supporting documentation, must be submitted to AHFA at least 30 days prior to submitting a final application for funding. Once the project begins construction and through the end of construction of project, any deviation must have written approval before any work commences or any deviation is made on the construction site. Any deviation requested and approved will be charged the appropriate fee. A complete list of fees is located at www.AHFA.com.

II. Requirements for All Approved Projects

A. Site Specific Criteria:

- 1.) HOME proposed sites containing property within a 100-year flood plain are not permitted. Housing Credit and HOME Funds proposed sites and existing projects are not allowed to contain wetlands.
- 2.) New Construction projects in all zones will require radon resistant new construction practices in all buildings pursuant to the radon requirements in the most recent version of HUD's Multifamily Accelerated Processing (MAP) Guide.¹ Radon testing results must be provided for all rehabilitation projects in zones 1 and 2 in accordance with the most recent version of HUD's Multifamily Accelerated Processing (MAP) Guide. For the most current radon information see: www.adph.org/radon.
- 3.) New Construction Rental Units: All new construction developments must submit a complete site specific soils report, not more than 1 year old at the time of submission of final plans and specifications, bound within the project specifications. The soils report must reflect the results of laboratory tests conducted on a minimum of 1 soil boring per planned building location and a minimum total of 2 soil borings at the planned paved areas of the development. A registered professional engineer or a certified testing agency with a current license to practice in the State of Alabama must prepare the report.
- 4.) New Construction Single-Family Rental Homes: All developments must submit a complete site specific soils report, not more than 1 year old at the time of submission of final plans and specifications, bound within the project specifications. The soils report must reflect the results of laboratory tests

¹ <https://www.hud.gov/sites/documents/4430GHSGG-BM.PDF>

conducted on a minimum of 1 soil boring for every 2 single family buildings and a minimum total of 2 soil borings at the planned paved areas of the development. A registered professional engineer or a certified testing agency with a current license to practice in the State of Alabama must prepare the report.

- 5.) Rehabilitation of an Existing Building: Projects adding any new building foundations must submit a foundation specific soils report. The soils report must reflect the results of laboratory tests conducted on a minimum of 1 soil boring per planned building location and a minimum total of 2 soil borings at the planned paved areas of the development. A registered professional engineer or a certified testing agency with a current license to practice in the State of Alabama must prepare the report.

B. Site Located Outside Municipal City Limits:

- 1.) A proposed new construction site or existing project may be located outside a municipality's city limit but must be within the local police or sheriff jurisdiction.
- 2.) A proposed site or existing project that is located in the police jurisdiction of a local municipality must comply with applicable Zoning restrictions as if located within that municipality's city limit.
- 3.) Domestic water and fire water service must be provided to the development by the local utility service provider.

C. Project Standards:

- 1.) Clubhouse/Community Building Standards:

The eligible square footage of the project's clubhouse/community building or space(s) is 3,000 square feet heated and cooled (inclusive of the office area, community laundry, community meeting room, restrooms, kitchens, etc.). The clubhouse/community building or space(s) may exceed 3,000 square feet heated and cooled but any square footage exceeding this amount will not be included in the Eligible Basis used to calculate the Housing Credit. The clubhouse/community building or space(s) is required to meet all applicable accessibility standards.

- 2.) Elderly Project Standards:

All 100% Elderly projects must be one-story structures. Exception: Projects may have more than one story, provided elevators are to be installed to service all upper level apartments. Design exceptions, or deviations, must be reviewed by AHFA on an individual basis.

- 3.) Required Unit Amenities:

All projects are required to have the following unit amenities for all units:

- Range
- Refrigerator with Ice Maker
- Dishwasher
- Microwave
- Washer and Dryer Connections
- Heater

- Air Conditioner
- Ceiling Fans

All units must include an exterior storage closet with a minimum area of sixteen (16) square feet and either a single coated wire shelf that spans the length of the closet or a grouping of smaller coated wire shelves. Developments designed with all interior unit access must provide the additional required exterior storage for each unit in the interior of the building(s). It may be located inside the unit, on the tenants' floor, or in a common area. All exterior and interior storage must be lockable.

