OKLAHOMA HOUSING FINANCE AGENCY

HOME, National Housing Trust Fund, and HOME-ARP Program Minimum Rehabilitation Standards

Please note: Regardless of the standards set forth herein, all housing assisted by HOME, HOME-ARP, and National Housing Trust Fund monies must meet all applicable State and local codes, ordinances and requirements, as well as such other requirements HUD may establish. In the absence of State or local building codes, the housing must meet the International Existing Building Code or the International Code Council.

24 CFR 92.251 (b)(1): The participating jurisdiction must establish rehabilitation standards for all HOME- assisted housing rehabilitation activities that set forth the requirements that the housing must meet upon project completion. The participating jurisdiction's description of its standards must be in sufficient detail to determine the required rehabilitation work including methods and materials. The standards may refer to applicable codes or they may establish requirements that exceed the minimum requirements of the codes.

Defining Rehabilitation:

Rehabilitation is a process of restoring or improving the condition of a building, structure, or infrastructure that has been damaged, deteriorated, or become obsolete. Rehabilitation involves repairing or upgrading existing structures to meet current standards and codes.

Rehabilitation can include various activities such as structural repairs, replacement of mechanical and electrical systems, installation of new finishes and fixtures, and modification of layouts to improve functionality. The goal of rehabilitation is to extend the useful life of a building by enhancing its safety and functionality.

Successful rehabilitation projects can have significant economic benefits by revitalizing neighborhoods, creating jobs, and increasing property values. Further, rehabilitation through a HUD funded program ensures that low-income individuals and families have a safe and sustainable place to live.

The cost of rehabilitation will be defined as the cost of improving a building, including labor, materials, and tools. Rehabilitated residential structures must have previously been occupied. Awardees must differentiate Rehabilitation from cosmetic renovation. Cosmetic renovation alone is not a permitted use of HUD funding.

Identifying the need for Rehabilitation:

The goal of Rehabilitation through the HOME, National Housing Trust Fund, and HOME-ARP programs is to make existing structures safe, decent and affordable for housing purposes. As such, rehabilitation is triggered a when clear safety, health, or habitability issue exists on the property. These issues can include, but are not limited to: exposed wiring or asbestos, the presence of lead paint, radon, mold, pests, leaking or damaged pipes, roofs, walls, or siding, and notable fire safety concerns such as blocked, damaged, or permanently sealed windows and doors.

Rehabilitation can also include the replacing or upgrading of major building systems that are needed due to age, efficiency, or health consideration. For example, a new ventilation system could be installed to improve operating efficiency and remove pollutants from a unit. Energy efficient appliances could be installed to replace the outdated ones.

Once the need for rehabilitation has been established, the scope of rehabilitation may also include repairs that do not directly cause a health, safety, or habitability concern such as replacing windows and doors which may be outdated but are inoperable, replacing storm windows, repairing a vandalized entryway, patching holes and cracks in drywall, replacing stained or damaged ceilings, painting or wallpapering a unit, cleaning floors, stripping a re-sealing wooden flooring, smoke rehabilitation, replacing frayed or damaged carpet, and repairing or replacing damaged vinyl flooring.

There are some items that may be considered when determining the scope of rehabilitation on a unit but are not necessarily required. Such items include the addition of accessibility features or the modification of a unit so that it becomes accessible. A property owner may also consider the addition of a storm shelter to the unit to increase disaster resilience. While both of these additions may prove beneficial to a future tenant or owner, they would need to be considered amenities and not the primary basis for rehabilitation unless required by law or building code.

For Homebuyer units, the property being rehabilitated must be substandard at the time it is acquired. While it is required for a unit to have a minimum of one substandard aspect at the time of acquisition, the scope of rehabilitation work must exceed a single deficiency. Not all deficiencies must be a substandard deficiency, but all proposed work must be reasonable and necessary.

The US Department of Housing and Urban Development (HUD) considers a property to be substandard if it has a severe physical problem that endangers the safety or health of its occupants including at least one of the following:

- Lack of basic facilities: This occurs when the property is missing basic amenities found in standard residential units such as a lack of bathroom or kitchen facilities. This can also include a lack of common utilities such as a lack of hot or cold running water, or a lack of electricity which derives from utility failures (damaged pipes, non-functioning water tanks, damaged wiring, etc.).
- Structural issues: This includes broken staircases or elevators, damaged support beams, buckling walls, collapsing ceilings, cracked foundations, or significantly damaged or unstable roofs.
- Electrical problems: This includes exposed electrical wiring, damaged fuse boxes, outdated and faulty electrical systems, or an electrical system which is overtaxed and shorts.
- Heating and ventilation: This deficiency derives from a lack of heating and air conditioning throughout the unit. This can also derive from damaged and leaking air ducts, or inappropriate combustion ventilation which could result in a build up of carbon monoxide.
- Water problems: This includes a leaking roof, water leaks through windows or damaged walls, plumbing leaks, and the associated damage to the property that occurred due to leakage (mold, wood rot, damaged dry walls, etc.).

- Temperature: Houses that don't maintain adequate temperatures. Adequate temperatures are defined as heating systems shall maintain temperatures of not less than 65º Fahrenheit and the maximum temperature in all areas occupied by residents shall not exceed 85º Fahrenheit.
- Other hazards: This occurs when there is an infestation of insects or vermin whose presence or debris can cause structural damage or health related risks such as ants, cockroaches, termites, bed bugs, mice or rats. Other hazards can also include gas leaks, or fire hazards which originate from the unit, not the furniture or effects of the unit occupant.

Determining the Scope of Rehabilitation:

For all Rehabilitation housing, applicants must produce a budget which incorporates the proposed rehabilitation work needed. This budget must accompany a detailed work write up for the repairs necessary to bring a unit into compliance with state and local codes, along with the Minimum Property Standards put forth below. This estimate budget and work write up must be submitted to OHFA and their contracted inspector prior to a property being acquired. OHFA will review and approve all written cost estimates and ensure that construction contracts and work performed will result in meaningful construction activities. If it is determined that no meaningful construction activities will occur, a new property will need to be selected. OHFA will conduct initial, progress and final inspections to ensure that all work is done in accordance to work write-ups.

For all Rehabilitation housing, an estimate, based on age and condition, of the remaining useful life of all major systems, including structural support; roofing; cladding and weatherproofing (e.g., windows, doors, siding, gutters); plumbing; electrical; and heating, ventilation, and air conditioning must be provided to OHFA's contracted inspector. Documentation of this estimate must clearly detail the age of each system and the system's remaining useful life. Please see attachments B and C for applicable single-family and multi-family useful life tables. If available, the awardee must provide any professionally generated inspection reports available for the unit (termite, appraisal, the inspection report done prior to or at the time of acquisition).

A capital needs assessment (CNA), prepared no longer than 18 months prior to the date of Application, is required for all multi-family Rental Rehabilitation or Acquisition/Rehabilitation Projects of 26 or more units**,** and for all Applications in conjunction with Affordable Housing Tax Credits, regardless of the number of units. A CNA may be requested by OHFA for smaller Projects if deemed necessary to properly underwrite the Projects. Capital needs assessments performed for the same Project as a requirement of another funding source will be accepted in lieu of a specific CNA for the HOME Application.

Capital Needs Assessment (CNA) means a qualified professional's opinion of a property's current physical condition determined after a physical inspection of the interior and exterior of the units and structures. The physical inspection should include an interview with the onsite manager and maintenance personnel. This assessment should identify deferred maintenance, physical needs, **remaining useful life**, material building code violations that affect the property use, structural and mechanical integrity, and the future physical and financial needs. The assessment must include the cost of labor and materials identified in detail and the extent of future expenditures contemplated to ensure the costs will be addressed through operating and replacement reserves.

Components which should be examined and analyzed in this assessment include but are not limited to:

- Site, including topography, drainage, pavement, curbing, sidewalks, parking, landscaping, amenities, water, sewer, storm drainage, gas and electric utility lines;
- 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, vinyl or tile flooring, plaster walls, paint condition, etc.), unit kitchen finishes, cabinets and appliances, unit bathroom finishes and fixtures, and common area lobbies and corridors; and
- Mechanical systems, including plumbing and domestic hot water, HVAC, electrical, lighting fixtures, fire protection, and elevators.

In all Rental Developments, if the remaining useful life of one or more major systems is less than the Period of Affordability, the Awardee must establish and maintain a replacement reserve and make adequate monthly payments thereto, such that there are sufficient funds to repair or replace systems as needed. The Awardee must provide a replacement costs estimate along with the project years in which the Awardee anticipates the system needing to be replaced. A plan on how the Awardee will cover these costs by the time replacement is necessary is to be provided to OHFA staff prior to commencing Rehabilitation.

For buyer housing, upon completion each of the major systems must have a minimum equivalent to the period of affordability, or the major systems must be rehabilitated or replaced as a part of the rehabilitation work.

If the housing is occupied at the time of rehabilitation, Awardees must identify any life-threatening or potentially life-threatening deficiencies, pursuant to the National Standards for the Physical Inspection of Real Estate (NSPIRE), on Attachment A.

I. PURPOSE OF STANDARDS

A. The HOME Investment Partnerships Program Rehabilitation Standards (known herein as the "Rehabilitation Standards") are designed to outline the requirements for building rehabilitation for all HOME, HOME American Rescue Plan (HOME-ARP), and National Housing Trust Fund (NHTF) funded housing projects in the State of Oklahoma. The Rehabilitation Standards, though a requirement specifically to the development entity in direct receipt of HOME, NHTF or HOME-ARP funding, are written to provide guidance to all relevant members of a project development team.

B. The goal of the HOME Program is to provide functional, safe, affordable and durable housing that meets the needs of the tenants and communities in which the housing is located. The purpose of the HOME Standards is to ensure that property rehabilitation puts each building in the best possible position to meet this goal over its extended life and that, at a minimum, all health and safety deficiencies are addressed.

C. If a project is out of compliance with the Rehabilitation Standards, the Awardee shall bring to the attention of OHFA Staff the specific portion of the project which does not

comply, stating the reasons for non-compliance. OHFA Staff will make a determination as to whether an exception to the Rehabilitation Standards shall be granted.

D. Note: At the time of publication and adoption of the Rehabilitation Standards, the adopted codes referenced are believed to be those in force. As standards and codes change and are put into effect by the governing authorities having jurisdiction, the new standards and codes will apply in lieu of those referenced.

II. QUALITY OF WORK

A. Awardees and developers shall ensure that all rehabilitation work is completed in a thorough and workmanlike manner in accordance with industry practice and contractually agreed upon plans and specifications as well as subsequent mutually agreed upon change orders during the construction process. Awardees and developers will employ best practice industry standards relating to quality assurance to verify all work completed.

B. By meeting the various code requirements as a minimum standard, together with the other standards herein or in attendant OHFA policies, each building rehabilitation project is assured to be brought up to an acceptable level of rehabilitation. Upon completion, be free of any NSPIRE identifiable violations included in Attachment A.

