



Los Alamos County Home Renewal Program Housing Rehabilitation Standards



I. General Purpose and Scope:

The intent of the Los Alamos County Home Renewal Program (HRP) is to establish minimum standards which must be met for any housing unit rehabilitated through the Los Alamos County Home Renewal Program. The standards for rehabilitation may be different from standards for new construction. This is due to the scope of work being done on existing buildings where the extent and the emphasis of construction may differ from the construction of new buildings. These standards, while setting forth basic objectives and provisions specifically related to rehabilitation, shall not be construed as relieving the property owner or the contractor of their responsibility for compliance with local ordinances, codes and/or for obtaining the required permits for each project.

Work performed under the Home Renewal Program will be performed under one of three project categories: Energy Conservation; Emergency Repair; or General Repair. An Energy Conservation project is an improvement which reduces the amount of gas and electricity used in the home, as determined by a third-party energy audit. An emergency repair is an improvement to remove a substandard condition, as determined by the HRP and the County, which poses an immediate threat to the health, safety and welfare of the occupants. A General Repair project is an improvement necessary to bring a home, or part of a home, up to County Building Code, and/or make accessibility improvements that allow seniors to safely remain in their homes, and/or to repair or replace building exterior siding and stucco which is badly deteriorated.

All rehabilitation work performed with HRP funds must comply with the requirements set forth herein. When substandard conditions are encountered in a unit to be rehabilitated, they must be addressed as part of the improvement project. Any building or portion thereof which is determined to be unsafe in accordance with the Building Code, or any building or portion thereof, including any dwelling unit in which conditions exist that endanger life, limb, health, property, safety or welfare of the public or occupants thereof shall be deemed to be substandard. HRP staff and the County Building Official shall make the determination of substandard conditions. The prevailing building code is the Code that has been adopted by the State of New Mexico and Los Alamos County or other applicable governing authority

If substandard conditions are discovered, funds under the emergency repair program component of the Housing Repair Program may be available. Compliance with these construction standards will be evidenced by on-site inspections performed by HRP staff, the County building inspector and the State of New Mexico, Construction Industries Division, electrical, plumbing and mechanical inspectors, who will conduct separate inspections resulting in the issuance of a certificate of occupancy or a final inspection.

II. Substandard Conditions Defined:

Where substandard conditions are encountered in a unit to be rehabilitated with HRP funds, all substandard items must be addressed. Any building or portion thereof which is determined to be an unsafe building in accordance with the Code, or any building or portion thereof in which there exists any conditions that endanger the life, limb, health, property, safety or welfare of the public or occupants thereof shall be deemed to be substandard.

Buildings or portions thereof shall be deemed substandard when they are or contain structural hazards. Structural hazards shall include, but not be limited to the following: 1) Deteriorated or inadequate foundations; 2) Defective or deteriorated flooring or floor supports; 3) Flooring or floor supports of insufficient size to safely carry imposed loads; 4) Members of walls, partitions or other vertical supports that split, lean, list or buckle due to defective material or deterioration, or that are of insufficient size to carry the imposed loads with safety; 5) Members of ceilings, roofs and supports or other horizontal members which sag, split or buckle due to defective material or deterioration, or that are of insufficient size to carry the imposed loads with safety; 6) Condition of stairs, railings and porches that are hazardous or not sound; 7) Potential for collapse of the chimney or the chimney is not capable of safely carrying smoke, fumes and gasses from the unit to the outside.

Buildings or portions thereof in which there exists any nuisance as defined in the Code are deemed substandard.

Electrical wiring which was installed in violation of code requirements in effect at the time of installation or which has not been maintained in a good condition shall be considered substandard.

Buildings or portions thereof shall be considered substandard when they have faulty weather protection. This is defined as conditions that would allow significant amounts of water or air to enter the unit which would result in damage such as the following: 1) Deteriorated, crumbling or loose plaster or stucco; 2) Deteriorated or ineffective waterproofing of exterior walls, roof foundation or floors, including broken windows or doors; 3) Broken, split rotted or buckled exterior wall coverings or roof coverings; 4) Visible internal water damage that indicates roofing failure.

The use of construction materials which are not specifically allowed or approved by the Code, or the use of approved materials which have not been adequately maintained in a good and safe condition, shall cause a building to be substandard.