4.) Modular Construction:

Modular units are to be constructed in component sections and assembled by a manufacturer in a controlled environment. The component sections are to be assembled on a conventional permanent foundation at the project site. Finish work is to be completed on site. Modular units must be constructed to meet applicable building codes, AHFA's specifications and Design Quality Standards stated herein. A modular home manufacturer's warranty must be provided.

5.) Drawing Submission Criteria:

The following documents must be prepared by a registered architect, surveyor, or engineer licensed to practice in the State of Alabama.

a. Site Plan: The following items must be shown.

- i. Scale: 1 inch = 40 feet or larger for typical units.
- ii. North arrow.
- iii. Locations of existing buildings, utilities, roadways, parking areas if applicable.
- iv. Existing site/Zoning restrictions including setbacks, rights of ways, boundary lines, wetlands, and flood plain.
- v. All proposed changes and proposed buildings, parking, utilities, and landscaping.
- vi. Existing and proposed topography of site.
- vii. Finished floor height elevations and all new paving dimensions and elevations.
- viii. Identification of all specialty apartment units, including, but not limited to, designated handicapped accessible and sensory impaired apartment units.
- ix. Provide an accessible route site plan with applicable details.

b. Floor Plans:

- i. Scale: 1/4 inch = 1 foot or larger for typical units.
- ii. Show room/space layout, identifying each room/space with name and indicate finished space size of all rooms on unit plans.
- iii. Indicate the total gross square foot size, and the net square foot size for each typical unit.

For projects involving removal of asbestos and/or lead paint, identify location and procedures for removal.

- c. Elevations and sections:
 - i. Scale: 1/8 inch = 1 foot or larger.
 - ii. Identify all materials to be used on building exteriors and foundations.
- d. Title Sheet:

Indicate Building Codes and Accessibility Standards that are applicable for the project.

III. Attached New Construction Rental Units

The following outline of minimum standards must be used in designing Housing Credit and HOME Funds projects of twelve or more attached units.

A. Minimum Building Standards:

- 1.) Minimum Apartment Unit Net Area Requirements:

Net area is measured from the **interior finished face** of the exterior wall to the **interior finished face** of the common or tenant separation wall.

Minimum Bedroom Net Area is measured from the interior faces of all walls surrounding each bedroom, excluding closets, mechanical rooms, and storage rooms.

<u>Unit Type</u>	<u>Number of Bathrooms</u>	<u>Minimum Unit Net Area*</u>	<u>Min. Bedroom Net Area</u>
1 Bedroom	1	725 s.f.	120 s.f.
2 Bedroom	1	900 s.f.	120 s.f.
2 Bedroom	1.5	925 s.f.	120 s.f.
2 Bedroom	2	975 s.f.	120 s.f.
3 Bedroom	2	1,200 s.f.	120 s.f.
4 Bedroom	2	1,455 s.f.	120 s.f.

**Note 1: Net unit areas do not include outside storage, covered porches, patios, balconies, etc.*

- 2.) Exceptions to the minimum area requirements:

Single-Room Occupancy (“SRO”) projects

- 3.) Exterior Building Standards:

- a. Exterior Finishing Materials:

- i. Exterior building coverings: For new construction, very low maintenance materials are required. Acceptable materials include:
 - a) Brick;
 - b) High quality vinyl siding with a minimum thickness of .044 and a lifetime non-prorated limited warranty (50 year) transferable;
 - c) Cementitious siding and trim material; or

d) Engineered composite siding and trim material.

All siding materials listed above are required to be 12 inches above the finished floor elevation of the building ground floor, with the exception of concrete patio and covered breezeway areas. Brick, decorative block or cultured stone must be used as an apron material.