C. Warranties shall be required per the standard construction contracts on all materials, equipment and workmanship.

III. CODE COMPLIANCE

A. All work shall comply with all applicable Oklahoma State and local codes, ordinances, and zoning requirements.

B. Please note that the Awardee must demonstrate compliance with all State and local codes through project affiliation with professional design team drawing certifications (e.g. architectural design stamp) and/or other approved methods such as State inspector certification.

C. The Rehabilitation Standards are designed to meet or exceed the **National Standards for the Physical Inspection of Real Estate (NSPIRE)** and ensure that upon completion, the assisted project and units will be decent, safe, sanitary, and in good repair as described in 24 CFR 5.703. See Attachment A for a list of Inspectable Items and Observable Deficiencies, including descriptions of the type and degree of deficiency for each item that any assisted project must address, at a minimum.

IV. HEALTH AND SAFETY

A. If the housing is occupied at the time of rehabilitation, any life-threatening deficiencies must be identified and addressed immediately. See Attachment A for a list of Inspect-able Items and Observable Deficiencies, including the identification of life-threatening

deficiencies (highlighted in orange) for the property site, building exterior, building systems, common areas, and units.

V. SCOPE OF WORK DETERMINATION

A. In developing scopes of work, Awardees and developers will work with OHFA to ensure that all requirements under the Rehabilitation Standards are satisfied and that the proposed scope of work meets the goals of Part I above. OHFA approval of all scopes of work is required in accordance with OHFA standard practices.

VI. EXPECTED USEFUL LIFE

A. In developing scopes of work on housing rehabilitation projects, Awardees and developers will consider the remaining expected useful life of all building components with regard to building long-term sustainability and performance. Specifically, each building component with a remaining expected useful life of less than the lesser of 15 years or the applicable period of affordability shall be considered for replacement, repair or otherwise updated. Additionally, new building components must have an expected useful life equivalent to the applicable period of affordability.

B. To determine the useful life on a Single-Family unit, refer to Attachment B, "Single Family Residential Useful Life Chart" below. Further information can be located at InterNACHI's Standard Estimated Life Expectancy Chart for Homes.
When determining remaining useful life, find the total useful life of an item on the attached chart and subtract the period of time which has already passed. For example, a unit being rehabilitated has linoleum flooring installed approximately 15 years ago. The useful life of linoleum flooring is 25 years, the remaining life is 10 years. The flooring may need to be replaced to ensure that its useful life is equal to or exceeds the period of affordability.

C. To determine the useful life of a Multi-family unit, please refer to Attachment C, "Fannie Mae Multifamily Property Condition Assessment – Appendix F" attached below.

D. OHFA Staff will underwrite the proposed project to determine if sufficient replacement reserves will be set aside each month to cover the full cost of any such replacement, repair or update. Whether or not a particular building component has been replaced, repaired or otherwise updated as part of the rehabilitation scope of work, all building components and major systems must demonstrate adequate funding to be viable throughout the affordability period.

VII. DISASTER MITIGATION

A. To the extent applicable/relevant, the housing must be improved to mitigate the impact of potential disasters (e.g. earthquakes, tornadoes, floods, wildfires) in accordance with State or local codes, ordinances, and requirements, or such other requirements that HUD may establish. The relevant State codes are the International Residential Code of

2009, as amended, for new construction and the International Building Code for rehabilitation.

B. In addition, construction of the housing must adhere to the Oklahoma Standard Hazard Mitigation Plan adopted in 2014. Awardees should particularly review and adhere to Chapter 3 regarding Risk Assessment and Chapter 4 regarding Mitigation Strategies.

VIII. ENERGY CONSERVATION

A. Equipment, appliances, doors and appurtenances replaced during rehabilitation shall be replaced with Energy Star qualified products rated for the region where the property will be located. If Energy Star qualified products are not available or the incorporation of such would represent an increase in the item cost of greater than 25%, equipment, appliances, doors and appurtenances which are compliant with the 2021 IECC codes, or more energy efficient than Energy Star products, may be used.

B. If feasible, attics should be insulated to R38 and walls to a minimum of R11.

C. Replacement heating and/or cooling systems shall be properly sized as evidenced by completion of ACCA/ANSI Manual J® or an equivalent sizing calculation tool.

D. All accessible air ducts shall be tightly sealed.

E. Heating or cooling supply running through unconditioned space should be avoided or rerouted, if possible, but when present and accessible, shall be insulated.

IX. ACCESSIBILITY REQUIREMENTS

A. Housing that is rehabilitated with HOME funds must meet all applicable federal and State regulations regarding accessibility for persons with disabilities. The applicability of these rules is complex and therefore it is recommended that developers seeking HOME funds consult with a qualified design professional. For single family units, please refer to Section 504 of the Rehabilitation Act and the Fair Housing Act (FHA) which require accessibility in housing developments that receive federal financial assistance

B. Projects shall comply with other standards as may apply or be required by funding sources (i.e. USDA Rural Development)

C. Projects, if applicable, shall comply with Section 504 of the Rehabilitation Act of 1973 implemented at 24 CFR Part 8 a. For projects with 15 or more total units where the cost of rehabilitation is 75% or more of the replacement cost: i. At least 5% of the units (1 minimum) must be made fully accessible for persons with mobility impairments based on the Uniform Federal Accessibility Standards (UFAS) ii. In addition, at least 2% of the units (1 additional unit minimum) must be made accessible for persons with sensory impairments. iii. Common spaces must be made accessible to the greatest extent feasible

D. For all other projects with rehabilitation, the project must be made accessible to the greatest extent feasible until 5% of the units (a minimum of one) are physically accessible, and common spaces should be made accessible as much as possible.

X. BROADBAND INFASTRUCTURE

For new commitments made after January 19, 2017 for a substantial rehabilitation project of a building with more than 4 rental units, any substantial rehabilitation, as defined in 24 CFR 5.100, must provide for installation of broadband infrastructure, as this term is also defined in 24 CFR 5.100, except where the participating jurisdiction determines and, in accordance with § 92.508(a)(3)(iv), documents the determination that:

(A) The location of the substantial rehabilitation makes installation of broadband infrastructure infeasible;
(B) The cost of installing broadband infrastructure would result in a fundamental alteration in the nature of its program or activity or in an undue financial burden; or
(C) The structure of the housing to be substantially rehabilitated makes installation of broadband infrastructure infeasible.

XI. CARBON MONOXIDE AND SMOKE DETECTION

(A) A carbon monoxide alarm must be installed in the housing unit in a manner that meets or exceeds the carbon monoxide detection standards set by HUD through Federal Register publication.

XII. SMOKE DETECTION

A. A hardwired smoke alarm must be installed:
   (i) On each level of each housing unit;
   (ii) In or near each sleeping area in each housing unit;
   (iii) In the basement of each housing unit, and in each common area of a project. A hardwired smoke alarm is not required in crawl spaces or unfinished attics of housing units;
   (iv) Within 21 feet of any door to a sleeping area measured along a path of travel; and
   (v) Where a smoke alarm installed outside a sleeping area is separated from an adjacent living area by a door, a smoke alarm must also be installed on the living area side of the door.

B. Each hardwired smoke alarm must have an alarm system designed for hearing-impaired persons.
C. The Secretary may establish additional standards through Federal Register publication.
D. Where the use of hardwired smoke detectors places an undue financial burden on the owner or is infeasible, a participating jurisdiction may provide a written exception to

allow the owner to install a smoke detector that uses 10-year non rechargeable, nonreplaceable primary batteries. The smoke detector must be sealed, tamper-resistant, contain a means to silence the alarm, and otherwise comply with the requirements of this section.

XIII. REHABILITATION CONSTRUCTION STANDARDS

A. SITE

1. General:
    a. Assure that the site is safe, clean and usable, and designed with details, assemblies and materials to provide ongoing durability without undue future maintenance.
    b. Site design and engineering shall be by a licensed professional civil engineer, or other qualified professional.
    c. Design and systems shall conform to all applicable codes, rules and regulations:
        i. Local and municipal zoning;
        ii. NFPA Codes as they may apply
2. Sprinkler water service – Underground water service as required for building sprinkler system shall be in accordance with NFPA 24.
3. Drainage – assure that the grading surrounding the building will slope away from the building and drain properly, without ponding or erosion.
4. Sewer connections to municipal sewage systems and on-site sewage disposal:
    a. Existing sewer laterals that are to be reused should be evaluated to assure that they are serviceable and have a remaining useful life of 15 years or are covered by a plan to repair or replace during the affordability period.
    b. New systems designed to conform to the State codes and regulations.
5. Water service:
    a. Existing municipal water supplies to buildings shall be evaluated to assure that they are serviceable, of adequate capacity and have a remaining useful life of 15 years or are covered by a plan to repair or replace during the affordability period.
    b. Required new systems shall be designed to conform to State codes and regulations.
6. Vehicular access to public way – site design shall conform to local zoning and regulations, as well as be sensible in its layout to maximize vehicular and pedestrian safety.
7. On-site Parking – parking shall be adequate for project type, meet local codes, and be designed to drain well, with a durable appropriate surface material. Handicapped parking shall be provided as required.
8. Pedestrian access and hardscape – In general, paved walkways within the site will be designed to provide sensible pedestrian access from the public way into the site, from parking areas, and provide access to buildings. All walkways should generally conform to applicable codes for width and slopes, and fall protection. Site stairs shall be safe and sound, constructed of durable materials, with proper rise and run, and with code approved railings as required. Accessible routes into buildings shall be provided as required by code.
9. Site amenities – site amenities may be provided which enhance the livability of the project including playground areas, seating, benches, patio areas, picnic tables, bike racks, grills, and fencing, etc.

10. Mailboxes - Provision will be made for USPS-approved cluster mailbox units if required by the USPS.
11. Landscaping – lawns, ground cover, planting beds, perennial plants, shrubs and trees may be provided to enhance the livability, and to provide a positive aesthetic sense. a. Planting choices specified should be low maintenance, non-invasive species, of an appropriate size and scale and located, when adjacent to building structures, with regard to their size at maturity.
12. Solid waste collection & storage – if necessary, provision shall be made for the outdoor storage and collection of solid waste and recycling materials in receptacles (dumpsters, wheeled trash cans, totes). Enclosures may be provided and should be accessible as required by code.
13. Site lighting with shielded fixtures may be provided to illuminate parking and pedestrian walkways, and will conform to local zoning.
14. Fuel Storage – On site outdoor placement and storage of fuels per applicable regulations and utility requirements.
15. Underground or overhead utilities – as regulated by code and utility rules.

B. FOUNDATIONS

1. Existing foundations shall be examined by a qualified professional.
    a. Foundations to be adequately sized, free of broken components or deterioration which may compromise the load bearing structural integrity.
    b. Design and implement structural reinforcements or reconstruction as necessary.
2. Above-grade masonry unit block or brick shall be reasonably stable, plumb and sound with no missing units or voids.
3. Pointing of mortar joints shall be specified as necessary to assure the continued integrity of the structural assembly.
4. New below-grade structures to conform to Chapter 18 of IBC as appropriate.