III. Workmanship:

All work undertaken by contractors and sub-contractors must be performed in a workmanlike manner and shall be uniform in appearance. All work and materials must conform to the applicable building, plumbing, mechanical, electrical, and energy conservation codes. All replacement products and materials will be comparable in material, quality, finish and price to that which had existed in the home prior to the beginning of the job, as determined by HRP staff, in its sole discretion. If there are no current versions of products and materials that are being replaced, then LAHP shall work with the contractor to select comparable substitutes.

All workmanship shall conform to the guidelines found in the publication "Residential Performance Construction Guidelines, Fifth Edition, National Association Home Builders, 2015, which are incorporated by reference into these Housing Rehabilitation Standards. If an item is not covered in this publication, standard industry practice shall govern. These guidelines are a collection of minimum performance criteria that pertain to construction workmanship that might arise in the course of a typical home renovation project. The issues addressed in these Residential Performance Guidelines include the following: 1) Site Work; 2) Foundation; 3) Interior Floor Construction; 4) Walls; 5) Exterior Finish; 6) Roof; 7) Plumbing; 8) Electrical; 9) Interior Climate Control; 10) Interior Finish; 11) Flooring; 12) Miscellaneous, which includes fireplace, concrete steps and driveways, decks and garage. A copy of this NAHB publication will be handed out to the homeowner and explained by the contractor and/or HRP staff before the construction contract is executed.

At the pre-construction conference, the contractors shall verify the work write-up with the homeowner and HRP staff. This work write-up will be included as part of the construction contract. The contractor shall be responsible for removing and replacing any work that does not meet Code and HRP Standards. The contractor shall provide all new materials unless otherwise specified and approved by the HRP. Changes in material and/or work requirements will not be accepted for payment unless given prior approval in writing by the homeowner and HRP and no work is to be performed before receiving approval. All work shall be coordinated in such a way as to cause the least amount of inconvenience to all parties involved.

At the time of final inspection, any changes or renovations must comply with Housing Rehabilitation Standards and the Code. All inspection permits shall be delivered to the HRP staff. All building debris and trash must be removed from the job site before final inspection. The contractor, HRP staff and the homeowner shall be present at final inspection.

HRP staff has the right to require correction of any work performed, either by the contractor or sub-contractors that it deems substandard, of insufficient quality and workmanship, or non-compliant with the Housing Rehabilitation Standards.

IV. Contractor Responsibilities and Construction Management Plan:

The HRP shall maintain a list of contractors that meet the eligibility requirements listed herein. Construction work for rehabilitation financed through the Home Renewal Program shall be undertaken only through a written contract between the contractor and the homeowner. Neither Los Alamos County nor the Los Alamos Housing Partnership is a party to any rehabilitation construction contract. The construction contract shall be in a form acceptable to Los Alamos County, HRP, the contractor and the homeowner. HRP shall provide a template of a construction contract for review of the parties.

The contractor must be licensed and in good standing with the State of New Mexico Construction Industries Division and Los Alamos County. The contractor must assure that all subcontractors under contract on the project are likewise fully licensed and registered with the State and County. The contractor must be in good standing with the Home Renewal Program and shall not have any contract violations or homeowner complaints pending adjudication and resolution. The contractor must provide evidence of liability insurance and worker's compensation coverage as may be required and stipulated by State statutes, local ordinances or funding agencies, and such insurance must remain in full force and effect for the term of each job awarded. The contractor must not be on any suspended or debarred list.

The activities of the contractor during the project shall not have a detrimental effect on the health, safety and welfare of the adjacent properties and the neighborhood. Toward that end, the contractor must comply with all provisions of Los Alamos County Code Chapter 10 – Buildings and Building Regulations; Chapter 18 – Environment, particularly Article II – Nuisances and Article III – Noise; Chapter 22 – Fire Prevention and Protection; and Chapter 34 – Streets, Sidewalks and Other Public Places. If the contractor violates Los Alamos Code during the performance of the project, and does not correct such violations, the homeowner has the right to terminate the construction contract.