- ii. Fascia and soffit: Must be prefinished vinyl, prefinished aluminum, cementitious trim or engineered composite trim. Material used for soffits must be perforated or vented.
- iii. Windows frames and sashes are to be constructed of vinyl-clad wood, solid extruded vinyl, fiberglass, or aluminum and all windows are required to have screens.
- iv. Materials for entry doors are to be metal-clad wood, fiberglass, or metal insulated construction. "Peepholes" and deadbolt locks are required in entry doors. Dead bolt locks on entry doors must have "thumb latch" on interior side. Double keyed dead bolt locks are prohibited. Minimum clear width of all exterior doors must be 34 inches.
- v. Roofing materials: Anti-fungal shingles or metal roof with 30-year warranty or better must be used.
- vi. Roof gable vents must be made of aluminum or vinyl materials.
- vii. All attics shall be vented.
- viii. All primary entries must be within a breezeway or have a minimum roof covering of 3-feet deep by 5-feet wide, and must be designed to divert water away from the entry door. Entry pads measuring 4 feet by 4 feet and made of impervious material with a slope that meets Fair Housing and ADA standards are required at each exterior entry.
- ix. All breezeways must be constructed of concrete floor/decking material.
- x. Exterior shutters are required on all 100% Brick or vinyl siding buildings.
- xi. Stairway components, such as stringers, treads, and risers must be constructed from steel or concrete. All project steps must include a kick plate in between each step beginning at the first step nearest to the ground and ending at the nearest step at the balcony or landing. Handrails and pickets must be constructed from steel or aluminum.
- xii. Patio and porch/balcony components used as part of the building must have concrete slabs or decks and must be constructed so that no wood is exposed. Concealment must be with materials such as aluminum, vinyl, cementitious materials trim or engineered composite trim. Structural wood columns must be at a minimum 6" x 6" pressure treated columns concealed as noted above or properly sized columns of steel, fiberglass, high density urethane or aluminum. Decorative rails and/or guard rail systems used at porches and patios must be code compliant systems of vinyl, fiberglass, steel or aluminum. Wooden support posts must be installed to prevent degradation (rotting) to ends of posts and to provide for structural and anchoring of post to slab. Wood railings

are not allowed.

b. Other Exterior Standards:

- i. Adequate exterior lighting is required in all covered exterior breezeways/walkways. Exterior lighting fixtures are required at all entry doors. The fixtures must be controlled from the interior of the unit. Exterior light fixtures at apartment unit entry doors in apartment buildings with enclosed, heated and cooled corridors are not required when the corridor lighting remains on all the time.
- ii. Address numbers are to be clearly visible.
- iii. One and one-half parking spaces per living unit required for family units, one space per unit for elderly units, two parking spaces for single family homes, and two parking spaces for each duplex, unless local code dictates otherwise, and no designated street parking allowed.
- iv. Metal flashing or 20 mil polyethylene when used in conjunction with a self-adhering polyethylene laminate flashing, must be installed above all exterior door and window units.
- v. A landscaping plan must be submitted indicating areas to be sodded and landscaped. Landscaping plan(s) must follow any applicable municipal landscape ordinance. At a minimum, 20 feet of solid sod must be provided (if ground space allows) from all sides of every building and between all buildings and paved areas. All disturbed areas must be seeded. Landscaping around and between the buildings is allowed. At a minimum, provide 1 2” caliper tree per unit and 6 1-gallon shrubs per unit.
- vi. Concrete curbing is required along all paved areas throughout the development site, including parking areas. (Valley curbs are not allowed)
- vii. Sidewalk access to all parking spaces must be provided. Where the accessible route on the site crosses a vehicular roadway, crosswalk lines are required. They shall not be less than 6 inches or greater than 24 inches in width.
- viii. A lighted project sign including the Fair Housing logo is required. Depending on the placement as it relates to the access of the property from the public road, the project’s sign may require the project’s name and Fair Housing logo on both sides of the sign.
- ix. A minimum of 1 trash dumpster or compactor enclosed on a minimum of 3 sides is required. The trash dumpster/compactor enclosure must be ADA accessible and have a concrete apron. If the dumpster itself is not accessible, trashcans must be placed within the enclosure for use by handicap tenants.
- x. Continuous asphalt or concrete paved access road must be provided to the entrance of the development.
- xi. All parking must be asphalt or concrete. An asphalt or concrete paving recommendation letter must be provided with the reservation items by a geotechnical engineer.
- xii. All sidewalks and walkways must be concrete and at least 36 inches wide. All public buildings, clubhouse/community building and amenities must be connected to the dwelling units by a

- sidewalk or walkway.
- xiii. Mailboxes, playground and all exterior project amenities must be on an accessible route as defined by the Fair Housing Guidelines. All exterior project amenities that have exposed components used as part of the structure must be constructed so that no wood is exposed. Concealment shall be with materials such as aluminum or vinyl siding or cementitious materials. Decorative rails and/or guard rail systems used shall be code compliant systems of vinyl, fiberglass or metal. Wood railings are not allowed. Gazebos and picnic shelters shall have table(s) with attached bench seating.
 - xiv. No above ground propane tanks allowed on the site.
 - xv. All utilities located on site must be underground.
 - xvi. Storm Water retention basins (existing, shared and/or newly constructed) must be located within the property and include fencing around the entire perimeter with a lockable maintenance gate. The retention area will be maintained and managed in a manner to provide safety to the tenants. Including preventing vermin, insect and reptile infestation, vegetation overgrowth, and must be kept free of all trash and debris.