C. MASONRY COMPONENTS

1. Buildings with masonry bearing walls shall be examined for their structural integrity. Existing masonry building components shall be examined to assure sound condition, and repaired as necessary to provide the load-bearing capacity, resistance to water penetration, and aesthetic quality to assure the assemblies will perform for the purpose intended.
    a. Masonry shall be plumb, and structurally sound.
2. Repair or replace deteriorated portions or missing units. a. Brick veneer shall be sound, or repaired to be sound.
3. Masonry mortar joints shall be sound, and free of loose or deteriorated mortar, with no voids.
    a. Pointing of mortar joints shall be specified as necessary to assure the continued integrity of the structural assembly, and prevent water intrusion.
4. Historic masonry designated to remain shall be restored to sound serviceable condition, and in accordance with Section 106 of National Historic Preservation Act.
    a. Where masonry is considered historic, repairs will be carried out utilizing the Secretary of the Interior's "Standards of Rehabilitation" and related NPS Preservation Briefs for "Repointing Mortar Joints on Historic Masonry Buildings"
5. Chimneys
    a. Assure structural integrity, reconstruct, and point as necessary
    b. If used for fuel heating appliances – provide lining as may be required by code and as prescribed by the heating appliance manufacturer.

D. STRUCTURE

1. A qualified professional shall examine each building's load-bearing structure, and assess its existing condition to determine suitability of continued use.
2. In general, structure evaluation and design shall be in conformance with IBC, Chapter 16.
    a. In most residential rehab projects where there is no change in use, it is not expected that the structure will be brought up to new construction standards.
    b. Consideration shall be given if there are any proposed changes in use which would impact the historical loading.
3. Deficiencies identified shall be addressed and repairs designed and specified as necessary to correct such conditions:
    a. Repairs shall be made to any deteriorated load-bearing structural elements.
    b. Reinforce, install supplemental or replace structural members determined not to be adequate for use.

E. ENCLOSURE - SHELL

1. Roofing
    a. Existing:
        i. Examine existing roofing and flashing systems to determine suitability for continued use. Continued life expectancy of existing roofing should be a minimum of 15 years or be covered by a plan to repair or replace during affordability period.
        ii. Repair existing roofing as required.
        iii. Existing historical slate roofs shall be repaired in accordance with the Secretary of the Interior's "Standards for Rehabilitation" project requirements if applicable. b. New Roofing

        i. New roofing shall be installed where existing roofing does not meet requirements for continued use.

        ii. New roofing system components shall be compatible, and include - the nail base, the underlayment layer, ice & water shield self-adhesive membrane flashings, metal flashings and roofing.

            • Strip existing roofing and dispose of properly.
            • Examine exposed existing substrate for structural soundness
            • Install new roofing system per code and per NCRA trade practices, and manufacturer specifications
            • Flashings – deteriorated flashings shall be replaced, and the weather proof integrity of the roof system shall be assured.

    c. Ventilation
        i. Roof assemblies shall be properly ventilated in accordance with applicable code requirements, and appropriate building science detailing.
2. Exterior Finishes
3. Cladding
        i. Siding –
            • Examine existing siding for soundness – shall be free of major cracks, rot, and other deterioration which may compromise its useful life and be suitable to hold exterior paint.

- Siding shall be free of gaps and holes and provide continuous weatherproof system. If necessary, siding should be repainted or an appropriate sealant applied in accordance with the material type to preserve this waterproof system.
- Repair or re-side as necessary to provide a weather resistant enclosure.
- Replace existing wood siding on historic buildings as necessary in accordance with the Secretary of the Interior's "Standards for Rehabilitation" project requirements.

ii. Masonry -

- Masonry bearing walls and veneers shall be restored as necessary. All work on historic masonry shall be done in accordance with the Secretary of the Interior's "Standards for Rehabilitation" project requirements. iii. Other existing cladding system types and materials shall be repaired and/or restored in kind with matching or similar materials to provide a durable weather resistant enclosure.

4. Trim – Exterior trim and architectural woodwork.
   a. Existing wood trim:
      i. Existing trim to remain must be sound, free of defects and deterioration which compromises its use.
      ii. Repair and restore trim to usable condition. Patch or replace in kind any deteriorated wood trim components.
      iii. Repair of historic woodwork and trims shall be in accordance with the Secretary of the Interior's "Standards for Rehabilitation" project requirements.
   b. New wood trim shall be installed in a workmanlike manner. Reference may be made to Architectural Woodwork Institute (AWI) standards.
   c. Other trim materials which are suitable may be used as appropriate and shall be installed per manufacturer's recommendations.
   d. Trim which is part of the weather tight enclosure shall be flashed or caulked with joint sealers as necessary to prevent water intrusion.
5. Paint
   a. In general, all existing exterior wood and metal surfaces shall receive new paint coatings, except as appropriate due to the recent application of paint and/or the sound condition of existing coatings.
   b. Examine surfaces and apply paint only to sound acceptable materials / surfaces.
      i. Prepare surfaces properly, removing loose or peeling previous paint or rust where applicable.
      ii. Paint prep shall be done in accordance with applicable lead safe standards.
   c. Before painting, assure that any moisture issues which may compromise the life expectancy of the paint system are remedied.
   d. Exterior paint systems shall be compatible and installed in accordance with manufacturers' specifications.
6. Porches, decks and steps
      i. Existing porches, decks, steps and railings proposed to remain shall be examined and repaired as necessary. Repair and reconstruction shall be carried out to assure that they will have a continued useful life of 15 years or be covered by a plan to repair or reconstruct during the affordability period.

ii. Inspect structure for soundness and reconstruct any deteriorated members as required.
iii. Install new support piers as may be required.
iv. Patch existing decking with matching materials, or install new durable decking.

b. Railings
i. shall be sound and adequately fastened to meet code requirements for structural loading. Repair or replace in-kind as appropriate.
ii. Shall meet code requirements for height of protective guards, or have supplemental guards installed.

c. Steps shall be safe and sound and meet applicable codes, with railings as necessary.
d. Historic porches designated to remain shall be restored to sound serviceable condition, and in accordance with the Secretary of the Interior's "Standards for Rehabilitation" project requirements.
e. All porch elements shall be able to withstand the weather elements to prevent premature deterioration.

F. ACOUSTICAL TREATMENTS

1. Dwelling units separated acoustically using Chapter 1207 of IBC as a guideline minimum standard.

G. DOORS

1. General
a. Doors to meet code requirements of NFPA 101, Chapters 7.2, 8.3, 30.3.6.2 & 30.2.2.2
b. Meet egress requirements for dimensions, swing and clearances, and be accessibility compliant as required.
c. Be sound and secure.
d. New doors shall be installed per manufacturers' recommendations and standard trade practice standards.
e. Flash properly and have shim spaces insulated.
f. Existing doors to remain should be examined and determined to be suitable for reuse with a remaining life after restoration of 15 years or covered by a plan to repair or replace during the affordability period.
i. Restore as required to provide useful life.
ii. Shall be tested and modified as necessary to operate properly.
iii. Install new weather stripping and sweeps to provide seal against weather elements and air infiltration.
iv. Historic doors designated to remain shall be restored to sound serviceable condition, and in accordance with the Secretary of the Interior's "Standards for Rehabilitation" project requirements.

2. Unit doors
a. Unit entry doors shall be fire rated as required.
3. Other doors – Access doors shall meet code requirements for fire rating.
4. Door hardware shall operate properly, be secure and shall meet accessibility standards and NFPA 101, Chapters 7.2, 8.3, 30.3.6.2 & 30.2.2.2.

H. WINDOWS

1. Windows shall be of legal egress size when required by code
    a. In townhouse units, existing windows which are non-conforming egress size shall be reviewed for code compliance.
2. Existing windows:
    a. Existing windows to remain should be examined and determined to be suitable for reuse with a reasonable remaining life after restoration of 15 years without undue future maintenance or be covered by a plan to maintain or replace during the affordability period.
    b. Capable of providing adequate seal against air infiltration, weather elements, and be determined to be appropriately energy efficient in keeping with the overall energy efficiency strategy of the project.
    c. Install new weather stripping to provide seal against weather elements and air infiltration.
    d. Air seal shim spaces and window weight pockets if possible.
    e. Restore and modify as required to provide useful life.
    f. Shall be tested and modified as necessary to operate smoothly and properly per code.
    g. Historic windows designated to remain shall be restored to sound serviceable condition, and in accordance with the Secretary of the Interior's "Standards for Rehabilitation" project requirements. h. Hardware shall be intact and operational, or be replaced with new hardware as required
3. New Windows:
    a. Where existing windows do not meet the standards for egress, condition, and/or energy efficiency deemed appropriate to the project, they shall be replaced by new windows.
    b. New windows shall be code compliant. Developers are encouraged to consider upgrading to Tier II level by providing windows with a U-factor of .2.
    c. Additionally, new window units should be tested assemblies meeting ASTM standards for water penetration & air leakage.
    d. All windows shall be installed per manufacturer's installation guidelines and specifications, and shall incorporate appropriate detail, flashings, joint sealers, and air sealing techniques.

I. INTERIOR FINISHES

1. In general, all interior finishes will be new and installed per manufacturer's recommendations and the standards of quality construction per trade practices and associations related to the particular product or trade.
2. Per chapter 10 of NFPA 101 (Reference also Chapter 8 of the IBC).
3. Walls & ceilings
    a. Where existing finishes are proposed to remain, they will be determined to meet the standard of being sound, durable, lead-safe, and have a remaining useful life of no less than 15 years or be covered by a plan to repair or replace during the affordability period.
4. Flooring
    a. Existing wood flooring in good condition should be repaired, sanded and refinished.
    b. All new flooring materials (resilient flooring, wood flooring, laminate flooring, carpet, and/or ceramic tile) shall be installed over suitable substrates per manufacturer's specs and the trade association practices.
5. Trim - Wood trim and architectural woodwork

a. Existing trim shall be repaired and restored to usable condition, free of deterioration which compromises its use. Repair of historic woodwork & trims shall be in accordance with the Secretary of the Interior's "Standards for Rehabilitation" project requirements.
b. New wood trim shall be installed in a workmanlike manner. Reference may be made to AWI standards.

6. Paint - In general, all interior ceiling, wall, and trim surfaces shall receive renewed coatings of paint (or other clear/stain) finishes. Painting shall be done in a workmanlike manner, and in accordance with the manufacturer's recommendations. All painting including preparation of existing surfaces shall be done in a lead-safe manner (See Section X. N).