The homeowner, selected contractor and HRP staff will attend a mandatory Pre-Construction meeting after award of the contract and prior to construction. The Los Alamos County Building Official, or designated representative, shall be invited to attend. All parties must sign the sign-in sheet which evidences their attendance at this conference. At this meeting, all parties will be asked to sign off on the contractor's scope of work, as set forth in the bid proposal. The roles and responsibilities of each party, including Los Alamos County, will be clarified. Inspection procedures

of HRP and Los Alamos County shall be reviewed, as well as the contractor's payment schedule. HRP and/or Los Alamos County will review applicable Code requirements which must be followed by the contractor. Once in agreement on all of these issues, the homeowner and contractor will sign the construction contract, as had been approved to form by Los Alamos County, HRP, the contractor and the homeowner.

The responsibility for monitoring the contractor's workmanship and progress will be shared by the homeowner and HRP staff. The homeowner is encouraged to monitor the work daily, when feasible, and to deal directly with the contractor to resolve any issues that may arise. HRP staff will meet with the homeowner and contractor to help resolve disagreements between the homeowner and staff that do not involve Code compliance issues. If such a disagreement cannot be resolved by HRP to the satisfaction of all parties, HRP staff shall direct a solution based upon compliance with the approved scope of work and these Housing Rehabilitation Standards. If the disagreement involves a Code compliance issue, the authority having jurisdiction (AHJ) shall provide a ruling that must be followed by the contractor.

HRP staff will perform an inspection whenever funds are requested for a progress payment and at other key milestones in the work progress. At these times, LAHP staff will meet with the homeowner and/or contractor to review everyone's view of work progress and performance. HRP will authorize payment only for work completed at acceptable quality and in compliance with these Housing Rehabilitation Standards and the scope of work that is part of the construction contract. The contractor shall ensure that all required permits from and inspections by the AHJ are completed and documentation of the inspection results are provided to the homeowner and HRP staff.

The contractor is allowed once per month progress payments which will be made in an amount equal to the value of the portion of the work that is completed at the time of the request for payment. Payment will be made within fifteen days following a satisfactory inspection, presentation of draw request and signed release of lien form from the contractor.

HRP will not provide the contractor with a down payment or percentage deposit at the beginning of the project. However, HRP may reimburse the contractor for materials purchased at the beginning of the project, provided that HRP receives paid invoices and the material is delivered to the job site. If the contractor leaves the job prior to completion, any balance of funds will be used to complete unfinished items. To request a progress payment, the contractor must provide HRP staff with a progress report indicating status of completion of the various components set forth in the work write-up which is part of the construction contract, and a statement of billing which reflects the dollar value of the portion of the work completed. HRP will produce inspection forms certifying that the work was completed as indicated by the contractor and was done in a quality manner conforming to the Housing Rehabilitation Standards.

At the substantial completion of a project, the contractor will request a final inspection through HRP staff. Substantial completion is defined as the point at which a home construction project is completed and the work areas are functional for their intended use as stated in the construction contract. All other required inspections by the AHJ must have been successfully completed prior to the final HRP inspection. As in prior inspections, the contractor shall notify HRP staff and the homeowner well in advance of the final inspection. If the final inspection is satisfactory, a certificate of final inspection will be executed. If there are items requiring remedial action, the

contractor will take immediate action to rectify such items. Final payment will be made to the contractor within fifteen days following a satisfactory final inspection, presentation of final billing, a signed release of lien form from the contractor and a fully executed copy of the warranty for all work.

The contractor must provide a warranty to the homeowner as set forth in Section V – Warranty.

V. Warranty:

At minimum, all contractors shall warrant their work against faulty material or poor workmanship for a period of one year from the date of final inspection. At minimum, a new roof or re-roof shall be provided with a seven year warranty. All warranties will be in a form acceptable to the HRP and may state that all workmanship shall conform to the guidelines found in the publication “Residential Performance Construction Guidelines, 5th Edition, National Association of Home Builders, 2015. Any poor workmanship or sub-standard material will be replaced or corrected at the direction of the HRP at no cost to the homeowner. All manufacturer’s warranties and guarantees for any new products and appliances that have been installed shall be completed and dated to include name, address, and dealer where appliances were purchased and shall be provided to the homeowner at the project close out.

HRP will require that a contractor provide its standard warranty as part of his/her bid response to an invitation to bid on an HRP project. The proposed scope and length of warranty proposed by the contractor will be one of the evaluation criteria used by the homeowner to select the contractor for the project.

VI. Code Compliance:

All work shall be accomplished in a workmanlike manner and must conform to all applicable building codes and zoning regulations. Building inspections and permits must be secured through the Los Alamos County Building Division. Plumbing, mechanical and electrical permits and inspections must be secured through the State Construction Industries Division prior to the start of a project. Requests for inspections must be requested from the AHJ.

