Arizona Department *of* Housing

National Housing Trust Fund Rehabilitation Standards

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EQUAL HOUSING OPPORTUNITY

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Introduction

This document is intended to provide the minimum acceptable standards for existing multi-family household dwelling units rehabilitated in whole or in part with National Housing Trust Fund (HTF) program funds in Arizona. These standards are not intended to reduce or exclude the requirements of any local or state building or housing codes, standards or ordinances that may apply. In the event of any conflicting code(s), the more restrictive code(s) will apply.

These standards were designed to assist in achieving consistency throughout the State of Arizona for all rehabilitation activities funded with HTF funds.

These standards provide four (4) major types of information:

1. The identified hazardous and substandard conditions that must be corrected on a property receiving comprehensive housing rehab.
2. The standard that each component of the property must achieve through assistance under the program.
3. The minimum life expectancies for components addressed with the rehab assistance.
4. The methods to be used (additional information on construction methodology is found in the codes, specifications and standards listed below).

All work undertaken must meet or exceed applicable codes and specifications included in the following documents which are incorporated herein by reference:

- Arizona HTF Standard Material Specifications
- National Association of State Contractors Licensing Agencies (NASCLA)
- IFC - International Fire Code
- IRC - International Residential Code
- ASTM - American Standard Testing Material
- NEC - National Electrical Code
- ASHRAE - American Society of Heating, Refrigeration and Air Conditioning Engineers
- Radon Gas Regulations
- Section 504, Rehabilitation Act of 1973
- Fair Housing Amendments Act of 1988
- American with Disabilities Act of 1992
- Fair Housing Accessibility Guideline
- Model Energy Code (MEC) 3 Section 504

- Flood Plain Regulations
- Noise Regulations
- Asbestos Regulations
- Lead-Based Paint Poison Prevention Act
- High Pressure Gas Regulations
- PCB Regulations
- NFPA - National Fire Protection Association
- Wet Land Regulations
- Uniform Federal Accessibility Standards
- American National Standards Institute

All work must obtain a permit, associated inspections and approvals from the local jurisdiction.

A. General Features

I. Capital Needs Assessment

a) A Capital Needs Assessment ("CNA") is required for each Project.

b) All areas of the proposed project must be inspected to develop a work write up that will result in the project meeting these minimum standard after rehabilitation. These standards are minimum standards which each rehabilitation project must meet upon completion of construction.

These standards also assume the CNA will take into account any extraordinary circumstances of the prospective occupants of the dwelling (i.e. physical, sensory, developmental disabilities) and reflect a means to address such circumstances in their inspection and in the preparation of a work write-up/project specifications for that dwelling.

The purpose of these standards is to ensure those who are assisted are provided housing that is safe, decent and affordable that meets the requirements of 24 CFR Part 93.

c) All rooms, service porches, exterior areas, accessory buildings, crawl spaces and attic spaces must be included in all inspections.

d) Applications for projects with existing tenants must be supported by a relocation plan. The relocation plan must comply with the Uniform Relocation Assistance Act, 42 U.S.C. § 4621, et seq. The relocation plan must detail the actual dates that required notices are anticipated to be issued. The project budget and the relocation plan must both include an estimate of all associated relocation costs including, but not limited to, temporary relocation, permanent

relocation and replacement housing payments.

e) The CNA report must be prepared by a qualified professional (architect or engineer) who has no financial interest in the project and no identity of interest with the developer. For purposes of this document, a "qualified professional" is a licensed professional architect or engineer, who can substantiate a minimum of five (5) years' experience providing CNA reports in accordance with ADOH standards and who performs the assessment and supplies ADOH with their professional opinion of the property's current overall physical condition. The CNA must include the identification of significant deferred maintenance, existing deficiencies, and material building code violations that affect the property's use and its structural or mechanical integrity. Furthermore, the CNA must examine and analyze the following building components:

   1. Site, including topography, drainage, pavement, curbing, sidewalks, parking, landscaping, amenities, water, storm drainage, gas and electric utilities and lines.
   2. Structural systems, both substructure and superstructure, including exterior walls and balconies, exterior doors and windows, roofing system and drainage.
   3. Interiors, including unit and common area finishes (carpeting, vinyl tile, interior walls, paint condition, etc.), unit kitchen finishes and appliances, unit bathroom finishes and fixtures and common area lobbies and corridors.
   4. Mechanical systems, including plumbing and domestic hot water, HVAC, electrical and fire protection.
   5. Elevators (if applicable).
   6. Provide building life cycle study that lists each building component, the base cost and opinions of probable cost immediately (critical repair item), within two (2) years and within ten (10) years, along with an analysis of the reserves for replacement needed to fund long-term physical needs of the project, accounting for inflation, the existing reserves for replacement balance and the expected useful life of major building systems.
   7. Provide written cost estimates in order that the PJ may and determine that costs are reasonable.

f) The CNA must also include the following major parts:

   1. The assessment must address health and safety issues identifying life-threatening deficiencies and must address major systems including structural support, roofing, cladding and weatherproofing (i.e. windows, doors, siding, gutters), plumbing, electrical and heating, ventilation and air conditioning. The assessment must provide an estimate (based on age and condition) of the remaining useful life of these systems, upon project completion of each major system.

2. The assessment will consider the presence of environmental hazards such as asbestos, lead paint and mold on the site. The assessment will include an opinion as to the proposed budget for recommended improvements and should identify critical building systems or components that have reached or exceeded their expected useful lives. If the remaining useful life of any component is less than fifty percent (50%) of the expected useful life, immediate rehabilitation will be required unless capitalized. If the remaining useful life of a component is less than the term of the HTF loan, the application package must provide for a practical way to finance the future replacement of the component. The assessment will examine and analyze the following:

    i. site including topography, drainage, pavement, curbing, sidewalks, parking, landscaping, amenities, water, sewer, storm drainage and gas and electric utilities and lines;

    ii. structural systems, both substructure and superstructure, including exterior walls and balconies, exterior doors and windows, roofing system and drainage, interiors including unit and common area finishes (carpeting, tile, plaster walls, paint).