J. SPECIALTIES

1. Toilet accessories – each bath will have appropriate accessories such as towel bars, robe hooks, bath tissue holders, etc., installed and securely fastened in place. Accessories shall be located per accessibility requirements where necessary.
2. Medicine cabinets and mirrors – install in each unit bath as appropriate.
3. Signage and identification – building signage shall be provided as appropriate: a. Including building address 911 #'s, units' identification, building directory, exits, stairways, common and utility spaces, etc. shall be in conformance with NFPA 101 Life Safety Code, and be accessibility compliant and 911 approved.
4. Exit signage will be provided as required by code and be accessibility compliant as required.
5. Fire protection specialties – provide fire extinguishers in buildings, and in units as required by code and/or by State or local fire authorities. Locate as directed by authorities.
6. Shelving – provide durable, cleanable shelving for pantries, linen closets, clothes closets and other storage as appropriate, securely fastened in place.

K. EQUIPMENT

1. All new equipment must be energy efficient by being ENERGY STAR® rated, "Save More" ENERGY STAR labeled, or meeting CEE (Consortium for Energy Efficiency) Tiers 2, 3, or 4 requirements.
2. Existing equipment to be retained and continued to be used shall be in serviceable condition with an expected useful life of 15 years or be covered by a plan to replace during the affordability period.
3. Kitchen appliances –
    a. provide new stove and refrigerator in each unit.
    b. Existing appliances to be reused shall be in good and serviceable condition.
    c. Provide other appliances (such as microwaves) as may be appropriate to the project.
    d. All appliances in accessible unit units shall be accessibility compliant, and located in an arrangement providing required clear floor spaces.
4. Laundries –where adequate space is available and when appropriate to meet the project goals, washers and dryers may be provided in laundry rooms or in units.
    a. Heat pump dryers are encouraged where appropriate and readily available.
    b. Where a project is served by natural gas, consideration of the use of natural gas dryers is encouraged.
5. Solid waste handling – Provide trash and recycling receptacles as appropriate to enable the tenants and property management staff to handle and store solid waste.

6. Playground equipment – Provide safe, code-approved new playground equipment if a playground is appropriate to the project.

L. FURNISHINGS - CASEWORK

1. Kitchen cabinetry and counters

a. Existing cabinetry and/or countertops proposed to remain shall be in good condition with a remaining useful life of 15 years or be covered by a plan to restore or replace during the affordability period.

b. New cabinetry shall be of good quality, meeting ANSI/KCMA A161.1-2012 "Performance & Construction Standards for Kitchen Cabinetry and Bath Vanities" standards. Other industry standards for cabinetry may be used as guidelines, such as the Kitchen Cabinet Manufacturer's Association (KCMA) "Severe Use Specification – 2014," the Architectural Woodwork Institute's (AWI) Woodwork Standards and Cabinet Fabrication Handbook. ii. New counters shall be provided with a cleanable sanitary surface material impervious to water such as high pressure laminate (HPL).

- Shop fabricated as one-piece assembly where possible. Seal field joints.
- Installed level and securely fastened to cabinetry

2. Bath cabinetry and counters – vanity lavatory tops, when used, should be one-piece integral bowl with integral backsplash.

M. ASBESTOS REMOVAL

1. Project will be assessed for the existence of asbestos-containing building materials by qualified professionals:

i. National Emission Standards for Hazardous Air Pollutants (NESHAP) apply.

ii. Removal of asbestos shall be carried out per Federal EPA and State regulations and rules.

N. LEAD-BASED PAINT

As required under 24 CFR Part 35, the Final HUD Regulation on Lead-Based Paint Hazards in Federally
Owned Housing and Housing Receiving Federal Assistance, all assisted dwelling units constructed before January 1, 1978, will be evaluated for lead-based paint hazards or presumed to have lead-based paint present throughout the unit when paint is disturbed.

1. Evaluation will be done by a qualified, certified or licensed person as required under the regulation.
2. All lead-based paint hazards will be identified and reduced or eliminated through paint stabilization, interim controls or abatement with work being done by supervised, trained, qualified, certified or licensed persons as required under the regulation.
3. Safe work practices will be followed at all times.
4. Occupants shall be protected or temporarily relocated as required by the regulation. With some exceptions, as listed at 24 CFR 35.1345, occupants shall be temporarily relocated before and during hazard reduction activities to a suitable, decent, safe and similarly accessible dwelling unit that does not have lead hazards.
5. The dwelling unit and worksite shall be secured. The worksite shall be prepared and warning signs shall be posted as required by the regulation.
6. Clearance examinations will be performed by qualified personnel and final clearance shall be cleared by DEQ certified personnel.

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O. CONVEYANCE SYSTEMS

1. Elevators may be installed when appropriate and possible, when such elevator is part of the project's program goals, or as required by code, as follows:
    a. Installed per code NFPA 101, Chapter 9.4
    b. ASME 17.1 Safety Code for Elevators - 2013
2. Existing elevators and lifts may be retained if they are appropriate to the use of the building and in serviceable condition with an expected useful life of 15 years or be covered by a plan to maintain or replace during the affordability period, and approved by agencies having jurisdiction.

P. MECHANICAL

1. General:
    a. all mechanical systems shall be designed by a mechanical engineer or other qualified professional.
    b. All mechanical systems shall meet all applicable codes.
2. Fire protection
    a. In general, all buildings shall have fire suppression as required by applicable codes with approved sprinkler systems installed as required by NFPA 101 and NFPA 1:
        i. System design to conform to applicable NFPA standard 13 or 13R.
        ii. System installed by State approved persons.
        iii. Underground water services for sprinkler system shall meet NFPA 24 iv. Provide fire pumps, standpipes, and fire department connection as required per NFPA 13, 14 & 25.
    b. Where possible, piping for the sprinkler system shall be concealed.
3. Plumbing
    a. Where existing components of a system are to be reused, they will be examined and determined to be in good condition, code compliant and have a remaining useful life of a minimum of 15 years or be covered by a plan to repair or replace during the affordability period. Substandard or critical non-code compliant components shall be replaced. b. Use water-saving shower heads and faucet aerators.
    c. All fixtures, piping fittings and equipment shall be lead-free.
    d. Kitchen fixtures – When existing kitchen fixtures are not reused in accordance with a. above, new sinks and faucets, and associated plumbing shall be installed in each unit.
    e. Bath fixtures – When existing bath fixtures are not reused in accordance with a. above, new toilets, tubs and tub surrounds, lavatory sinks, and faucets shall be installed in each unit.
        i. Three and four-bedroom units are encouraged to be designed to include 1½ baths minimum where adequate space is available.
    f. Provision for laundry rooms or laundry hook-ups may be made per project's program requirements.
    g. Provision for other utility plumbing for janitor sinks, floor drains, outdoor faucets, drains for dehumidification systems, etc., may be made as desired or required.
4. Heating a. System design:
    a. where existing components of a system are proposed to be reused, they will be examined and determined to be in good and serviceable condition, code compliant and have a remaining useful life of a minimum of 15 years or be covered by a plan to repair or replace during the affordability period.

b. Temperature control - The temperature in each unit shall be individually thermostatically controlled.
c. Provide adequate heat in common spaces. d. Install pipe insulation with minimum 1.5" wall thickness.

5. Ventilation
   a. Code-compliant indoor air quality will be addressed by the installation of either exhaust only or balanced (heat recovery) ventilation systems as required by: Fire protection of system ducts per
   NFPA 101, Chapter 9.2
   b. Balanced mechanical ventilation systems are encouraged.
   c. Ventilation controls shall be per applicable codes 6. Domestic Hot Water:
   a. System shall be designed as required for efficiency.
   b. Install pipe insulation per code.

Q. ELECTRICAL

1. Project electrical design should be done by a licensed electrical engineer, or other qualified professional.
2. Project electrical must be installed by a licensed electrician
3. Design shall be comply with all the applicable codes:
   a. Oklahoma State and local fire codes.
   b. NFPA 101, Life Safety Code
   c. NFPA 70, National Electrical Code, 2011 Edition
   d. NFPA 72, National Fire Alarm and Signaling Code
   e. NFPA 20, Standard for the Installation of Stationary Pumps for Fire Protection
4. In general, the electrical system should be new throughout a building:
   a. Where existing service entrances, disconnects, meters, distribution wiring, panels, and devices are proposed to remain, they will be examined and determined to be in good condition, code compliant and have a remaining useful life of a minimum of 15 years or be covered by a plan to repair or replace during the affordability period. The designer, in concert with the State electrical inspector, shall examine the system and equipment. Existing components of the electrical system may be reused as appropriate. Substandard or critical non-code compliant components shall be replaced.
5. Utility connections shall be installed per the rules and regulations of the electrical utility.
6. Electrical service and metering:
   a. the service entrance size shall be calculated to handle the proposed electrical loads.
   b. Metering and disconnects shall be per code and mounted at approved locations.
7. Elevator wiring shall conform to the ANSI 17.1 as modified by State or local codes.
8. Electrical distribution system:
   a. Lighting and receptacle circuits shall be designed per code.
   b. Locations and layout of devices and lighting to be logical and accessibility compliant where required.
   c. Provision shall be made for the wiring of dedicated equipment circuits and connections for heating, ventilation equipment/exhaust fans, pumps, appliances, etc.
9. Artificial Lighting shall be provided using IBC 1205 as a minimum guideline. Developers are encouraged to upgrade to energy efficient lighting as would be appropriate in the 2021 IECC codes.

10. Site lighting with shielded fixtures may be provided to illuminate parking and pedestrian walkways, and will conform to local zoning.
11. Emergency and exit lighting/illuminated signage shall be per the NFPA 101, Life Safety Code.

NSPIRE Inspection Checklist

Standard	Deficiency Description
Address and Signage	Address, signage, or building identification codes are broken, illegible, or not visible.
	DOOR - ENTRY AND INTERIOR/EXTERIOR
Door - Entry	Entry door will not open.
	Entry door will not close.
	Entry door self-closing mechanism is damaged, inoperable, or missing.
	Hole, split, or crack that penetrates completely through entry door.
	Entry door is missing.
	Entry door surface is delaminated or separated.
	Entry door frame, threshold, or trim is damaged or missing.
	Entry door seal, gasket, or stripping is damaged, inoperable, or missing.
	Entry door component is damaged, inoperable, or missing and it does not limit the door's ability to provide privacy or protection from weather or infestation.
	Entry door cannot be secured.
Door - Fire	Fire labeled door does not open.
	Fire labeled door does not close and latch or the self-closing hardware is damaged or missing such that the door does not self-close and latch.
	Fire labeled door assembly has a hole of any size or is damaged such that its integrity may be compromised.
	Fire labeled door seal or gasket is damaged or missing.
	An object is present that may prevent the fire labeled door from closing and latching or self-closing and latching.
	Fire labeled door cannot be secured.
	Fire labeled door is missing.
	KITCHEN
Sink	Sink or sink component is damaged or missing and the sink is not functionally adequate.
	Water is directed outside of the basin.
	Sink is not draining.
	Sink is improperly installed, pulling away from the wall, leaning, or there are gaps between the sink and wall.
	Sink component is damaged or missing and the sink is functionally adequate.
	Cannot activate or deactivate hot and cold water.*
	Sink is missing or not installed within the primary kitchen.*
Cooking Appliance	Cooking range, cooktop, or oven does not ignite or produce heat.
	Cooking range, cooktop, or oven component is damaged or missing such that the device is unsafe for use.
	Primary cooking appliance is missing.*
	A microwave is the primary cooking appliance and it is damaged.
	A burner does not produce heat, but at least 1 other burner is present on the cooking range or cooktop and does produce heat.
Ventilation	Exhaust system does not respond to the control switch.
	Exhaust system has restricted airflow.
	Exhaust system component is damaged or missing.
	Bathroom does not have proper ventilation or dehumidification.
Refrigerator	Refrigerator is inoperable such that it may be unable to safely and adequately store food.
	Refrigerator component is damaged such that it impacts functionality.