VII. Code Sources:

All housing rehabilitation work performed must meet the requirements of the HRP and the latest adopted codes. Any further reference to “the Code” or “Code” will be to the AHJ. In the event the AHJ adopts additional codes, the requirements of those newly adopted codes shall be adhered to by the contractor.

VIII. Energy Conservation:

All Energy Conservation work performed shall be in compliance with design criteria established by Los Alamos County and the latest adopted New Mexico Energy Conservation Code. Minimum residential energy efficiency requirements must be met and verified by the AHJ. All work for which a permit is required shall be subject to inspection by the AHJ. The responsible authority shall be permitted to approve specific computer software, worksheets, compliance manuals and other similar materials to meet the intent of the code, such as ComCheck, ResCheck, and worksheet or trade-off sheets from the New Mexico energy conservation code residential applications manual.

Applications under the Energy Conservation part of the HRP shall be required to have energy audits performed that will indicate the amount of energy savings that can be achieved by the particular type of improvement being required.

IX. Confined Spaces in Construction:

On May 4, 2015, the Occupational Safety and Health Administration (OSHA) issued the final rule of confined spaces in construction. The standard covers requirements and procedures to protect workers engaged in construction activities at a worksite with one or more confined spaces. Confined spaces in a home may include; attics and crawl spaces. If space meets the definition of a confined space and it contains serious health or safety hazards, it is considered a confined space. OSHA requires workers to have a permit to enter these spaces.

The new rule will require compliance for contractors and their sub-contractors. Routine undertakings like installing spray-foam insulation in attics or installing plumbing in a crawlspace will require documented safety plans, and in some cases stationing an additional person outside the space to grant access. Construction workers often perform tasks in confined spaces—work areas that are large enough for an employee to enter, have limited means of entry or exit, and are not designed for continuous occupancy. These spaces can present physical and atmospheric hazards that can be prevented if addressed prior to entering the space to perform work.

X. Structural:

- 1. General.** Residential structures may be of any type of construction that is permitted by the State Construction Industries Division and the Los Alamos County Building Division. Roofs, floors, walls, foundations, and all other structural components of the building or dwelling unit shall be capable of resisting any and all forces and loads to which they may be subjected. Every building shall be weather protected as to provide shelter for the occupants against the elements and to exclude dampness. All the structural elements shall be proportioned and joined in accordance with the stress limitations and design criteria as specified in the appropriate sections of the code. Manufactured or mobile homes on a permanent foundation of any type are permitted under this program.
- 2. Rooms.** Habitable rooms within a dwelling unit shall be provided with natural light by means of exterior operable openings. Habitable rooms include those for living, sleeping, cooking and eating. Bathrooms, closets, halls, storage or utility space are not considered habitable rooms.
- 3. Plumbing Systems.** Each home must have an acceptable plumbing system consisting of three separate parts: an adequate potable water supply system; a safe, adequate drainage system; and ample fixtures and equipment. All installation shall be consistent with the requirements of the New Mexico Plumbing Code.
- 4. Light.** Each room must have adequate natural or artificial illumination to permit normal indoor activities. There must be at least one window in the living room in working condition. At least one window in each sleeping room must meet egress standards.
- 5. Ventilation.** Rooms within a dwelling unit shall be provided with natural ventilation by means of operable exterior openings (i.e. windows, doors). In lieu of required exterior openings for natural ventilation, a mechanical ventilation system may be installed, providing the number of air changes meet code for the room being ventilated.
- 6. Electrical Equipment.** All dwelling units shall be connected to electrical power. The living room and each bedroom must have at least two electrical outlets in proper operating condition. Permanent overhead or wall-mounted light fixtures may not count as one of the required electrical outlets. Every kitchen, bathroom and utility outlet will be GFCI protected in accordance with the code and in operating condition. At least one operable outdoor light shall be located at the primary door. The home service should be 100 amp minimum to prevent

overloads due to outdated equipment or in the event that new equipment for instance cooling systems or new electric ranges are installed. Smoke detectors shall be installed when adding new wiring or battery operated detectors shall be installed at a minimum.