3. Repairs, replacements and significant deferred and other maintenance items that need to be addressed within twenty-four (24) months of the date of the CNA. Include any necessary redesign of the project and market amenities needed to restore the property to these standards. Repairs and replacements beyond the first two (2) years that are required to maintain the project's physical integrity over the next twenty (20) years, such as major structural systems.

g) The professional preparing the CNA report must:

1. Conduct site inspections on all units.

2. Identify any physical deficiencies as a result of:

    i. visual survey;

    ii. review of pertinent documentation; and

    iii. interviews with the property owner as of the date of the CNA, management staff, tenants, community groups and government officials.

3. Identify physical deficiencies, including critical repair items, two (2) year physical needs and long-term physical needs. These must include repair items that represent an immediate threat to health and safety and all other significant defects, deficiencies, items of deferred maintenance and material building code violations that would limit the expected useful life of major components or systems.

4. Explain how the project will meet the requirements for accessibility to persons with

disabilities. Identify the physical obstacles and describe methods to make the project more accessible and list needed repair items in the rehabilitation plan.

5. Prepare a rehabilitation plan, addressing separately all two (2) year and long-term physical needs.
6. Conduct a cost/benefit analysis of each significant work item in the rehabilitation plan (items greater than $5,000) that represents an improvement or upgrade that will result in reduced operating expenses (i.e. individual utility metering, extra insulation, thermo-pane windows, setback thermostats). Compare the cost of the item with the long-term impact on rent and expenses, taking into account the remaining useful life of building systems.
7. The assessment must include a site visit and physical inspection of the interior and exterior of the units and structures, as well as an interview with available on-site property management and maintenance personnel, to inquire about past repairs/ improvements and an examination of invoices, contracts or work orders relating to the repairs/improvements over the last twenty-four (24) months, pending repairs and existing or chronic physical deficiencies. Any information from the interview must be included in the CNA. The assessment must also consider the presence of hazardous materials on the site.

II. Work Specifications and Scope of Repairs

a) Work specifications should include enough detail to specify each item to be repaired, the quantity of materials to be used and the exact location of each repair.

b) Repairs needed to correct basic safety, durability, mechanical and efficiency deficiencies.

III. Materials

a) All materials used must meet Arizona HTF Standard Material Specifications. All work must be done with skilled craftsmen and accomplished with care.

IV. Completion of Work

Upon completion of construction, the contractor will:

a) Remove all construction debris from the site.

b) Clean all floors impacted by the work.

c) Clean all new and existing paint from other finished surfaces including window glass and mirrors.

d) Leave all newly installed items in operating condition.

e) Light gas water heater pilots, stove/oven pilots and gas heater pilots, if impacted by scope of

work.

f) Start all other electrical and mechanical systems.

g) Put all hardware in operating condition.

h) Deliver new keys to homeowners for any newly installed hardware.

B. Site

I. Minimum Site Standards

a) The lot or defined site must be free of debris, garbage or other accumulations of site stored items that create possibilities of infestations. The site should be generally level, well drained and accessible.

b) All exterior property and premises must be maintained in a clean, safe and sanitary condition.

c) Replacement landscaping and grading must direct water away from structures and will be of native and drought resistant.

d) Fencing and gates must not be damaged, missing sections or have holes per UPCS.

e) Grounds must be erosion and rut free, not overgrown or penetrating vegetation and have functional ponding and site drainage per UPCS.

II. Hazardous and Substandard Conditions Requiring Correction

a) Hazardous and substandard conditions include any condition that threatens the health and or safety of the occupants. Substandard conditions include any condition that threatens, defeats or will lead to the lack of functional viability of a single feature of a home. These conditions must include but not be limited to:

1. Accumulated debris, waste or garbage, either in enclosed areas such as storage buildings or in yard areas.

2. Environmental conditions such as flooding, mudslides, abnormal air pollution, smoke or dust, gas smells, sewer odor.

3. Eroding soil and accumulation of stagnant water.

4. Excessive noise, vibration or vehicular traffic;

5. Excessive accumulations of trash;

6. Excessive weeds or plant growth.

7. Fire hazards.

8. Deteriorated and/or irreparable outbuildings, sheds, wells, privies or other structures

that are no longer in use or are made unusable by their condition;

9. Holes, ditches, exposed meter boxes or other conditions that create a tripping hazard, excluding drainage ditches that are part of a designed drainage system;
10. Rodents, insects or other infestations;
11. Grading that directs water toward any structure.
12. Sewer odor.
13. Standing water or depressions that hold water during wet weather, leaking water supply, septic tank back-ups, percolating or leaking sewage.
14. Exposed pipes, railings or other installations creating tripping hazards.
15. Damaged, missing or deteriorated walkways, steps and decks that create tripping hazards or are otherwise unsafe.
16. Stairways or steps with four (4) or more risers and without a functional handrail. Stairways, decks, porches, balconies and all appurtenances without proper anchorage or capable of supporting the imposed loads.
17. Handrails and guards in poor condition or not properly fastened or capable of supporting normally imposed loads.