Standard	Deficiency Description
	Refrigerator is missing.*
Food Preparation Area	Food preparation area is not present.*
	Food preparation area is damaged or is not functionally adequate.
Cabinet and Storage	Food storage space is not present.*
	Storage component is damaged, inoperable, or missing.

Standard	Deficiency Description
Leak - Water	Environmental water intrusion.
	Plumbing leak.
	Fluid is leaking from the sprinkler assembly.
Drain	Drain is fully blocked.
Electrical - Conductor, Outlet, and Switch	**Outlet or switch is damaged.**
	Testing indicates a three-pronged outlet is not properly wired or grounded.
	Outlet does not have visible damage and testing indicates it is not energized.
	Exposed electrical conductor.
	Water is currently in contact with an electrical conductor.
Electrical - GFCI/AFCI	GFCI outlet or GFCI breaker is not visibly damaged and the test or reset button is inoperable.
	AFCI outlet or AFCI breaker is not visibly damaged and the test or reset button is inoperable.
	An unprotected outlet is present within six feet of a water source.*
	INTERIOR/EXTERIOR OF ALL ROOMS
Ceiling	Ceiling has an unstable surface.
	Ceiling has a hole.
	Ceiling component(s) is not functionally adequate.
Floor	Floor substrate is exposed.
	Floor component(s) is not functionally adequate.
Wall - Exterior	Exterior wall covering has missing sections of at least 1 square foot per wall.
	Exterior wall has peeling paint of 10 square feet or more.
	Exterior wall component(s) is not functionally adequate.
Wall - Interior	Interior wall has a loose or detached surface covering.
	Interior wall component(s) is not functionally adequate.
	Interior wall has a hole that is greater than 2 inches in diameter or there is an accumulation of holes that are cumulatively greater than 6 inches by 6 inches.
Door - General	A passage door does not open.
	A passage door component is damaged, inoperable, or missing and the door is not functionally adequate.
	A door that is not intended to permit access between rooms has a damaged, inoperable, or missing
	An exterior door component is damaged, inoperable, or missing.
Window	Window will not open or stay open.
	Window cannot be secured.
	Window will not close.
	Window component is damaged or missing and the window is not functionally adequate.
	BATHROOMS
Sink	Sink or sink component is damaged or missing and the sink is not functionally adequate.
	Water is directed outside of the basin.
	Sink is not draining.
	Sink is improperly installed, pulling away from the wall, leaning, or there are gaps between the sink and wall.
	Sink component is damaged or missing and the sink is functionally adequate.
	Cannot activate or deactivate hot and cold water.*
	Sink is missing or not installed within the primary kitchen.*
	Only 1 toilet was installed, and it is missing.
	A toilet is missing and at least 1 toilet is installed elsewhere that is operational.

Standard	Deficiency Description
Toilet	Only 1 toilet was installed, and it is damaged or inoperable.
	A toilet is damaged or inoperable and at least 1 toilet is installed elsewhere that is operational.
	Toilet component is damaged, inoperable, or missing such that it may limit the resident's ability to safely discharge human waste.
	Toilet is not secured at the base.
	Toilet component is damaged, inoperable, or missing and it does not limit the resident's ability to discharge human waste.
	Toilet cannot be used in private.*
Bathtub and Shower	Only 1 bathtub or shower is present and it is inoperable or does not drain.
	A bathtub or shower is inoperable or does not drain and at least 1 bathtub or shower is present elsewhere that is operational.
	Bathtub component or shower component is damaged, inoperable, or missing such that it may limit the resident's ability to maintain personal hygiene.
	Bathtub component or shower component is damaged, inoperable, or missing and it does not limit the resident's ability to maintain personal hygiene.
	Bathtub or shower cannot be used in private.*
Grab Bar	Grab bar is not secure.
Drain	Drain is fully blocked.

Standard	Deficiency Description
Ventilation	Exhaust system does not respond to the control switch.
	Exhaust system has restricted airflow.
	Exhaust system component is damaged or missing.
	Bathroom does not have proper ventilation or dehumidification.
Electrical - GFCI/AFCI	GFCI outlet or GFCI breaker is not visibly damaged and the test or reset button is inoperable.
	AFCI outlet or AFCI breaker is not visibly damaged and the test or reset button is inoperable.
	An unprotected outlet is present within six feet of a water source.*
Leak - Water	Environmental water intrusion.
	Plumbing leak.
	Fluid is leaking from the sprinkler assembly.
	CARBON MONOXIDE/SMOKE ALARMS/FIRE EXTINGUISHERS
Smoke Alarm	**Smoke alarm is not installed where required.***
	Smoke alarm is obstructed.
	Smoke alarm does not produce an audio or visual alarm when tested.
Carbon Monoxide	**Carbon monoxide alarm is missing, not installed, or not installed in a proper location.***
	Carbon monoxide alarm does not produce an audio or visual alarm when tested.
	Carbon monoxide alarm is obstructed.
Fire Extinguisher	**Fire extinguisher pressure gauge reads over or under-charged.**
	Fire extinguisher service tag is missing, illegible, or expired.
	Fire extinguisher is damaged or missing.
	LAUNDRY
Clothes Dryer Exhaust Ventilation	**Electric dryer transition duct is detached or missing.**
	Gas dryer transition duct is detached or missing.
	Electric dryer exhaust ventilation system has restricted airflow.
	Dryer transition duct is constructed of unsuitable material.
	Gas dryer exhaust ventilation system has restricted airflow.
	Exterior dryer vent cover, cap, or a component thereof is missing.
	GARAGE
Garage Door	Garage door has a hole.
	Garage door does not open, close, or remain open or closed.
Flammable and Combustible Item	**Flammable or combustible item is on or within 3 feet of an appliance that provides heat for thermal comfort or a fuel-burning water heater.** **OR** **Improperly stored chemicals.**
	HVAC/HOT WATER HEATER
Heating, Ventilation, and Air Conditioning (HVAC)	**The inspection date is on or between October 1 and March 31 and the permanently installed heating source is not working or the permanently installed heating source is working and the interior temperature is below 64 degrees Fahrenheit.***
	The inspection date is on or between October 1 and March 31 and the permanently installed heating source is working and the interior temperature is 64 to 67.9 degrees Fahrenheit.*
	Air conditioning system or device is not operational.
	Unvented space heater that burns gas, oil, or kerosene is present.*
	Combustion chamber cover or gas shutoff valve is missing from a fuel burning heating appliance.
	Heating system or device safety shield is damaged or missing.

Standard	Deficiency Description
	The inspection date is on or between April 1 and September 30 and a permanently installed heating source is damaged, inoperable, missing, or not installed.*
	Fuel burning heating system or device exhaust vent is misaligned, blocked, disconnected, improperly connected, damaged, or missing.
	The inspection date is on or between October 1 and March 31 and the permanently installed heating source is inoperable.
Water Heater	Temperature pressure relief (TPR) valve has an active leak or is obstructed or relief valve discharge piping is damaged, capped, has an upward slope, or is constructed of unsuitable material.
	No hot water.
	The relief valve discharge piping is missing or terminates greater than 6 inches or less than 2 inches from waste receptor flood-level.
	Chimney or flue piping is blocked, misaligned, or missing.
	Gas shutoff valve is damaged, missing, or not installed.
	ELECTRIC PANEL
Electrical - Service Panel	Electrical service panel is not readily accessible.
	The overcurrent protection device is damaged.
	The overcurrent protection device is contaminated.

Standard	Deficiency Description
	LIGHTING INTERIOR AND EXTERIOR
Lighting - Auxiliary	Auxiliary lighting is damaged, missing, or fails to illuminate when tested.
Lighting - Exterior	A permanently installed light fixture is damaged, inoperable, missing, or not secure.
Lighting - Interior	A permanently installed light fixture is inoperable.
	A permanently installed light fixture is not secure.
	At least one (1) permanently installed light fixture is not present in the kitchen and bathroom.*
Minimum Electrical and Lighting	At least two (2) working outlets are not present within each habitable room. OR At least one (1) working outlet and one (1) permanently installed light fixture is not present within each habitable room.*
	EGRESS
Egress	**Obstructed means of egress.**
	Sleeping room is located on the 3rd floor or below and has an obstructed rescue opening.
	Fire escape access is obstructed.
	TRIP HAZARDS
Trip Hazard	Trip hazard on walking surface.
	SHARP EDGES
Sharp Edges	A sharp edge that can result in a cut or puncture hazard is present.
	WINDOWS - INTERIOR/EXTERIOR
Window	Window will not open or stay open.
	Window cannot be secured.
	Window will not close.
	Window component is damaged or missing and the window is not functionally adequate.
	INFESTATIONS
Infestation	Evidence of cockroaches.
	Extensive cockroach infestation.
	Evidence of bedbugs.
	Extensive bedbug infestation.
	Evidence of mice.
	Extensive mouse infestation.
	Evidence of rats.
	Extensive rat infestation.
	Evidence of other pests.
	OUTSIDE/EXTERIOR
Litter	Litter is accumulated in an undesignated area.
Foundation	Foundation is cracked.
	Foundation has exposed rebar or foundation is spalling, flaking, or chipping.
	Foundation is infiltrated by water.
	Foundation support post, column, beam, or girder is damaged.
	Foundation vent cover is missing or damaged.
Guardrail	**Guardrail is missing or not installed.***
	Guardrail is not functionally adequate.