7. **Heating.** Dwelling units shall be provided with heating facilities capable of maintaining a room temperature of 68°F (20°C) at a point three feet above the floor and two feet (610 mm) from exterior walls in all habitable rooms at the design temperature. Equipment shall be installed and maintained in accordance with all applicable laws and requirements of the New Mexico Mechanical Code. Un-vented fuel burning heaters are not allowed. All heating devices and wood burning heaters shall be permitted and inspected per code and shall be installed per manufacturer's specifications.
8. **Gas Water Heaters.** Replacement water heaters shall meet Energy Star specifications, and shall not be installed in bedrooms, unless the installation complies with manufacturer's specifications and the New Mexico Plumbing and Mechanical Codes.
9. **Air-Conditioning.** Where air-conditioning systems are provided, cooling systems shall meet Energy Star specifications, and must comply with manufacturer's specifications and the New Mexico Mechanical Code.

XI. Footings and Foundations:

Footings and foundations shall be capable of supporting all imposed loads in accordance with accepted engineering practices and will be inspected by the AHJ. All work performed shall be comply with the most current adopted State and local building codes.

XII. Carpentry:

1. Interior and Exterior Walls

- a. In the areas being renovated, all repairs to existing walls will be specified in the work write-up and will be inspected by the AHJ.
- b. Residential structures may be of any type of construction that is permitted by the Building Code and approved by the AHJ.
- c. All lumber will be #2 grade or better unless otherwise specified.
- d. All carpentry will be performed in accordance with State and local code requirements.

2. Drywall

- a. Renovated walls in homes shall be free from all nail holes, splits, holes, scratches, and cracks.
- b. Defects shall be taped, puttied, spackled smooth, plastered, and textured.
- c. In areas where gypsum board is to be replaced, install a minimum 1/2" sheetrock on all wall and ceiling areas throughout house.
- d. Bathtub and shower enclosure areas are to be surrounded by 1/2" water-resistant cement board or approved material, including ceilings above enclosures.
- e. All new sheetrock is to be taped, bedded, and feathered to conceal all joints and fasteners, and finished to meet acceptable industry standards and manufacturer's specifications.
- f. All repaired gypsum shall be placed over backing.

- g. Inspect studs, insulation, electrical wiring and plumbing after removing old sheetrock.
- h. Replace or repair defects with the approval of the Renewal Home Program.
- i. When needed, install 5/8" type X sheetrock at all garage separation walls.

3. Windows

- a. Windows must be in proper working order. All window locks, screens, crank handles, and glazing must be in place.
- b. All windows in the area being renovated found to be substandard must be replaced or repaired.
- c. Replacement windows will be double pane insulated Energy Star® labeled, windows and shall meet the latest adopted State of New Mexico Minimum Energy Conservation Code requirements; including any additional local energy code requirements.
- d. Any replacement, repairs, or changes will be specified in the work write-up prepared by HRP.
- e. Sizes and location of windows are to be as existing, unless a change is made to the size of an existing opening. If the rough opening is modified, the new window size must comply with egress, light and ventilation code requirements established by the AHJ.
- f. Necessary adjustments and repairs to walls will be made based on mutual agreement between the contractor, homeowner and the HRP.
- g. All replacement window panes must be free from cracks, chips, and paint.
- h. Owner is to select color.

4. Interior & Exterior Door

- a. Interior and exterior doors shall operate properly.
- b. Privacy locks, hinges, doorknobs and weather stripping shall be in good working order.
- c. Door replacement will be specified in the work write-up and will be installed as required by the HRP.
- d. Molding and trim around doors is to be installed and painted in compliance with these HRP Standards.
- e. Doors are to be installed true and plumb per manufacturer's specifications.
- f. Install new lock sets with matching keys on all doors. Front doors shall have a peephole and a dead bolt.
- g. Install new doorknobs with privacy lock sets in bedrooms and bathrooms.

5. Cabinets & Counter Tops

- a. Cabinets are to be in proper working order.
- b. New countertop materials shall be selected by the homeowner and approved by HRP.
- c. New countertops will be fastened to base and have cutouts for sinks when applicable.
- d. Owner will select color and style, consistent with HRP standards.
- e. Cabinets to be replaced or repaired will be specified in the work write-up.