C. Improvements to Accessory Structures

I. Minimum Improvements Standards

a) Paving and Walks

1. All walkways and decks should be continuous and usable, free from tripping hazards or other defects. Badly deteriorated, essential paving, such as front sidewalks, will be repaired to match. Non-essential deteriorated paving such as sidewalks that are unnecessary, may be removed and appropriately landscaped.
2. Walkways that include four (4) or more risers should include appropriate handrail and decks more than thirty (30) inches high should include appropriate guardrail.
3. Repairs to walkways must have a life expectancy of a minimum of five (5) years.

b) Outbuildings

1. Unsafe and blighted structures, including sheds, garages and barns, may be repaired or removed.
2. Discovered lead hazards must be controlled.
3. Repairs to outbuildings must have a life expectancy of a minimum of one (1) year.

c) Fencing

1. Deteriorated fencing may be repaired, replaced or removed. If required to limit access by children, pets or dangerous neighborhood conditions, removal will not be an option.
2. Repairs to fencing must have a life expectancy of a minimum of three (3) years. Replacement fencing must have a life expectancy of minimum of ten (10) years.

d) Porches, Decks and Required Railings

1. Steps, stairways and porch decks will be structurally sound, reasonably level with smooth and even surfaces.
2. Handrails will be present on one (1) side of all interior and exterior steps or stairways with more than four (4) risers and guardrails will be present around porches or platforms over thirty (30) inches above ground level.
3. Unsafe or unsightly porches will be repaired. Porch repairs will be structurally sound with smooth and even decking surfaces.
4. Repairs to steps, decks and railing must have a life expectancy of a minimum of five (5) years. Replacement steps and decks must have a life expectancy of a minimum of twenty (20) years. Replacement railings, repair or replacement porches must have a life expectancy of a minimum of ten (10) years.

II. Hazardous and Substandard Conditions Requiring Correction

a) Must include conditions that threaten the health and or safety of the occupants.

b) Tripping hazards in primary walkways or decks caused by upheaval, broken or damaged wood or concrete or other condition creating a hazard.

c) Any condition not mentioned that meets the definition of a hazardous or substandard condition should be repaired and/or rehabilitated to meet applicable standards.

D. Extermination

I. Minimum Extermination Standards

a) All structures in which insects or rodents are found shall be promptly exterminated by approved processes that will not be injurious to human health. After extermination, proper precautions shall be taken to prevent re-infestation.

II. Hazardous and Substandard Conditions Requiring Correction

a) Must include conditions that threaten the health and or safety of the occupants. These conditions include but are not be limited to:

1. Infestations of pest, wood destroying insects or vermin.

2. Untreated wood having direct ground contact and used for structural purposes.
3. Cluttered debris or stored materials suitable for rodent or insect habitat.

b) Other conditions not mentioned here that meets the definition of a hazardous or substandard condition if noted by the rehab inspector.

E. Space and Use

I. Minimum Space and Use Standards

a) The dwelling unit must have a living room, a kitchen area and a bathroom.

b) Dwelling units shall not be occupied by more occupants than permitted under the local jurisdiction's minimum area requirements for occupancy.

c) In order to be considered habitable rooms requirements outlined in Items II through VII below must be met.

II. Minimum Standards for Ceilings

a) Habitable spaces including hallways, corridors, laundry areas, bathrooms, toilet rooms and habitable basements must have a ceiling height of not less than seven (7) feet with the following exceptions:

1. Where beams or girders are spaced not less than four (4) feet on center and project not more than six (6) inches below the required ceiling height.
2. Basement rooms occupied exclusively for laundry, study or playroom purposes, having a ceiling height of not less than six (6) feet eight (8) inches, with not less than six (6) feet four (4) inches of clear height under beams, girders, ducts and similar obstructions.
3. Rooms occupied exclusively for sleeping, study or similar purposes and having a sloped ceiling over all or part of the room, with a clear ceiling height of at least seven (7) feet over not less than one third (1/3) of the required minimum floor area. In calculating the floor area of such rooms, only those portions of the floor area with a clear ceiling height of five (5) feet or more shall be included.

III. Minimum Room Widths

a) Habitable rooms, other than kitchens, shall not be less than seven (7) feet wide in any plan dimension.

IV. Minimum Standards for Kitchens

a) Kitchens shall have a minimum floor area of fifty (50) square feet and shall provide clear passageways of not less than three (3) feet between counter fronts, counter fronts and appliances or counter fronts and walls.

b) All kitchens must have a working refrigerator, cook-top and oven. All equipment must be in proper operating condition.

c) The kitchen must have a sink in proper operating condition, with a sink trap and hot and cold running water connected, to an approvable water supply system and an approvable public or private sewer disposal system.

d) There must be facilities and services for the sanitary disposal of food waste and refuse, including temporary storage facilities where necessary (i.e. garbage cans).

V. Minimum Standards for Bathrooms

a) The bathroom must be located in a separate private room with lockable door(s).

b) The bathroom must have a fixed basin in proper operating condition, with a sink trap and hot and cold running water. The kitchen sink cannot be used as the required lavatory/basin.

c) The bathroom must have a tub/shower in proper operating condition with hot and cold running water.

d) A flush toilet in proper operating condition is required.

e) The bathtub and/or shower may be in the same room as the flush toilet/water closet and lavatory/basin or said bathtub and/or shower may be in a separate room. The facilities must utilize an approvable water supply system and an approvable waste water disposal system.

VI. Minimum Standards for Bedrooms

a) Every bedroom shall comply with the local government minimum size requirements for bedrooms. One (1) person occupancy shall contain at least seventy (70) square feet of floor area. Two (2) or more person occupancy shall contain at least forty (40) square feet of floor area per occupant.

b) Every bedroom shall have access to at least one (1) water closet and one (1) lavatory without passing through another bedroom. Every bedroom in a dwelling unit shall have access to at least one (1) water closet and lavatory located within one (1) story (floor) from the story in which the bedroom is located.

c) Bedrooms must not constitute the only means of access to other bedrooms or habitable spaces and shall not serve as the only means of egress from other habitable spaces, except when the unit contains fewer than two (2) bedrooms.

VII. Minimum Standards for Living Rooms

a) Living rooms for three (3) to five (5) persons shall have a minimum area of 120 square feet and those holding in excess of six (6) persons shall have a minimum area of 150 square feet.