4.) Interior Building and Space Standards:

a. Wall Framing:

- i. Walls may be framed using metal studs in lieu of wood.
- ii. Sound proofing or sound batt insulation is required between the stud framing in tenant separation walls. A sound rating of Sound Transmission Class (STC) 54 is required.
- iii. Sound proofing between floors is required to achieve a rating of (STC) of not less than 50 and an Impact Insulation Class (IIC) of not less than 50.

b. Insulation Requirements:

- i. Exterior wall insulation must have an overall R-13 minimum for the entire wall assembly.
- ii. Roof or attic insulation must have an R-38 minimum.
- iii. Vapor retarders must be installed if recommended by project architect.

c. Kitchen spaces:

- i. A minimum 6 1/2-inch deep double bowl stainless steel sink is required in each unit.
- ii. Each unit must be equipped with a 2.5 lb. ABC rated dry chemical fire extinguisher readily accessible in the kitchen and mounted to accommodate handicapped accessible height in accessible units. Each unit must also contain either fire protection canisters above the cooktop surface or temperature limiting plates on the cooktop surface.
- iii. New cabinets must have dual sidetrack drawers and no laminate or particleboard fronts for doors or drawer fronts. Cabinets must meet the ANSI/KCMA A161.1 performance and construction

standard for kitchen and vanity cabinets. Cabinets must bear the certification seal of KCMA (Kitchen Cabinet Manufacturers Association).

- iv. A pantry closet or pantry cabinet is required in each unit. The pantry must be 1'6" x 1'6" deep and/or pre-manufactured millwork pantry cabinets that are 1' x 2'-6" deep with a minimum five shelves, located in or adjacent to the kitchen.
 - v. A 4 foot long fluorescent light fixture is required.
 - vi. All appliances must be Energy Star rated.
 - vii. A grease shield is required behind ranges on the wall.
- d. Bathroom Spaces:
- i. Tub/shower units must have minimum dimensions of 30-inch width by 60- inch length and be equipped with anti-scald valves. Integral wood blocking in walls as per Fair Housing guidelines is required. All tubs in designated handicap accessible units must come complete with "factory- installed grab bars" where the tub surrounds are reinforced. Wood blocking in walls is still required with factory reinforced fiberglass surrounds. If the tub surrounds are not reinforced fiberglass, hard tile or cultured marble or composite materials; solid wood blocking must be installed to meet Fair Housing guidelines.
 - ii. Water closets must be installed to comply with applicable ANSI, UFAS and Fair Housing accessibility guidelines.
 - iii. Mirror length must extend to top of vanity backsplash with top of mirror a minimum of 6'-0" above finish floor. Framed decorative mirrors or medicine cabinets with mirrors are allowed with a minimum size of 14" x 24".
 - iv. Vanity cabinets with drawers or a vanity cabinet without drawers and a linen cabinet with drawers must be installed in all units. All cabinets in designated handicap accessible units must be installed in compliance with applicable ANSI or UFAS guidelines.
- e. Hallways must have a minimum clear width of 36 inches or greater as per applicable accessibility standards.
- f. All interior doors to habitable spaces in unit(s) subject to Fair Housing Guidelines must have a minimum clear width in compliance with the applicable Fair Housing design standards. All interior doors to habitable spaces in designated handicap accessible units must have a minimum width of 36 inches. All interior doors to habitable spaces in all other units must have a minimum clear width of 30 inches.
- g. Separately switched overhead lighting is required in each room. Energy Star ceiling fans with light kits are required in the living room and each bedroom.
- h. Window treatments are required for all windows.
- i. Sliding glass doors are prohibited.
- j. Floor Finishes:

- i. Carpet materials must meet FHA minimum standards.
 - ii. Resilient flooring materials must meet FHA minimum standards.
 - k. A minimum of two hard-wired with battery back-up smoke detectors are required per unit. Townhomes must have a minimum of 1 smoke detector upstairs.
 - l. A carbon monoxide detector must be installed in each unit with gas mechanical systems or appliances. Units with an attached garage must also have a carbon monoxide detector installed.
 - m. All units pre-wired for cable television hook-ups in the living room and 1 per bedroom.
- 5.) Plumbing and Mechanical Equipment:
- a. Water heaters must be placed in drain pans with drain piping plumbed to the outside or to an indirect drain connected to the sanitary sewer system. Water heater T&P relief valve discharge must meet applicable building code requirements. Additionally:
 - i. Electric water heaters must be high efficiency with a minimum 0.93 Uniform Energy Factor (UEF) for a 30-gallon tank or minimum .92 UEF for a 40-gallon tank.
 - ii. Gas water heaters must be high efficiency with a minimum 0.60 Uniform Energy Factor (UEF) for a 30-gallon tank or minimum .58 UEF for a 40-gallon tank.
 - b. Through-wall HVAC units are not permitted in residential units except in efficiency units.
 - c. CPVC supply piping is not allowed for interior space in-wall or overhead services.
 - d. HVAC units and water heaters are not permitted in attic spaces. HVAC units must be installed in Mechanical Closets with insulated walls located within the living unit. Water heaters are to be located within the living unit.
 - e. HVAC refrigeration lines must be insulated.
 - f. HVAC 14 SEER or greater must be used.

IV. New Construction Single Family Rental Homes

The following outline of minimum standards must be used in designing Housing Credit and HOME Program projects of twelve or more units and consist of single-family. All single-family homes must be new construction.

A. Minimum Building Standards:

1.) Minimum Unit Net Area Requirements:

Minimum Bedroom Net Area is measured from the interior faces of all walls surrounding each bedroom, excluding closets, mechanical rooms, and storage rooms.

Unit Type	Number of Bathrooms	Minimum Unit Net Area*	Minimum Bedroom Net Area*
3 Bedroom	2	1,200 s. f.	120 s. f.
4 Bedroom	2	1,455 s. f.	120 s. f.

**Note 1: Unit areas do not include outside storage, covered porches, patios, balconies, etc.*

- 2.) All single-family rental homes must have a minimum of 30 feet of building facing the front street. These 30 feet must be the sum of all front-facing dimensions adjacent to conditioned space and can include the “common” wall which is part of a front-facing garage as long as this wall is front-facing and conditioned on 1 side.
- 3.) All single-family rental homes must have a minimum of 30 feet front yard building set-back from the curb. Each home must have a minimum of 10 foot side yards. (Minimum width of lot shall be fifty (50) feet.) Both lot width and side yard setbacks can be modified with the following exception: A 10 foot side yard setback on 1 lot side and a “zero lot line” setback on the other (thus, a forty (40) foot minimum lot width) will be allowed with a front-facing garage.
- 4.) All single-family rental homes must have a minimum of 3 different front and rear elevation designs. No identical front elevations may be built next to each other.
- 5.) All single-family rental homes must have a minimum of 3 different color schemes.

B. Exterior Building Standards:

- 1.) Exterior Finishing Materials:
 - a. Exterior building coverings: Very low maintenance materials are required. Acceptable materials include:
 - i. Brick;
 - ii. High quality vinyl siding with a minimum thickness of .044 and a lifetime non-prorated limited warranty (50 year) transferable;
 - iii. Cementitious siding and trim material; or
 - iv. Engineered composite siding and trim material.

All siding materials listed above are required to be 12 inches above the finished floor elevation of the building ground floor, with the exception of concrete patio and covered breezeway areas. Brick decorative block or cultured stone must be used as an apron material.

- b. Fascia and soffit: Must be prefinished vinyl, prefinished aluminum, cementitious trim or engineered composite trim. Material used for soffits must be perforated or vented.
- c. Windows frames and sashes are to be constructed of vinyl-clad wood, solid extruded vinyl, fiberglass, or aluminum and all windows are required to have screens.
- d. Materials for entry doors are to be metal-clad wood, fiberglass, or metal insulated construction. “Peepholes” and deadbolt locks are required in entry doors. Dead bolt locks on entry doors must have “thumb latch” on

interior side. Double keyed dead bolt locks are prohibited. Minimum clear width of all exterior doors must be 34 inches.