- f. Replacement base, wall, and vanity cabinets will have doors styles selected by the homeowner, subject to these Housing Rehabilitation Standards.
- g. Cabinets are to be hung true and plumb per manufacturer's specifications.
- h. Refinished or repaired cabinets shall be painted/stained.
- i. Caulk, set all nails, and fill all holes in all woodwork.
- j. Paint shall be free from runs, sags, brush marks, and over-spray, and will match existing cabinets as close as possible.
- k. Knobs, hinges and shelves will operate properly and have no visible defects.

6. Exterior Deck Construction

- a. Wood framed decks supported by attachment to an exterior wall shall be positively anchored to the primary structure and designed for both vertical and lateral loads.
- b. Attachments shall not be accomplished by the use of toenails or nails subject to withdrawal.
- c. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting.
- d. Decks with cantilevered framing members connections to exterior walls or other framing members shall be designed and constructed to resist uplift from full live load acting on the cantilevered portion of the deck.
- e. Ledger to band joist fasteners shall be hot-dipped galvanized or stainless steel.
- f. Deck ledger shall be a minimum 2-inch by 8-inch nominal pressure preservative treated southern pine, incised preservative treated Hem-fir, or approved, natural durable, No. 2 grade or better lumber.
- g. Deck joist and deck beam bearing shall have not less than 1 1/2" of bearing on wood or metal and not less than 3" of bearing on concrete or masonry for the entire width of the beam.
- h. Joist framing into the side of the ledger board or beam shall be supported by approved joist hangers.
- i. Joist bearing on a beam shall be connected to the beam to resist lateral displacement.
- j. Deck beams shall be attached to the deck post by means capable of resisting lateral displacement. Manufactured connectors shall be sized for the post and beam sizes.
- k. Posts shall bear on footings to prevent lateral displacement at the bottom support.

7. Finish & Trims

- a. All closets must have shelving, hanger rods and supports.
- b. Baseboard and door trim will be replaced with matching new material or approved equal.
- c. All finish trim work will be specified in the work write-up.

8. New Roof and Existing Roof

- a. Roof ventilation must comply with requirements of the New Mexico Residential Building Code.
- b. New or existing roofs must be approved by the AHJ.
- c. Defective materials must be repaired or removed.
- d. All new roofs and re-roofs shall comply with State and Local Code requirements. For specific roofing code requirements, consult with the AHJ.
- e. Roofing materials shall meet Los Alamos County Fire Code.
- f. Paint all soffit, fascia, eaves, gables, and porch ceilings with colors consistent with existing exterior colors and neighborhood conditions.
- g. Contractor shall notify the AHJ for deck inspections before applying roof covering.
- h. Framing members to accommodate masonry fireplace clearances to combustibles.
- i. For specific use of certain approved roof covering materials, please refer to the AHJ.

XIII. Plumbing System:

1. All existing plumbing must be in proper operating condition and shall conform to requirements of the New Mexico Plumbing Code.
2. All existing plumbing and plumbing fixtures found to be substandard must be repaired or replaced and comply with the New Mexico Plumbing Code.
3. New and existing natural gas piping must be pressure tested.
4. Replaced or repaired plumbing shall conform to the New Mexico Plumbing Code.
5. All materials installations shall be HRP approved material.
6. All plumbing shall operate without leaks, noise, vibration, or hammer.
7. All new plumbing fixtures and appliances shall be cleaned, caulked, sealed, and tested.
8. All new plumbing faucets and fixtures shall be low-flow equipment that meet water conservation requirements of the New Mexico Plumbing Code.
9. Any damage to the structure from drilling, notching, cutting, hammering, etc. will be repaired to specifications established by the HRP and must comply with code requirements established by the AHJ.
10. Provide a main water supply shutoff for each building.
11. If replacing existing water closets (wc) with new models, the new water closets shall be high efficiency water closets that use 1.6 gpf.
12. Replacement Water heaters shall be sized according to the New Mexico Plumbing Code.
13. New water heaters are to be Energy Star® labeled.
14. Replacement gas or electric water heaters are to be installed and maintained according to manufacturer's specifications and the New Mexico Plumbing Code.

XIV. Mechanical System:

1. Heating

- a. Replacement systems shall be installed according to manufacturer's guidelines and the New Mexico Mechanical Code.
- b. Unvented fuel-burning heaters are not permitted.
- c. Heating devices and wood burning heaters shall comply with manufacturer's installation specifications, the New Mexico Mechanical Code and the AHJ.
- d. A sub-standard heating system shall be replaced with a new system that complies with the State Mechanical Code.
- e. New HVAC systems installed in existing homes shall be Energy Star rated and shall comply with ACCA Manuals D and J and the New Mexico Mechanical Code.
- f. Duct work must comply with the New Mexico Mechanical Code.
- g. All new exhaust fans shall be Energy Star® rated.