VIII. Hazardous and Substandard Conditions Requiring Correction

a) Must include any condition that threatens the health and or safety of the occupants. Substandard conditions include any condition that threatens, defeats or will lead to the lack of functional viability of a single feature of a home. These conditions must include but not be limited to:

1. Lack of adequate food storage, food preparation area, refrigeration or cooking facilities.
2. Spaces that are so small as to be unusable or inadequate for their intended purpose.
3. Any other condition not mentioned above that meets the definition of a hazardous or substandard condition as noted by the rehab inspector.

F. Foundations

I. Minimum Foundation Standards

a) All foundation walls shall be maintained plumb and free from open cracks and breaks and shall be kept in such condition so as to prevent the entry of rodents.

b) All newly installed foundations should be designed and constructed in accordance with the currently adopted Residential Building Code.

c) Repairs to the foundation must have a life expectancy of a minimum of twenty (20) years.

II. Hazards and Substandard Conditions Requiring Correction

a) Hazardous conditions include any condition that threatens the health and or safety of the occupants. These conditions should include but not be limited to:

1. Termite or other wood destroying insect damage to structural members.
2. Water damage or dry rot to structural members.
3. Broken, fire damaged or otherwise compromised beams, joist or sills.
4. Unsupported beams or sills that have inadequate support.
5. Water draining and/or pooling under foundation area.
6. Ground contact of untreated wooden structure.
7. Severe slab cracks that create or threaten structural or other systems.

b) Any other condition not mentioned above that meets the definition of a hazardous or substandard condition as noted by the rehab inspector.

G. Floors

I. Minimum Floor System Standards

a) All flooring must not have any serious defects such as severe bulging or leaning, large holes, loose surface materials, severe buckling, missing parts or other serious damage.

b) All sub-floors should be solid and continuous, without liberal movement or bounce, free from rot and deterioration.

c) All flooring must be free from tripping hazards with a minimum of seams spaced at logical locations, such as doorways and matched to the existing floor.

d) All flooring must be sealed and/or tight at the edges.

e) Bathroom and kitchen floors shall be covered with water resistant flooring. Damaged wood floors will be repaired.

f) Basement floors should be continuous concrete. If not, certain appliances located in this area will be properly elevated above grade with concrete blocks.

g) Repairs to flooring must have a life expectancy of a minimum of three (3) years. Replacement flooring must have a life expectancy of a minimum of six (6) years, if properly maintained.

II. Hazardous and Substandard Conditions Requiring Correction

a) Hazardous conditions must include any condition that threatens the health and or safety of the occupants. These conditions should include but not be limited to:

1. Damaged, rotted or deteriorated sub-floor surfaces.
2. Torn, missing, worn, burned or otherwise damaged floor coverings that create a tripping hazard or unsanitary condition.
3. Missing base board, shoe mold or sealant that creates an unsanitary condition.

b) Any other condition not mentioned which meets the definition of a hazardous or substandard condition should be repaired and/or rehabilitated to meet applicable standards.

H. Walls

I. Minimum Wall System Standards

a) Repair and replacement standards:

1. Repairs to structural walls must have a life expectancy of a minimum of fifteen (15) years.
2. Repairs to interior walls must have a life expectancy of a minimum five (5) years. Replacement interior walls must have a life expectancy of a minimum of ten (10) years.
3. Repairs to exterior surfaces must have a life expectancy of a minimum of ten (10) years. Replacement exterior surfaces must have a life expectancy of a minimum of twenty (20) years.
4. Repairs to firewalls must have a life expectancy of a minimum five (5) years.

Replacement firewalls must have a life expectancy of a minimum of ten (10) years.

b) All walls including doors and windows should be maintained plumb in good, sanitary condition and free from any serious defects such as severe bulging or leaning, holes, cracks, breaks, loose surface materials, severe buckling, missing parts, rotting materials, chipped, cracked or peeling paint, falling plaster or other serious damage.

c) Exterior wall surfaces should be free from chipped, cracking or peeling paint. All such loose paint should be properly prepared, primed, properly painted and maintained weatherproof and properly surface coated where required to prevent deterioration,

d) Exterior siding should be free from gaps, buckling, cracks, rot, termite damage and holes. All gaps, seams and laps should be properly sealed. All rotted, fire or termite damaged materials should be removed and replaced.

e) Interior wall surfaces, including doors and windows, shall be maintained in good, sanitary condition and free from chipping, cracking or peeling paint with no loose, cracked or falling plaster. All such loose paint should be completely removed and bare wood surfaces primed. All primed surfaces should be properly painted.

f) Interior walls should be plumb.

g) When frame walls and floors adjoining other dwellings are gutted, new wall finish installations will conform to local codes for fire ratings.

II. Hazardous and Substandard Conditions Requiring Correction

a) Hazardous conditions should include any condition that threatens the health and/or safety of the occupants. These conditions should include but not be limited to:

1. Termite or other wood destroying insect damage.
2. Water damage or dry rot of siding, trim and/or structural members.
3. Broken, fire damaged or otherwise compromised siding, trim and/or structural members.
4. Water incursion through wall structure resulting in drywall damage.
5. Holes, cracks or gaps in interior or exterior wall structures.
6. Exposed nails, popped seams or other defects not representative of normal wear and tear.
7. Cracked, peeling or chipped paint. Exposed unpainted or untreated wood, drywall or other wall surface.

b) Any other condition not mentioned above which meets the definition of a hazardous or substandard condition as noted by rehab inspector.