Standard	Deficiency Description
Handrail	Handrail is missing.
	Handrail is not secure.
	Handrail is not functionally adequate.
	Handrail is not installed where required.
Fence and Gate	Fence component is missing. Gate does not open, close, latch, or lock. Fence demonstrates signs of collapse.
Parking Lot	Parking lot has any one pothole that is 4 inches deep and 1 square foot or greater.
	Parking lot has ponding.
Private Roads and Driveways	Road or driveway access to the property is blocked or impassable for vehicles.
	Road or driveway has any one pothole that is 4 inches deep and 1 square foot or greater.
Retaining Wall	Retaining wall is leaning away from the fill side.
	Retaining wall is partially or completely collapsed.
Roof Assembly	Restricted flow of water from a roof drain, gutter, or downspout.
	Gutter component is damaged, missing, or unfixed.
	Roof surface has standing water.
	Substrate is exposed.
	Roof assembly has a hole.
	Roof assembly is damaged.
Sidewalk, Walkway, Ramp	Sidewalk, walkway, or ramp is blocked or impassable.
	Sidewalk, walkway, or ramp is not functionally adequate.
Site Drainage	Water runoff is unable to flow through the site drainage system.
	Erosion is present.
	Grate is not secure or does not cover the site drainage system's collection point.
Sprinkler Assembly	**Sprinkler head assembly is encased or obstructed by an item or object that is within 18 inches of the sprinkler head.**
	Sprinkler assembly component is damaged, inoperable, or missing and it is detrimental to performance.
	Sprinkler assembly has evidence of corrosion.
	Sprinkler assembly has evidence of foreign material that is detrimental to performance.
Steps and Stairs	Tread is missing or damaged.
	Stringer is damaged.
	Step or stair is not functionally adequate.
Structural System	**Structural system exhibits signs of serious failure.**
	MOLD ISSUES
Mold-Like Substance	Presence of mold-like substance at moderate levels is observed visually.
	Presence of mold-like substance at high levels is observed visually.
	Presence of mold-like substance at extremely high levels is observed visually.
	Elevated moisture level.
	LEAD BASE PAINT
Potential Lead-Based Paint Hazards - Visual Assessment	Paint in a Unit or Inside the target property is deteriorated – below the level required for lead-safe work practices by a lead-certified firm or for passing clearance.
	Paint in a Unit or Inside the target property is deteriorated – above the level required for lead-safe work practices by a lead-certified firm and passing clearance.
	Paint Outside on a target property is deteriorated – below the level required for lead-safe work practices by a lead-certified firm or for passing clearance.

Standard	Deficiency Description
	Paint Outside on a target property is deteriorated – above the level required for lead-safe work practices by a lead-certified firm and passing clearance.
	MISCELLANEOUS
Call-For-Aid System	**System is blocked, or pull cord is higher than 6 inches off the floor.**
	System does not function properly.
Chimney	**A visually accessible chimney, flue, or firebox connected to a fireplace or wood-burning appliance is incomplete or damaged such that it may not safely contain fire and convey smoke and combustion gases to the exterior.**
	Chimney exhibits signs of structural failure.
Elevator	Elevator is inoperable.
	Elevator door does not fully open and close.
	Elevator cab is not level with the floor.
	Safety edge device has malfunctioned or is inoperable.
Exit Sign	**Exit sign is damaged, missing, obstructed, or not adequately illuminated.**
Fire Escape	**Fire escape component is damaged or missing.**
Trash Chute	Chute door does not open or self-close and latch.
	Chute is clogged.

Single Family Residential Useful Life Chart

Note: Life expectancy varies with usage, weather, installation, maintenance, and quality of materials. This list should be used only as a general guideline and not as a guarantee or warranty regarding the performance or life expectancy of any appliance, product, system or component. InterNACHI's Standard Estimated Life Expectancy Chart for Homes

Surface preparation and paint quality are the most important determinants of a paint's life expectancy. Ultraviolet (UV) rays via sunshine can shorten life expectancy. Additionally, conditions of high humidity indoors or outdoors can affect the lifespan of these components, which is why they should be inspected and maintained seasonally.

ADHESIVES, CAULK & PAINTS	YEARS
Caulking (interior & exterior)	5 to 10
Construction Glue	20+
Paint (exterior)	7 to 10
Paint (interior)	10 to 15
Roofing Adhesives/Cements	15+
Sealants	8
Stains	3 to 8

Appliance life expectancy depends to a great extent on the use it receives. Furthermore, consumers often replace appliances long before they become worn out due to changes in styling, technology and consumer preferences.

APPLIANCES	YEARS
Air Conditioner (window)	5 to 7
Compactor (trash)	6
Dehumidifier	8
Dishwasher	9
Disposal (food waste)	12
Dryer Vent (plastic)	5
Dryer Vent (steel)	20
Dryer (clothes)	13
Exhaust Fans	10
Freezer	10 to 20
Gas Oven	10 to 18
Hand Dryer	10 to 12
Humidifier (portable)	8

Microwave Oven	9
Range/Oven Hood	14
Electric Range	13 to 15
Gas Range	15 to 17
Refrigerator	9 to 13
Swamp Cooler	5 to 15
Washing Machine	5 to 15
Whole-House Vacuum System	20

Modern kitchens today are larger and more elaborate. Together with the family room, they now form the "great room."

CABINETRY & STORAGE	YEARS
Bathroom Cabinets	50+
Closet Shelves	100+
Entertainment Center/Home Office	10
Garage/Laundry Cabinets	70+
Kitchen Cabinets	50
Medicine Cabinet	25+
Modular (stock manufacturing-type)	50

Walls and ceilings last the full lifespan of the home.

CEILINGS & WALLS	YEARS
Acoustical Tile Ceiling	40+ (older than 25 years may contain asbestos)
Ceramic Tile	70+
Concrete	75+
Gypsum	75
Wood Paneling	20 to 50
Suspended Ceiling	25+

Natural stone countertops, which are less expensive than they were just a few years ago, are becoming more popular, and one can expect them to last a lifetime. Cultured marble countertops have a shorter life expectancy, however.

COUNTERTOPS	YEARS
Concrete	50
Cultured Marble	20
Natural Stone	100+

Laminate	20 to 30
Resin	10+
Tile	100+
Wood	100+

Decks are exposed to a wide range of conditions in different climates, from wind and hail in some areas, to relatively consistent, dry weather in others. See FASTENERS & STEEL section for fasteners.

DECKS	YEARS
Deck Planks	15
Composite	8 to 25
Structural Wood	10 to 30

Exterior fiberglass, steel and wood doors will last as long as the house, while vinyl and screen doors have a shorter life expectancy. The gaskets/weatherstripping of exterior doors may have to be replaced every five to eight years.

DOORS	YEARS
Closet (interior)	100+
Fiberglass (exterior)	100+
Fire-Rated Steel (exterior)	100+
French (interior)	30 to 50
Screen (exterior)	30
Sliding Glass/Patio (exterior)	20 (for roller wheel/track repair/replacement)
Vinyl (exterior)	20
Wood (exterior)	100+
Wood (hollow-core interior)	20 to 30
Wood (solid-core interior)	30 to 100+

Copper-plated wiring, copper-clad aluminum, and bare copper wiring are expected to last a lifetime, whereas electrical accessories and lighting controls, such as dimmer switches, may need to be replaced after 10 years. GFCIs could last 30 years, but much less if tripped regularly.

Remember that faulty, damaged or overloaded electrical circuits or equipment are the leading cause of house fires, so they should be inspected regularly and repaired or updated as needed.

ELECTRICAL	YEARS
Accessories	10+
Arc-Fault Circuit Interrupters (AFCIs)	30
Bare Copper	100+
Bulbs (compact fluorescent)	8,000 to 10,000+ hours
Bulbs (halogen)	4,000 to 8,000+ hours
Bulbs (incandescent)	1,000 to 2,000+ hours
Bulbs (LED)	30,000 to 50,000+ hours
Copper-Clad Aluminum	100+
Copper-Plated	100+
Fixtures	40
Ground-Fault Circuit Interrupters (GFCIs)	up to 30
Lighting Controls	30+
Residential Propane Backup Generators	12
Service Panel	60
Solar Panels	20 to 30
Solar System Batteries	3 to 12
Wind Turbine Generators	20

Floor and roof trusses and laminated strand lumber are durable house-building components, and engineered trim may last 30 years.

ENGINEERED LUMBER	YEARS
Engineered Joists	80+
Laminated Strand Lumber	100+
Laminated Veneer Lumber	80+
Trusses	100+

Fastener manufacturers do not give lifespans for their products because they vary too much based on where the fasteners are installed in a home, the materials in which they're installed, and the local climate and environment. However, inspectors can use the guidelines below to make educated judgments about the materials they inspect.

FASTENERS, CONNECTORS & STEEL	YEARS
Adjustable Steel Columns	50+
Fasteners (bright)	25 to 60
Fasteners (copper)	65 to 80+
Fasteners (galvanized)	10+
Fasteners (electro-galvanized)	15 to 45

FASTENERS, CONNECTORS & STEEL	YEARS
Fasteners (hot-dipped galvanized)	35 to 60
Fasteners (stainless)	65 to 100+
Steel Beams	200+
Steel Columns	100+
Steel Plates	100+

Flooring life is dependent on maintenance and the amount of foot traffic the floor endures.

FLOORING	YEARS
All Wood Floors	100+
Bamboo	100+
Brick Pavers	100+
Carpet	8 to 10
Concrete	50+
Engineered Wood	50+
Exotic Wood	100+
Granite	100+
Laminate	15 to 25
Linoleum	25
Marble	100+
Other Domestic Wood	100+
Slate	100
Terrazzo	75+
Tile	75 to 100
Vinyl	25

Concrete and poured-block footings and foundations will last a lifetime, assuming they were properly built. Waterproofing with bituminous coating lasts 10 years, but if it cracks, it is immediately damaged.

FOUNDATIONS	YEARS
Baseboard Waterproofing System	50
Bituminous-Coating Waterproofing	10
Concrete Block	100+
Insulated Concrete Forms (ICFs)	100
Permanent Wood Foundation (PWF; treated)	75
Post and Pier	20 to 65

Post and Tensioned Slab on Grade	100+
Poured-Concrete Footings and Foundation	100+
Slab on Grade (concrete)	100
Wood Foundation	5 to 40

Framing and structural systems have extended longevities; poured-concrete systems, timber-frame houses, and structural insulated panels will all last a lifetime.

FRAMING	YEARS
Log	80 to 200
Poured-Concrete Systems	100+
Steel	100+
Structural Insulated Panels (SIPs)	100+
Timber Frame	100+

The quality and frequency of use will affect the longevity of garage doors and openers.

GARAGES	YEARS
Garage Doors	20 to 25
Garage Door Openers	10 to 15

Home technology systems have diverse life expectancies and may have to be upgraded due to evolution in technology.

HOME TECHNOLOGY	YEARS
Built-In Audio	20
Carbon Monoxide Detectors*	5
Doorbells	45
Home Automation System	5 to 50
Intercoms	20
Security System	5 to 20
Smoke/Heat Detectors*	less than 10
Wireless Home Network	5+

* Batteries should be changed at least annually.

As long as they are not punctured, cut or burned and are kept dry and away from UV rays, cellulose, fiberglass and foam insulation materials will last a lifetime. This is true regardless of whether they were installed as loose-fill, housewrap, or batts/rolls.

INSULATION & INFILTRATION BARRIERS	YEARS
Batts/Rolls	100+
Black Paper (felt paper)	15 to 30
Cellulose	100+
Fiberglass	100+
Foamboard	100+
Housewrap	80+
Liquid-Applied Membrane	50
Loose-Fill	100+
Rockwool	100+
Wrap Tape	80+

Thermostats may last 35 years but they are usually replaced before they fail due to technological improvements.