2. Cooling

- a. Evaporative cooling systems must be in proper operating condition.
- b. New air cooling equipment shall be Energy Star rated and shall be sufficiently sized to cool the building efficiently in compliance the New Mexico Mechanical Code.
- c. Evaporative cooling systems shall be installed according to manufacturer's specifications and shall be mounted to minimize the probability of damage from an external source.
- d. Every evaporative cooler shall be accessible for inspection and replacement without removing permanent construction.
- e. If only part of the mechanical system is to be updated, manufacturer's specifications shall be included in the work write-up. All mechanical modifications must be approved by the AHJ.
- f. A refrigerated cooling system may be allowed for rehabilitation projects approved by the HRP, when required for health reasons and when an order is provided from the family's primary healthcare provider.

XV. Electrical System:

1. Existing electrical service must be in proper working order and deemed acceptable by the State Construction Industries Division's electrical inspector.
2. All fixtures, switches, receptacles and breakers must be in safe operating condition.
3. Switches and outlets must have covers throughout the house.
4. Replacement electrical service will be a complete new entry service, 120-240 volt 3-wire.
5. Install smoke detectors and new wiring according to the New Mexico Residential Code.
6. Install carbon monoxide detectors and new wiring according to the New Mexico Residential Code.
7. Insure grounding electrode system is complete and complies with the New Mexico Electrical Code.

8. If only part of an electrical system is to be updated, HRP will provide work write-up specifications. All electrical modifications must be inspected by the State CID electrical inspector.
9. All building codes shall be complied with on each project. Any item to make a project code compliant shall not be an extra or change order. All incidentals shall be included.
10. Electrical services shall be field verified, service loads shall be calculated prior to any equipment upgrades and all necessary components made a part of the contract price.

XVI. Insulation:

1. All insulation materials shall consist of materials approved by the HRP.
2. Attic insulation shall comply with State and Local Energy Code requirements, when sufficient space in the attic is available. When there is insufficient attic space available, ceilings may be lowered to accommodate additional insulation, as long as ceiling minimum heights can be maintained.
3. Exterior wall insulation shall comply the latest State adopted energy code requirements. Buildings of masonry block or other mass wall construction will be evaluated on a case-by-case basis for determining a method of meeting minimum code requirements.
4. R-value may be increased depending on application and will be specified in the work write-up.
5. All windows, voids, penetration, holes and door jambs, shall be filled with spray foam or an approved method.
6. All insulation installation requirements must conform to the State Energy Conservation Code.
7. For minimum standards for residential energy conservation, please refer to the New Mexico Energy Conservation Code.

XVII. Plaster, Stucco and Siding:

1. Existing plaster and stucco that is found to be substandard by the HRP must be repaired or replaced.
2. All repairs to broken stucco on existing exterior walls shall be fixed per manufacturer's specifications.
3. If only a portion or portions of walls are repaired, all loose and damaged plaster shall be removed before the color coat is applied.
4. Color coat shall match the existing stucco as much as possible.
5. For new plaster installations, a minimum of 2-ply felt Jumbo Tex® or approved equivalent must be applied throughout the exterior walls complying with manufacturer's specifications and the New Mexico Residential Building Code.
6. Install self-furring stucco netting or other approved materials that comply with the New Mexico Residential Building Code and manufacturer's specifications.
7. Approved corrosion-resistant materials compliant with the New Mexico Residential Code and manufacturer's specifications shall be applied on all locations that will accept plaster.

8. Where incompatible materials meet, corrosion-resistant expansion joints shall be used.
9. Exterior plaster shall be applied per manufacturer's installation instructions and the New Mexico Residential Code.
10. When approved, acrylic-based exterior finish stucco system or an acrylic-based color coat system must be applied per manufacturer specifications and must be approved by the AHJ.
11. Fiber cement siding is a material approved by Los Alamos County. The material complies with the requirements of ASTM C 1186 Type A, Grade II, and must be installed in accordance with manufacturer's instruction.
12. Vinyl Siding is a material approved for use on residential construction by Los Alamos County. The material complies with ASTM D 3679 and shall be installed in accordance with manufacturer's instruction.