I. Roofs

I. Minimum Roof Systems Standards

a) The roof and flashing must be structurally sound and weather tight.

b) Missing and leaking shingles and flashing shall be repaired on otherwise functional roofs.

c) Roof surfaces should be free from defects. No indication of excessive wear or potential failure will be acceptable.

d) Roof drainage must be adequate to prevent dampness or deterioration in the walls and interior portion of the structure.

e) Roof drains, gutters and downspouts must be in good repair and free from obstructions. Roof water discharge shall not be directed toward foundations.

f) Roofing materials should be applied in accordance with the manufacturer's instructions and prevailing Residential Code.

g) All rotted or damaged roof sheathing must be removed and replaced.

h) All replaced sheathing must be of compatible thickness with the existing sheathing, thus making the roof sub-surface smooth and free from defects.

i) Repairs must have a life expectancy of a minimum of five (5) years and replacements must have a life expectancy of a minimum of twenty-five (25) years. Replacements to flat and low sloping roofing must have a life expectancy of a minimum of ten (10) years.

II. Hazardous and Substandard Conditions Requiring Correction

a) Hazardous conditions should include any condition that threatens the health and/or safety of the occupants. These conditions must include but not be limited to:

1. Water damage caused by water leaking through the roofing materials.
2. Missing, worn or upturned shingles or other visible wear on the exterior of the roof envelope.
3. Damaged or rusting roof jacks, leads, flashings, drip edges or other component.
4. Structural damage evidenced by buckling, sagging or broken members.
5. Delamination of materials, uplifted edges or other failure of materials or application.
6. Any condition, including normal wear which, in the best judgment of the inspector, would lead to the failure of the roof envelope within five (5) years.

b) Any other condition not mentioned above which meets the definition of a hazardous or substandard condition as noted by the rehab inspector.

J. Windows and Doors

I. Minimum Window and Door Standards

a) Every window, exterior door and basement or cellar hatchway must be substantially tight, water and rodent proof and be kept in a state of maintenance and repair.

b) All exterior doors to the outside or to a common public hall must be solid core and be equipped with adequate security locks. All windows accessible from ground level must be lockable.

c) Every window sash must be:

1. Sealed at window panes with an adequate amount of putty. Putty must not be cracked, broken or missing.

2. In good condition and must fit tightly within its frame.

3. Must be capable of being easily opened and shut with appropriate window hardware unless it is a fixed window.

d) Every exterior and interior door, when closed, must fit tightly within its frame.

e) Every exterior and interior door, door hinge and door latch and/or lock must be maintained in good working condition.

f) Every exterior window, door and frame must be constructed and maintained in such a manner as to be weather tight with adequate weather stripping. All glazing must be free from cracks or breaks.

g) Every basement or cellar hatchway must be constructed and maintained as to prevent the entrance of rodents, vermin, rain and surface drainage water into the dwelling or structure.

h) Habitable rooms shall have an aggregate glazing area of not less than seven percent (7%) of the floor area of such rooms. Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be four percent (4%) of the floor area being ventilated. The following exceptions apply:

1. Glazed areas need not be openable where an approved mechanical ventilation system is provided.

2. Glazed areas need not be installed where the requirement for natural light capable of producing an average illumination of six (6) foot candles over the area of the room at a height of thirty (30) inches above the floor is provided.

i) A kitchen and or bathroom may pass without a window area provided there is a mechanical

means of ventilation which is maintained in working order.

j) The requirements for emergency egress from sleeping rooms must be per the current applicable residential building code.

k) Every window or other opening to outdoor space which is used or intended to be used for ventilation must likewise be supplied with screens covering all of the window areas required for ventilation. The material used for all such screens (doors and windows) must be not less than sixteen (16) mesh per twenty-five (25) mm and must be properly installed, maintained and repaired to prevent the entrance of flies, mosquitoes or other insects. Half screens on windows may be allowed provided they are properly installed and are bug and insect tight.

l) Replacement of doors (both interior and exterior) and windows must have a life expectancy of a minimum of ten (10) years.

II. Hazardous and Substandard Conditions Requiring Correction

a) Hazardous conditions must include any condition that threatens the health and or safety of the occupants. These conditions must include but not be limited to:

1. Broken, missing or cracked glass.
2. Rotten or deteriorated sills, frames or trim.
3. Dried, cracked or missing putty or gasket. Any missing seal or sealant resulting in loose panes or air leaks.
4. Sealed or blocked windows that are considered the secondary means of egress including windows which have been painted shut, windows which are not operational or windows which will not function as a viable fire exit such as windows with burglar bars which cannot be opened readily from the inside.
5. Windows that do not lock or locks that do not function with ease.
6. Any door that is broken, deteriorated or otherwise damaged so that it does not provide a sealed entry.
7. Any doors which does not shut neatly in order to provide a seal with the passage set or lock set fitting neatly within the strike plate.
8. Any exterior door which is not solid core, sealed or painted and which does not have a functioning lockable dead-bolt.
9. Rotted, deteriorated or broken thresholds, jambs, frames, trim or other functioning or passive pieces to the door system warrant replacement.
10. For new construction including reconstruction, windows and/or doors that fail to meet

the requirements of all applicable codes.

b) Any other condition not mentioned which meets the definition of a hazardous or substandard condition as noted by the rehab inspector.

K. Electrical

I. Minimum Electrical Standards

a) The minimum electrical service for each dwelling and/or dwelling unit must be one-hundred (100) amps or based upon a load calculation, whichever is greater.

b) All wiring in the project must be three (3) wire grounded.

c) Service should be of a three (3) wire type grounded with service entry on an approved weather head at least twelve (12) feet from grade and may not extend beyond three (3) feet unsupported above the roof.

d) Ground Fault Circuit Interruption

1. Ground fault circuit interrupters shall be installed in all bathrooms. GFCI's shall be installed where required in kitchens, bathrooms, garages/carports, and exterior outlets.

2. Receptacles located at counter top level within 6 feet of the kitchen sink shall have ground fault interrupter protection.