HVAC	YEARS
Air Conditioner (central)	7 to 15
Air Exchanger	15
Attic Fan	15 to 25
Boiler	40
Burner	10+
Ceiling Fan	5 to 10
Chimney Cap (concrete)	100+
Chimney Cap (metal)	10 to 20
Chimney Cap (mortar)	15
Chimney Flue Tile	40 to 120
Condenser	8 to 20
Dampers	20+
Dehumidifier	8
Diffusers, Grilles and Registers	25
Ducting	60 to 100
Electric Radiant Heater	40
Evaporative Cooler	15 to 25
Furnace	15 to 25
Gas Fireplace	15 to 25
Heat Exchanger	10 to 15
Heat Pump	10 to 15
Heat-Recovery Ventilator	20

Hot-Water and Steam-Radiant Boiler	40
Humidifier	12
Induction and Fan-Coil Units	10 to 15
Thermostats	35
Ventilator	7

Masonry is one of the most enduring household components. Fireplaces, chimneys and brick veneers can last the lifetime of the home.

MASONRY & CONCRETE	YEARS
Brick	100+
Insulated Concrete Forms (hybrid block)	100+
Concrete Masonry Units (CMUs)	100+
Man-Made Stone	25
Masonry Sealant	2 to 20
Stone	100+
Stucco/EIFS	50+
Veneer	100+

Custom millwork and stair parts will last a lifetime and are typically only upgraded for aesthetic reasons.

MOLDING, MILLWORK & TRIM	YEARS
Attic Stairs (pull-down)	50
Custom Millwork	100+
Pre-Built Stairs	100+
Stair Parts	100+
Stairs	100+

The lifetime of any wood product depends heavily on moisture intrusion.

PANELS	YEARS
Flooring Underlayment	25
Hardboard	40
Particleboard	60
Plywood	100
Softwood	30
Oriented Strand Board (OSB)	60
Wall Panels	100+

The quality of plumbing fixtures varies dramatically. The mineral content of water can shorten the life expectancy of water heaters and clog showerheads. Also, some finishes may require special maintenance with approved cleaning agents per the manufacturers in order to last their expected service life.

PLUMBING, FIXTURES & FAUCETS	YEARS
ABS and PVC Waste Pipe	50 to 80
Accessible/ADA Handles	100+
Acrylic Kitchen Sink	50
Cast-Iron Bathtub	100
Cast-Iron Waste Pipe (above ground)	60
Cast-Iron Waste Pipe (below ground)	50 to 60
Concrete Waste Pipe	100+
Copper Water Lines	70
Enameled Steel Kitchen Sink	5 to 10+
Faucets and Spray Hose	15 to 20
Fiberglass Bathtub and Shower	20
Gas Lines (black steel)	75
Gas Lines (flex)	30
Hose Bibs	20 to 30
Instant (on-demand) Water Heater	10
PEX	40
Plastic Water Lines	75
Saunas/Steam Room	15 to 20
Sewer Grinder Pump	10
Shower Enclosure/Module	50
Shower Doors	20
Showerheads	100+ (if not clogged by minerals or other deposits)
Soapstone Kitchen Sink	100+
Sump Pump	7
Toilet Tank Components	5
Toilets, Bidets and Urinals	100+
Vent Fan (ceiling)	5 to 10
Vessel Sink (stone, glass, porcelain, copper)	5 to 20+
Water Heater (conventional)	6 to 12
Water Line (copper)	50
Water Line (plastic)	50
Water Softener	20

Well Pump	15
Whirlpool Tub	20 to 50

Radon mitigation systems have but one moving part: the radon fan.

RADON SYSTEMS	YEARS
Air Exchanger	15
Barometric Backdraft Damper/Fresh-Air Intake	20
Caulking	5 to 10
Labeling	25
Manometer	15
Piping	50+
Radon Fan	5 to 8

The life of a roof depends on local weather conditions, building and design, material quality, and adequate maintenance. Hot climates drastically reduce asphalt shingle life. Roofs in areas that experience severe weather, such as hail, tornadoes and/or hurricanes, may also experience a shorter-than-normal lifespan overall, or may incur isolated damage that requires repair in order to ensure the service life of the surrounding roofing materials.

ROOFING	YEARS
Aluminum Coating	3 to 7
Asphalt (architectural)	30
Asphalt Shingles (3-tab)	20
BUR (built-up roofing)	30
Clay/Concrete	100+
Coal and Tar	30
Copper	70+
EPDM (ethylene propylene diene monomer) Rubber	15 to 25
Fiber Cement	25
Green (vegetation-covered)	5 to 40
Metal	40 to 80
Modified Bitumen	20
Simulated Slate	10 to 35
Slate	60 to 150
TPO	7 to 20
Wood	25

Exterior siding materials typically last a lifetime. Some exterior components may require protection through appropriate paints or sealants, as well as regular maintenance. Also, while well-maintained and undamaged flashing can last a long time, it is their connections that tend to fail, so seasonal inspection and maintenance are strongly recommended.

SIDINGS, FLASHING & ACCESSORIES	YEARS
Aluminum Gutters, Downspouts, Soffit and Fascia	20 to 40+
Aluminum Siding	25 to 40+
Asbestos Shingle	100
Brick	100+
Cementitious	100+
Copper Downspouts	100
Copper Gutters	50+
Engineered Wood	100+
Fiber Cement	100+
Galvanized Steel Gutters/Downspouts	20
Manufactured Stone	100+
Stone	100+
Stucco/EIFS	50+
Trim	25
Vinyl Gutters and Downspouts	25+
Vinyl Siding	60
Wood/Exterior Shutters	20

Aluminum windows are expected to last between 15 and 20 years, while wooden windows should last nearly 30 years.

WINDOWS	YEARS
Aluminum/Aluminum-Clad	15 to 20
Double-Pane	8 to 20
Skylights	10 to 20
Vinyl/Fiberglass Windows	20 to 40
Window Glazing	10+
Wood	30+

Site and landscaping elements have life expectancies that vary dramatically.

SITE & LANDSCAPING	YEARS
American Red Clay	100+
Asphalt Driveway	15 to 20
Brick and Concrete Patio	15 to 25
Clay Paving	100+
Concrete Walks	40 to 50
Controllers	15
Gravel Walks	4 to 6
Mulch	1 to 2
Polyvinyl Fencing	100+
Sprinkler Heads	10 to 14
Underground PVC Piping	60+
Valves	20
Wood Chips	1 to 5
Wood Fencing	20

Swimming pools are composed of many systems and components, all with varying life expectancies.

SWIMMING POOLS	YEARS
Concrete Shell	25+
Cover	7
Diving Board	10
Filter and Pump	10
Interior Finish	10 to 35
Pool Water Heater	8
Vinyl Liner	10
Waterline Tile	15+

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INSTRUCTIONS FOR PERFORMING A MULTIFAMILY PROPERTY CONDITION ASSESSMENT (Version 2.0)

APPENDIX F

ESTIMATED USEFUL LIFE TABLES

These Estimated Useful Life Tables for multifamily property systems and components are intended to represent standardized average estimated useful life ("EUL") values and are not intended to replace the professional judgment of the PCA Consultant in determining the Effective Age and Remaining Useful Life of the systems and components at the Property. The PCA Consultant should consider preventive maintenance practices, as well as environment, geographic, resident, and other factors when determining Effective Age and Remaining Useful Life of the systems and components of a multifamily Property. In addition to providing guidance on EUL values typically considered capital expenditure items, the EUL tables may include items that are typically considered general maintenance and repair items to be handled by in-house maintenance staff.

Estimated Useful Life (EUL) Tables

FLATWORK, PARKING AREAS AND WALKWAYS	Multifamily / Coop	Seniors	Students
Asphalt pavement	25	25	25
Asphalt seal coat	5	5	5
Concrete pavement	50	50	50
Curbing, asphalt	25	25	25
Curbing, concrete	50	50	50
Parking, stall striping	5	5	5
Parking, gravel surfaced	15	15	15
Security gate (site ingress/egress) - rolling gate / lift arm	10	10	10
Sidewalk, asphalt	25	25	25
Sidewalk, brick paver	30	30	30
Sidewalk, concrete	50	50	50

SITE LIGHTING	Multifamily / Coop	Seniors	Student
Building mounted exterior lighting	10	10	10
Building mounted High Intensity Discharge (HID) lighting	10	20	10
Lighting (pole mounted)	25	25	25

SITE FENCING AND RETAINING WALLS	Multifamily / Coop	Seniors	Students
Bulkhead (barrier) / partition wall /embankment	10	20	10
Fencing, chain-link (4' height)	40	40	40
Fencing, concrete masonry unit (CMU)	30	30	30
Fencing, dumpster enclosure (wood)	12	15	10
Fencing, PVC (6' height)	25	25	25
Fencing, Tennis Court (10' height)-Chain link	40	40	40
Fencing, wood privacy (6' height)	15	20	10
Fencing, wrought iron (4-6' height and decorative)	50	50	50
Retaining walls, 80 lb block type	50	50	50
Retaining walls, concrete masonry unit (CMU) with brick face	40	40	40
Retaining walls, timber (railroad tie)	25	25	25

STRUCTURAL FRAME AND BUILDING ENVELOPE			
BUILDING STRUCTURES	**Multifamily / Coop**	**Seniors**	**Students**
Carports	40	40	40
Canopy, concrete	50	50	50
Canopy, wood / metal	40	40	40
Garages	50	50	50
Storage Sheds	30	30	30
Penthouse (mechanical room)	50	50	50

FOUNDATIONS	**Multifamily / Coop**	**Seniors**	**Students**
Foundations	50+	50+	50+
Waterproofing (foundations)	50+	50+	50+

FRAMING	**Multifamily / Coop**	**Seniors**	**Students**
Brick or block	40	40	40
Precast concrete panel (tilt-up)	40	40	40
Wood floor frame	50+	50+	50+

BUILDING ENVELOPE / CLADDING / EXTERIOR WALL FINISHES	Multifamily / Coop	Seniors	Students
Aluminum Siding	40	40	40
Brownstone	40	40	40
Brick or Stone Veneer	50+	50+	50+
Cement-board siding (Hardi-plank)/ Cementitious (mfgr) siding	45	45	45
Exterior Insulation Finishing Systems (EIFS)	20	20	20
Glass block	40	40	40
Granite block	40	40	40
Insulation, wall	50+	50+	50+
Metal/ glass curtain wall	30	30	30
Painting, Exterior	5-10	5-10	5-10
Pre-cast concrete panel	45	45	45
Stucco systems	50+	50+	50+
Vinyl siding	25	25	25
Wood shingle/ clapboard/ plywood, stucco, composite wood	20	20	20