- e. Roofing materials: Anti-fungal shingles or metal roof with 30-year warranty or better must be used.
- f. Roof gable vents must be made of aluminum or vinyl materials. All roof penetrations must be located on the rear most section of the roofline.
- g. All attics must be vented.
- h. Exterior shutters are required on all single-family homes.
- i. Units where a conventional wood frame foundation system is used, a non-wood “maintenance-free” composite decking material may be used at porches above a pressure treated wood framing system.

2.) Other Exterior Standards:

- a. Exterior lighting is required at entry doors.
- b. Address numbers are to be clearly visible.
- c. 2 parking spaces for each home.
- d. Metal flashing or 20 mil polyethylene when used in conjunction with self-adhering polyethylene laminate flashing, must be installed above all exterior door and window units.
- e. A landscaping plan must be submitted indicating areas to be sodded and landscaped. Landscaping plan(s) must follow any applicable landscape municipal ordinance. At a minimum, 20 feet of solid sod must be provided (if ground space allows) from all sides of every building and between all buildings and paved areas. All disturbed areas must be seeded. All rental units must have minimum of 2 trees per unit and 12 1-gallon shrubs per unit.
- f. Concrete curbing is required along all paved areas throughout the development site, including parking areas. 6 inch raised curbs and gutter design is required. No valley curbs allowed.
- g. Sidewalk access to the front door and the driveway must be provided.
- h. A lighted project sign including the Fair Housing logo is required. Depending on the placement as it relates to the access of the property from the public road, the project’s sign may require the project’s name and Fair Housing logo on both sides of the sign.
- i. A minimum of 1 trash dumpster or compactor enclosed on a minimum of 3 sides is required. The trash dumpster/compactor enclosure must be ADA accessible and have a concrete apron. If the dumpster itself is not accessible, trashcans must be placed within the enclosure for use by handicap tenants. Individual trash receptacle at each home may be provided instead of a single trash dumpster.
- j. Continuous asphalt or concrete paved access road must be provided to the entrance of the development.

- k. All community parking must be asphalt or concrete. An asphalt or concrete paving recommendation letter must be provided with the reservation items by a geotechnical engineer.
- l. All sidewalks and walkways must be concrete and at least 36 inches wide. All public buildings, community building and amenities must be connected to the dwelling units by a sidewalk or walkway on 1 side of the street throughout the development.
- m. All driveways must be concrete.
- n. Mailboxes, playground and all exterior project amenities must be ADA accessible. All exterior project amenities that have exposed components used as part of the structure must be constructed so that no wood is exposed. Concealment shall be with materials such as aluminum or vinyl siding or cementitious materials. Decorative rails and/or guard rail systems used shall be code compliant systems of vinyl, fiberglass or metal. Wood railings are not allowed. Gazebos and picnic shelters shall have table(s) with attached bench seating.
- o. No above ground propane tanks allowed on the site.
- p. All onsite utilities must be underground.
- q. Storm Water retention basins (existing, shared and/or newly constructed) must be located within the property and include fencing around the perimeter with a lockable maintenance gate. The retention area will be maintained and managed in a manner to provide safety to the tenants. Including preventing vermin, insect and reptile infestation, vegetation overgrowth, and must be kept free of all trash and debris.

C. Interior Building and Space Standards:

- 1.) Wall Framing:
Walls may be framed using metal studs in lieu of wood.
- 2.) Insulation Requirements:
 - a. Exterior wall insulation must have an overall R-13 minimum for the entire wall assembly.
 - b. Roof or attic insulation must have an R-38 minimum.
 - c. Vapor retarders must be installed if recommended by project architect.
- 3.) Kitchen spaces:
 - a. 6 1/2-inch deep double bowl stainless steel sink is required in each unit.
 - b. Each unit must be equipped with a 2.5 lb. ABC rated dry chemical fire extinguisher readily accessible in the kitchen and mounted to accommodate handicapped accessible height in accessible units. Each unit must also contain either fire protection canisters above the cooktop surface or temperature limiting plates on the cooktop surface.
 - c. New cabinets must have dual sidetrack drawers and no laminate or

particleboard fronts for doors or drawer fronts. Cabinets shall meet the ANSI/KCMA A161.1 performance and construction standard for kitchen and vanity cabinets. Cabinets shall bear the certification seal of KCMA (Kitchen Cabinet Manufacturers Association).