3. Each habitable structure with sleeping quarters shall have a smoke alarm system installed in accordance with local code.

e) All exposed wiring, service lines and feeders must be protected and properly shielded in approved conduit in locations subject to damage.

f) All outlets must be of the grounded type, tamper resistant and spaced a maximum of twelve (12) feet apart. Temporary wiring, extension or zip cords must not be used as permanent wiring.

g) Every habitable room must have at least one (1) ceiling or wall type electric light fixture, controlled by a wall switch or a wall type grounded electric convenience outlet controlled by a wall switch.

h) Every toilet room, bathroom, laundry, furnace room must contain at least one (1) ceiling or wall type electric light fixture controlled by a wall switch.

i) All common halls and stairways connected to living spaces must be well lighted with a fixture controlled by a switch located at the ends of the hall or stairway. The fixture shall contain at least a sixty (60) watt standard incandescent light bulb or equivalent and be spaced a maximum of thirty (30) feet apart for each 200 square feet of floor area.

j) New kitchen electrical work must be wired to meet the requirements of the NEC based on

the size and layout of each individual kitchen.

k) All electric stoves and electric dryers must be supplied with its own proper outlets on dedicated circuits, as applicable.

l) Receptacle convenience outlets installed in or on open porches, breezeways, garages, etc. must be a functioning GFCI protected receptacle with approved covers.

m) Boxes for lights controlled by a pull string must be secured to framing members or otherwise properly supported.

n) All electric lighting fixtures installed on the exterior must be of the type approved for exterior use.

o) All broken and/or missing switch plates and/or receptacle plates must be replaced.

p) All outlets and fixtures must be in accordance with the electrical code of the city and/or the NEC, as applicable. Outlets and fixtures must be properly installed, maintained in working condition and properly connected to the approved source of electric power.

q) All work done must have an approved permit and inspected and approved by the city's electrical inspector.

r) Life expectancy standards are addressed by the proper application of sections n and o.

II. Hazardous and Substandard Conditions Requiring Correction.

a) Hazardous conditions must include any condition that threatens the health and or safety of the occupants. These conditions must include but not be limited to:

1. Equipment or wiring which is missing, broken, disconnected, loosely connected, burnt, unsupported, corroded, cracked, split, has evidence of overheating, physical damage or misuse.
2. Device or equipment is dirty, full of debris, infested etc.
3. Frayed wiring is present.
4. Unshielded, knob and tube wiring is present.
5. Circuit breaker, switch, receptacle, fixed equipment, wiring or cable is not compatible with the phase, voltage, amperage or other characteristics of the electricity in use.
6. Improper operation of fixed equipment, switches, outlets or other devices or equipment that may overload existing circuitry (i.e. temporary heaters).
7. Flexible cord is used as a permanent wiring method.
8. Interior wiring is surface mounted and not in conduit or raceway. This excludes crawl spaces and other allowable installations where access to wiring is limited.

9. Exterior wiring, which is exposed to damp conditions, sunlight or potential damage and is not in approved conduit.
10. Bathroom and kitchen receptacles located along counter tops, garage receptacles or other outdoor receptacles that are not protected by a ground fault interrupting device.
11. Polarity is reversed in connections or receptacles.
12. Branch circuits, feeder lines, cable size, device rating, circuit breakers, sub-panels or service panels are inadequate for the load as calculated by the current NEC.
13. Circuits that have been expanded past their original design limits.

b) Any other condition not mentioned which meets the definition of a hazardous or substandard condition as noted by the rehab inspector.

L. Lighting

I. Minimum Lighting Systems Standards

a) At least one (1) overhead or other switch operated light or switch operated receptacle must be installed in each interior room.

b) All exterior doorways will be well lit and either switched at the interior side of the door or the light will be controlled by an automated means (i.e. photo electric cell or motion detector).

II. Hazardous and Substandard Conditions Requiring Correction

a) Hazardous conditions should include any condition that threatens the health and or safety of the occupants. These conditions should include but not be limited to:

1. Missing or non-functional overhead or other switch operated lighting in each interior room.
2. Missing or non-functional lighting at each exterior door. Such lighting must be operated by an interior switch that is within reach of the door.

b) Any other condition not mentioned which meets the definition of a hazardous or substandard condition as noted by the rehab inspector.

M. Water Supply and Wastewater Systems

I. Minimum Water Supply and Wastewater Systems Standards

a) A potable water supply system shall be installed so as to prevent contamination into the potable water supply. Every dwelling unit must have an accessible and properly functioning main shut-off valve with a provision for discharge near the water service entrance point.

b) Supply lines and fittings for every plumbing fixture shall be installed to prevent backflow. All galvanized piping is to be replaced. A backflow preventer shall be provided in accordance with Chapter 24 or the current Residential Building Code for One (1) and Two (2) Family Dwellings.

c) All deteriorated, blocked, inoperable or leaky equipment shall be repaired or replaced.

d) Every dwelling unit must contain a bathtub and/or shower that is properly connected to both hot and cold running water lines under pressure and must be maintained in working order. Faucets, shut off valves and plumbing lines should be maintained free from leaks or drips and should be capable of shutting off completely. New tub and shower valves must have balanced pressure/thermostatic valves.

e) The following shut off valves will be installed when a fixture is replaced:

1. One (1) owner's shut off at the meter or supply source.
2. One (1) shut off at each toilet.
3. One (1) shut off each for hot and cold water at each sink/lavatory.
4. One (1) supply side shut off at each water heater.

f) Repair and replacement standards:

1. Replacement showerheads will have maximum flow ratings of two point five (2.5) GPM at eighty (80) PSI and faucets will have maximum flow ratings of two point two (2.2) GPM at sixty (60) PSI.
2. Replacement toilets will have one point six (1.6) GPFC maximum rating.
3. Existing drain, waste and vent lines and repairs must be inspected for durable condition; replacements must have a life expectancy of a minimum of twenty (20) years.
4. Other existing plumbing equipment and fixtures and repairs must be inspected for durable condition. Replacement fixtures must have a life expectancy of a minimum of twenty (20) years.