ROOF SYSTEMS	Multifamily / Coop	Seniors	Students
Asphalt shingle (3-tab)	20	20	20
Built-up roof - Ethylene Propylene Diene Monomer (EPDM) / Thermoplastic Polyolefin (TPO)	20	20	20
Metal	40	40	40
Parapet wall	50+	50+	50+
Caps, copings (aluminum/ terra-cotta) - Parapet	25	25	25
Roof drainage exterior (gutter/ downspout)	10	10	10
Roof drainage interior (drain covers)	30	30	30
Roof railing	25	25	25
Roof structure	50+	50+	50+
Roof hatch	30	30	30
Roof skylight	30	30	30
Slab	50+	50+	50+
Slate, clay, concrete tile	40	40	40
Soffits (wood/ stucco)	20	20	20
Soffits (aluminum or vinyl)	25	25	25
Wood shingles (cedar shake)	25	25	25

DOORS AND WINDOWS	Multifamily / Coop	Seniors	Students
Exterior common door, aluminum and glass	30	30	30
Exterior common door, solid core wood or metal clad	25	25	25
Exterior unit door, solid wood/ metal clad	25	30	20
Residential Sliding Glass Doors	25	30	20
Residential French Glass Doors	25	30	20
Ceilings, open or exterior	30	30	30
Service door (roof)	25	30	20
Storm/ screen doors	7	10	5
Storm/ screen windows	10	15	7
Windows (frames and glazing), vinyl or aluminum	30	30	30

APPURTENANCES:	Multifamily / Coop	Seniors	Students
Chimney	40	40	40
Exterior stairs, wood	15	20	15
Exterior stairs, metal pan- concrete filled	30	30	30
Exterior stairs, concrete	50	50	50
Fire Escapes	40	40	40
Porches, concrete	50	50	50
Wood Decks	20	20	20

AMENITIES	Multifamily / Coop	Senior	Student
Basketball court	25	25	25
Mail kiosk	10	15	10
Mail facility, interior	20	25	20
Pool deck	15	15	15
Pool/ spa plaster liner	8	8	8
Tennis court / basketball court surface (paint markings)	5	7	5
Tennis court Surface (acrylic emulsion)	10	12	10
Tot-lot (playground equipment)	10	15	10
Tot-lot, uncompressed ground cover	2+	3+	2+

MECHANICAL/ELECTRIC/ PLUMBING SYSTEMS

WATER DISTRIBUTION AND DOMESTIC HOT WATER SYSTEMS	Multifamily / Coop	Seniors	Students
Feedwater only (hydronic)	10	10	10
Condensate and feedwater (steam)	Included in boiler	Included in boiler	Included in boiler
Cooling Tower	25	25	25
DHW Circulating Pumps	by size	by size	by size
Domestic Hot Water (DHW) - supply / return	30	30	30
Tank only, dedicated fuel	10	10	10
Exchanger in storage tank	15	15	15
Exchanger in boiler	15	15	15
External tankless	15	15	15
Instantaneous (tankless type)	10	10	10
Domestic Hot Water Storage Tanks, Small (up to 150 gallons)	15	15	15
Domestic Hot Water Storage Tanks, Large (over 150 gallons)	15	15	15
Domestic Cold Water Pumps	15	15	15
Heating Water Circulating Pumps	by size	by size	by size
Heating Water Controller	15	15	15
Hot and Cold Water Distribution	50	50	50
Solar Hot Water	20	20	20
Water Softening and Filtration	15	15	15

SANITARY WASTE AND VENT	Multifamily / Coop	Seniors	Students
Purchased Steam Supply Station	50+	50+	50+
Sanitary Waste and Vent System	50+	50+	50+
Sewage Ejectors	50	50	50

SUMP PUMP	Multifamily / Coop	Seniors	Students
Residential Sump Pump	7	7	7
Commercial Sump Pump	15	15	15

HEATING/COOLING SYSTEM AND CONTROLS	Multifamily / Coop	Senior	Student
Pad/ roof condenser	20	20	20
A/C window unit or through wall	10	10	10
Evaporative Cooler	15	15	15
Fan coil unit, electric	20	20	20
Fan coil unit, hydronic	30	30	30
Furnace (electric heat with A/C)	20	20	20
Furnace (electric heat with A/C)	20	20	20
Furnace (gas heat with A/C)	20	20	20
Packaged terminal air conditioner (PTAC)	15	15	15
Packaged HVAC (roof top units)	20	20	20
Heat pump condensing component	20	20	20
Heater, electric baseboard	25	25	25
Heater, wall mounted electric or gas	20	20	20
Hydronic heat/ electric A/C	20	20	20
Line Dryers	15	15	15
Master TV System	10	10	10
Motorized Valves	12	12	12
Outdoor Temperature Sensor	10	10	10
Pneumatic lines and Controls	30	30	30

BUILDING HEATING WATER TEMPERATURE CONTROLS	Multifamily / Coop	Seniors	Students
Chilled Water Distribution	50+	50+	50+
Chilling Plant	15	15	15
Cooling Tower	25	25	25
Fuel Oil Storage	25	25	25
Fuel Transfer System	25	25	25
Gas Distribution	50+	50+	50+
Heat Sensors	15	15	15
Heat Exchanger	35	35	35
Heating Risers and Distribution	50+	50+	50+

VENTILATION SYSTEMS	Multifamily / Coop	Seniors	Students
Combustion Air, Duct with fixed louvers	30	30	30
Combustion Air, Motor louver and duct	25	25	25
Flue Exhaust	w/boiler	w/boiler	w/boiler
Free Standing Chimney	50+	50+	50+

ELECTRICAL SYSTEMS	Multifamily / Coop	Seniors	Students
Common area	15	15	15
Buzzer/Intercom, central panel	20	20	20
Central Unit Exhaust, roof mounted	15	15	15
Compactors	15	15	15
Dumpsters	10	10	10
Electrical distribution center	40	40	40
Electric main	40	40	40
Emergency Generator	25	25	25
Gas lines	40	40	40
Gas main	40	40	40
Heating supply/ return	40	40	40
Power distribution	40	40	40
Transformer	30	30	30

BOILER ROOM EQUIPMENT	Multifamily / Coop	Seniors	Students
Blowdown and Water Treatment	25	25	25
Boiler Room Pipe Insulation	Included in boiler	Included in boiler	Included in boiler
Boiler Room Piping	Included in boiler	Included in boiler	Included in boiler
Boiler Room Valves	15	15	15
Boiler Temperature Controls	Included in boiler	Included in boiler	Included in boiler

VERTICAL TRANSPORTATION - ELEVATORS	Multifamily / Coop	Senior	Student
Electrical Switchgear	50+	50+	50+
Electrical Wiring	30	30	30
Elevator, Controller, dispatcher	15	20	10
Elevator, Cab	15	20	10
Elevator, Machinery	30	30	30
Elevator, Shaft-way Doors	20	20	20
Elevator, Shaft-way Hoist rails, cables, traveling	25	25	25
Elevator, Shaft-way Hydraulic piston and leveling	25	25	25
BOILERS	**Multifamily / Coop**	**Seniors**	**Students**
Oil-fired, sectional	22	22	22
Gas/ dual fuel, sectional	25	25	25
Oil/ gas/ dual fired, low MBH	30	30	30
Oil/ gas/ dual fired, high MBH	40	40	40
Gas fired atmospheric	25	25	25
Electric	20	20	20

FIRE SAFETY AND FIRE PROTECTION SYSTEMS	Multifamily / Coop	Senior	Student
Call station	10	15	10
Emergency Generator	25	25	25
Emergency Lights	8	10	5
Fire Extinguisher	10	15	5
Fire Pumps	20	20	20
Fire Suppression	50+	50+	50+
Smoke and Fire Detection System, central panel	15	15	15

INTERIOR ELEMENTS (COMMON AREA / DWELLING UNIT)			
INTERIOR / COMMON AREA FINISHES	**Multifamily / Coop**	**Seniors**	**Students**
Common area doors, interior (solid wood/ metal clad)	20	20	20
Common area floors, ceramic / quarry tile, terrazzo	50+	50+	50+
Common area floors, wood (strip or parquet)	30	30	30
Common area floors, resilient tile or sheet	15	15	15
Common area floors, carpet	5	5	5
Common area floors, concrete	50+	50+	50+
Common area railing	20	20	20
Common area ceiling, concrete	50+	50+	50+
Common area ceiling, acoustic tile (drop ceiling), drywall / plaster	10	10	10
Common area countertop and sink	20	20	20
Common area, refrigerator	10	10	10
Common area dishwasher	15	15	10
Common area disposal	5	7	3
Common area kitchen cabinets, wood	15	20	10
Common area walls	15	25	10
Interior railings	20	25	15
Interior lighting	15	20	10
Public bathroom accessories	7	12	5
Public bathroom fixtures	15	20	10

DWELLING FIRE, SAFETY AND SECURITY	Multifamily / Coop	Seniors	Students
Unit Smoke/Fire Detectors *	5	5	5
Unit Carbon Monoxide Detectors *	5	5	5
Unit Buzzer/Intercom	20	20	20

*Tested annually, batteries changed annually.

DWELLING UNIT CEILINGS	Multifamily / Coop	Seniors	Students
Concrete	50+	50+	50+
Acoustic Tile / Drywall / Plaster	10	15	10

DWELLING UNIT FIXTURES	Multifamily / Coop	Senior	Student
Bathroom: Vanity	10	15	10
Bathroom: Fixtures / Faucets	15-20	20+	15-20
Bathroom: Fiberglass Bath / Shower	20	25	18
Bathroom: Toilet	50+	50+	40
Bathroom: Toilet Tank Components	5	5	5
Bathroom: Vent / Exhaust	10	10	10
Interior Doors	15	30	10
Kitchen: Cabinets (wood construction)	20	25	15
Kitchen: Cabinets (particle board)	15	20+	13
Kitchen: Dishwasher	5-10	10-12	5-8
Kitchen: Microwave	10	12	8
Kitchen: Range	15	25	15
Kitchen: Range-hood	10	20	10
Kitchen: Refrigerator	10	20	10
Window covering	3	5	1+

DWELLING UNIT FLOORS	Multifamily / Coop	Senior	Student
Ceramic / Tile / Terrazzo	20	25	20
Wood (strip/ parquet)	15	20	20
Resilient Flooring	10	15	7
Carpet	7	10	3+
Concrete	50+	50+	50+

DWELLING UNIT HVAC AND MECHANICAL EQUIPMENT	Multifamily / Coop	Senior	Student
A/C window unit or through wall	10	10	10
Evaporative cooler	15	15	15
Fan coil unit, electric	20	20	20
Fan coil unit, hydronic	30	30	30
Furnace (electric heat with A/C)	20	20	20
Furnace (gas heat with A/C)	20	20	20
Packaged terminal air conditioner (PTAC)	15	15	15
Packaged HVAC (roof top unit)	15	15	15
Heat pump condensing component	15	15	15
Heater, electric baseboard	25	25	25
Heater, wall mounted electric or gas	20	20	20
Hydronic heat/ electric AC	20	20	20
Unit Electric Panel	50+	50+	50+
Unit Level Boiler	25	25	25
Unit Level Domestic Hot Water	10	15	10
Unit Level Hot Air Furnace	25	25	25
Unit Radiation - Steam/ Hydronic (baseboard or freestanding)	30	30	30
Unit Wiring	30	30	30