- d. A pantry closet or pantry cabinet is required in each unit. The pantry must be 1'6" x 1'6" deep with a minimum five shelves, located in or adjacent to the kitchen.
- e. A 4 foot fluorescent light fixture is required.
- f. All appliances must be Energy Star rated.
- g. A grease shield is required behind ranges on the wall.

4.) Bathroom Spaces:

- a. Tub/shower units must have minimum dimensions of 30-inch width by 60-inch length and be equipped with anti-scald valves. Integral wood blocking in walls as per Fair Housing guidelines is required. All tubs in designated handicap accessible units must come complete with "factory-installed grab bars" where the tub surrounds are reinforced. Wood blocking in walls is still required with factory reinforced fiberglass surrounds. If the tub surrounds are not reinforced fiberglass, hard tile or cultured marble or composite materials; solid wood blocking must be installed to meet Fair Housing guidelines.
- b. Water closets must be installed to comply with applicable ANSI, UFAS and Fair Housing accessibility guidelines.
- c. Mirror length must extend to top of vanity backsplash with top of mirror a minimum of 6'-0" above finish floor. Framed decorative mirrors or medicine cabinets with mirrors are allowed with a minimum size of 14" x 24".
- d. Vanity cabinets with drawers or a vanity cabinet without drawers and a linen cabinet with drawers must be installed in all units. All cabinets in designated handicap accessible units must be installed in compliance with applicable ANSI or UFAS guidelines.

5.) Floor Finishes:

- a. Carpet materials must meet FHA minimum standards.
- b. Resilient flooring materials must meet FHA minimum standards.

6.) Other Interior Standards:

- a. Hallways must have a minimum clear width of 36 inches or greater as per applicable accessibility standards.
- b. All interior doors to habitable spaces in unit(s) subject to Fair Housing Guidelines must have a minimum clear width in compliance with the applicable Fair Housing design standards. All interior doors to habitable spaces in designated handicap accessible units must have a minimum width of 36 inches. All interior doors to habitable spaces in all other units

must have a minimum clear width of 30 inches.

- c. Separately switched overhead lighting is required in each room. Energy Star ceiling fans with light kits are required in the living room and each bedroom
- d. Window treatments are required for all windows.
- e. Sliding glass doors are prohibited.
- f. A minimum of two hard-wired with battery back-up smoke detectors is required per unit.
- g. A carbon monoxide detector must be installed in each unit with gas mechanical systems or appliances. Units with an attached garage must also have a carbon monoxide detector installed.

7.) Plumbing and Mechanical Equipment:

- a. Electric water heaters must be high efficiency with a minimum 0.93 Uniform Energy Factor (UEF) for a 30-gallon tank or minimum .92 UEF for a 40-gallon tank.
- b. Gas water heaters must be high efficiency with a minimum 0.60 Uniform Energy Factor (UEF) for a 30-gallon tank or minimum .58 UEF for a 40-gallon tank.
- c. Through-wall HVAC units are not permitted in single-family homes.
- d. CPVC supply piping is not allowed for interior space in-wall or overhead services.
- e. HVAC refrigeration lines must be insulated.
- f. HVAC 14 seer or greater must be used. HVAC equipment must be placed so that their operation does not interfere with the comfort of the adjacent dwellings.

V. Inspections and Reports

AHFA will engage a third-party construction consultant to review the final plans and specifications prior to construction for each approved project to ensure that it meets all applicable requirements of AHFA's Design Quality Standards and Construction Manual. The applicant/Ownership Entity, project architect and general contractor will certify that the project meets the federal Fair Housing Amendments Act, the Americans with Disabilities Act and all additional accessibility requirements at the time of the submittal of the final plans and specifications, the completion of the project and the issuance of the IRS Form 8609. In addition to the plans and specification review, AHFA has the right to inspect the project during the following phases of development:

- A. During construction;
- B. At the completion of construction and
- C. Prior to issuance of the IRS Form 8609.

The applicant will be responsible for the actual cost of work completed by AHFA designated consultants.