II. Hazardous and Substandard Conditions Requiring Correction

a) Hazardous conditions must include any condition that threatens the health and or safety of the occupants. These conditions should include but not be limited to:

1. Lack of a continuous sanitary water supply. Where ground wells are/have been in use, this source should be approved for drinking or a secondary source of drinking water should be available.
2. Lack of connection to a continuously functioning sanitary wastewater disposal system.

3. Missing, non-functional or non-existent sanitary facilities including a functioning toilet. The lack of at least one (1) sink and or lavatory for hygiene and at least one (1) sink for kitchen purposes, each providing a continuous flow of both hot and cold water. The lack of at least one (1) functional bathing facility.
4. Deteriorated, rotted, broken or otherwise worn water supply or waste water pipes.
5. Evident leaks either continuous or intermittent of either wastewater or water supply lines. This includes evidence of pooling underground of water mains, sewer feeds or septic drain fields.
6. Missing or blocked vent pipes.
7. The lack of fully functioning faucets at each sink/lavatory, bathtub/shower.
8. Any other condition not mentioned which meets the definition of a hazardous or substandard condition as noted by rehab inspector.

N. Mechanical Systems

I. Minimum Mechanical Systems Standards

a) Each dwelling must be supplied with a functioning heating and cooling system.

b) Heating unit must be AC: 14 SEER, Heat Pump: 14 SEER and 8 HSPF. Combustion furnace: eighty percent (80%) AFUE in IECC Climate Zones 1 and 2; ninety percent (90%) AFUE in IECC Climate Zones 3 and higher. Size heating and cooling equipment in accordance with the Air Conditioning Contractors of America Manual, Parts J and S, ASHRAE handbooks or equivalent software. Electric resistance heating can be used only if the owner documents, in accordance with IECC Section R405 Simulated Performance Alternative approach that the utility costs for the structure are equal to or less than the IECC standards design of like architectural characteristics. The analysis will be completed utilizing a combustion furnace for the standard design with an efficiency value of eighty percent (80%) AFUE.

c) Air Distribution Systems. All joints in the air distribution system shall be sealed with duct mastic or approved equivalent to comply with IBC, IRC or IMC. For duct systems located outside the conditioned envelope, leakage to outdoors shall be less than or equal to two (2) CFM per one-hundred (100) square feet of conditioned floor area (CFA) or a total leakage less than or equal to four (4) CFM per one-hundred (100) square feet of CFA when tested at a pressure differential of twenty-five (25) Pa across the entire system, including the manufacturer's air handler enclosure. If the air handler is not installed, leakage to outdoors shall be less than or equal to one (1) CFM per one-hundred (100) square feet of CFA or a total leakage less than or equal to three (3) CFM per one-hundred (100) square feet of CFA. If the entire system, including the manufacturer's air handler enclosure, is located entirely within the building thermal envelope, duct leakage testing is not required. Airflow to each

room will match design airflow calculations to within +/- ten percent (10%).

d) Room Pressure. Under normal operating conditions, an air handler cannot create a differential pressure greater than +/- three point zero (3.0) Pascals between room and any area outside the room, anywhere in the unit.

e) Inoperative, hazardous or inefficient (less than sixty percent (60%) AFUE) heating systems shall be replaced to perform at least at eighty percent (80%) efficiency.

f) Replacement gas and oil fired systems shall be rated at eighty percent (80%) AFUE or better. Heat pumps shall be rated at fourteen (14) SEER or better.

g) Ductwork and radiator piping shall be well supported, insulated in unconditioned space and adequate to maintain the standard lay out in section B.

h) The central heating unit must be safe and in good working condition.

i) Every heat duct, steam pipe and hot water pipe must be free of leaks and must function so an adequate amount of heat is delivered where intended.

j) Every seal between any of the sections of a hot air furnace must be airtight so noxious gases and fumes will not escape into the heat ducts. Flue liners must meet or exceed the requirements of the local building/heating code and must be installed according to same.

k) All combustion appliances will be provided directly with adequate air for combustion and all such appliances with air or water distribution systems will be sealed off so there is no potential exchange of combustion or exhaust gases.

l) Every supplied space heater must comply with all of the following requirements:

   1. No space heater burning solid, liquid or gaseous fuels may be of a portable type.

   2. Every space heater burning solid, liquid or gaseous fuels must be properly vented to a chimney or duct leading to outdoor space and must be so installed as to provide proper draft (except when a functioning ODS system and a CO testing device is installed).

m) Unsound chimneys shall be repaired or removed. When chimneys are to be used for combustion ventilation, they shall be lined as required for the fuel used. Unused chimneys will be secured to prevent drafts.

n) Unvented freestanding space heaters must be removed.

o) All "T" valves must be replaced with approved shut off valves.

p) All mechanical work must be inspected and approved by the city's local mechanical/heating inspector.

q) Existing heating and distribution systems must be inspected for durable condition and repairs must have a life expectancy of a minimum of five (5) years; replacements must have

a life expectancy of a minimum of ten (10) years. Repairs to chimneys must have a life expectancy of a minimum of fifteen (15) years; replacements must have a life expectancy of twenty (20) years.

II. Hazardous and Substandard Conditions Requiring Correction

a) Hazardous conditions must include any condition that threatens the health and or safety of the occupants. These conditions should include but not be limited to:

1. The lack of a steady and dependable heating and cooling system which will be able to provide adequate heat as defined in this section.
2. Open flame gas or propane heaters, which exhaust fumes to the interior, must be removed.
3. Leaking, damaged or inadequate heat exchange units or venting systems which create the danger of CO build up.
4. Leaking, corroded or damaged gas supply lines.
5. The lack of a functioning supply shut off valve for each gas or oil fired devices.
6. The lack of a functional pilot light or electric start for each gas or oil fired device.
7. Free standing heaters used for sole source of heat.

O. Water Heaters

I. Minimum Water Heater Standards

a) Water heating facilities shall: be properly installed in accordance with manufacturer's installation and the requirements of the current residential code, be maintained and capable of providing an adequate amount of water to be drawn at every required sink, lavatory, bathtub, shower and laundry facility at a temperature of not less than 110 degrees Fahrenheit. A gas fired water heater shall not be located in any sleeping room, bathroom, toilet room, storage closet or space that is open to other such rooms unless allowed by Chapter 24, Section G2406 of the current residential code. All water heaters must be properly vented, sealed and equipped with a pressure release valve and discharge pipe.

b) The water supply system shall be installed and maintained to provide a supply of water to plumbing fixtures, devices and appurtenances in sufficient volume and at pressures adequate to enable the fixtures to function properly, safely and free from defects and leaks. Each unit should be equipped with a functioning pressure release valve and temperature release valve. Such valves can be a combination thereof. The relief rating shall be adequate to meet the pressure conditions for the appliance or equipment being protected and shall not exceed the tanks rated working pressure. The valve shall be set to open between twenty-five (25) PSI and 150 PSI above system pressure but no greater.

c) Fuel fired water heaters shall not be located in rooms used as storage closets. Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that combustion air will not be taken from living space except where the unit is a direct vent appliance. When installed in garage areas, water heaters having an ignition source shall be located with the ignition source at least eighteen (18) inches above the floor in order to prevent combustion of fuel vapors. Water heaters must be inspected for durable condition; replacements must have minimum life expectancy of eight (8) years.

II. Hazardous and Substandard Conditions Requiring Correction

a) Hazardous conditions must include any condition that threatens the health and/or safety of the occupants. These conditions should include but not be limited to:

1. Gas water heaters are prohibited in bathrooms, sleeping rooms and closets unless they meet the exclusion requirements of Chapter 24 of the current residential code.
2. Missing gas shut off valve.
3. Missing water supply shut off valve.
4. Combustion air taken from living area.
5. Missing or nonfunctional TPL valve. TPL drain shall flow by gravity and shall not connect directly to drainage system and should discharge to an indirect waste receptor or to outdoors. Termination point shall be readily observable by occupant and should not occur more than six (6) inches above floor or waste receptor.
6. Inadequate exhaust pipe. New combustion exhaust should be double walled and skirted at all penetrations.
7. Storage tanks less than thirty (30) gallons.
8. Storage tanks that have calcified.
9. Pipes, nipples or tanks elements that are severely corroded.

b) Any other condition not mentioned that meets the definition of a hazardous or substandard condition as noted by the rehab inspector.

P. Lead Based Paint

a) All homes constructed before January 1, 1978 will be evaluated for lead based paint hazards. ***Please note: This standard is required by federal regulation.***

b) Evaluation will be done by a qualified, certified or licensed person as required under the regulations at 24CFR35. A qualified lead based paint inspector or risk assessor is certified or regulated by a state or local health or housing agency or an organization recognized by HUD.

c) As required under 24 CFR 35, 24 CFR 570.608, 24 CFR 982.401 all lead based hazards will be identified and reduced through paint stabilization, interim controls or abatement as required.

d) Safe work practices will be followed at all times.

e) During lead hazard reduction efforts, the work area will be sealed and the family will be protected or relocated as required by the regulations.

f) Final Clearance will be achieved on all lead hazard reduction activities as required under the regulations.

Q. Smoke Detectors

a) Each dwelling unit must have at least one (1) hard-wired smoke detector, in proper operating condition, on each level of the dwelling unit on the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms, including basements but excepting crawl spaces and unfinished attics. ***Please note: This standard is required by federal regulation.***

b) Smoke detectors must be installed in each room used for sleeping purposes.

c) Smoke detectors must be installed in accordance with and meet the requirements of the National Fire Protection Association Standard (NFPA) 74.

d) If the dwelling unit is occupied by any hearing impaired person, smoke detectors must have an alarm system, designed for hearing impaired persons as specified in the National Fire Protection Standard.

R. Energy Efficiency

a) All additions, alterations or renovations shall comply with latest local building and energy code. Perform an energy analysis of existing building condition, estimate costs of improvements and implement measures that will improve building energy performance by a minimum of fifteen percent (15%) from pre-renovation figures. Applicant shall provide a ten percent (10%) unit sampling by an independent Building Performance Institute certified professional to determine the scope of work for energy improvements. The sampling must include all unit sizes. A RESNET certified Home Energy Rater must perform the analysis. All work must be completed to the Department of Energy Standard Work Specifications.

b) HVAC replacements and new installations shall include:

1. Sealing of all accessible duct connections including the drywall to boot connections with duct mastic or approved equivalent.

2. Installation of new duct systems that comply with the new construction Energy Conservation Air Distribution Systems standard.

3. Room pressures shall comply with the new construction Energy Conservations standard.

c) Insulation must be installed such that there are no gaps, voids, compression or wind intrusion of the insulation. The insulation and air barrier (i.e. gypsum board) must be continuous and aligned in all cases.

d) Eligible projects must provide accessibility in accordance with the applicable provisions of 24 CFR part 8 (implementing section 504 of the Rehabilitation Act of 1973) and Titles II and III of the Americans with Disabilities Act implemented at 28 CFR parts 35 and 36. Eligible Projects that are "covered multifamily dwellings," as defined at 24 CFR 100.205, standards must require that the housing meets the design and construction requirements at 24 CFR 100.205.

S. Disaster Mitigation

Where relevant, construction design will mitigate the potential impact of potential disasters (i.e. earthquakes, hurricanes, floods and wildfires) in accordance with state or local codes, ordinances and requirements or such other requirements that HUD may establish.

T. State and Local Codes, Ordinances and Zoning Requirements

Eligible Projects must meet all applicable state and local codes, ordinances and requirements. In the absence of state or local building codes, the housing must meet the International Building Code of the International Code Council.