XVIII. Lead-Paint Safety for Renovation, repair, and painting:

EPA's Lead Renovation, repair and painting rule (RRP Rule) requires that firms performing renovation, repair, and painting project that disturb lead-based paint in homes, built before 1978 must have their firm certified by EPA. Contractors must use certified renovators who are trained by EPA approved training providers and follow lead safe work practices. Any contractor performing work on pre-1978 homes must employ at least one certified renovator who has successfully completed the training. Companies must also be registered as a lead-safe certified firm with EPA.

The Government identifies lead-based paint as a paint that has a concentration of lead of more than 0.5 percent by weight of greater than or equal to 1.0 milligrams per square centimeter. It is estimated that lead based paint was used on 38 million homes constructed before 1978. Lead paint becomes a hazard under certain conditions:

1. When it starts to deteriorate including peeling, cracking or chipping.
2. If it is in a high-friction area, such as on window sills or door frames.
3. When removing acoustical ceiling texture (popcorn texture).
4. Wallboard and joint compound from wall and ceiling.
5. Insulation from appliances or water heating piping.
6. Wall and ceiling insulations.

As of April, 2010, anyone who is paid to perform work that disturbs paint in housing pre 1978, are required to be trained and certified, including general contractors, and contractors such as painters, plumbers, carpenters, electricians and window replacement contractors. Several activities are excluded and are not subject to the EPA's lead paint rule include; minor repair and maintenance activities that disturb 6 square feet or less of paint per room inside, or 20 square feet or less on the exterior or a home.

All lead paint construction renovation work must be reviewed and approved by the HRP before any work is commenced.

At the beginning of any renovation on a pre-1978 home, the contractor must hand out the EPA/ HUD pamphlet: "Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools". The contractor must also have the homeowner execute a pre-renovation form which affirms that the homeowner did receive the pamphlet. Copies are retained by the contractor and HRP for three years.

The contractor must be an EPA-certified renovation firm or individual. Such training is available in one 8-hour classroom setting from the Santa Fe Community College. The certified trainer may be available to conduct the training in Los Alamos. Workers operating under the certified renovator may receive on-the-job training from the certified renovator, rather than attend the classroom training.

If the RRP exclusions do not apply in a pre-1978 house, the contractor must test for lead-based paint, unless he/she wants to assume that lead-based paint is present. The contractor may test for lead-based paint using an EPA-recognized test kit. If the test is positive, the RRP rules for safe lead based paint work practices apply. If the test is negative, then the RRP rules do not apply.

If the RRP rules do apply, the contractor must follow specific work practices regarding containment of the work area so that dust and debris do not escape from that area. Warning signs should be put up and heavy-duty plastic and tape should be used to cover the floors, any furniture that cannot be moved, doors and heating and cooling system vents. The contractor should use methods that generate less dust and is prohibited from using the following methods: 1) Open flame burning or torching; 2) Sanding, grinding, planing, needle gunning, or blasting with power tools and equipment not equipped with a shroud and HEPA vacuum attachment; 3) Using a heat gun at temperatures greater than 1100F. The work area should be cleaned daily using a HEPA vacuum to clean up dust and debris on all surfaces, followed by wet mopping with plenty of rinse water. When the final cleaning is done, there should be no dust, paint chips or debris in the work area.

Following the completion of the work, the contractor may either conduct his/her own cleaning verification procedure or have a dust clearance examination performed by a third-party certified lead inspector, risk assessor or dust sampling technician. If the contractor performs his/her own cleaning verification, there is a specific protocol that must be followed under the RRP regulations.

XIX. Painting:

1. Paint strippers and other products used indoors will contain little or no volatile organic compounds (VOCs) as these cause respiratory irritants and will be labeled "low or no VOC's."
2. Kitchen bathrooms and utility rooms are to receive semi-gloss latex enamel or paint approved by the homeowner and the HRP. A minimum of two (2) coats shall be applied.
3. Living room, bedrooms, hallways, and closets shall receive paint selected in the work write-up by the HRP and as approved by the homeowner.
4. Paint all exterior walls, (if applicable) wood and metal surfaces with one (1) coat primer and two (2) coats exterior latex enamel as required for a neat appearance.
5. All new painting shall consist of removing or masking all hardware and fixtures.
6. Feather edges and dull gloss surfaces with sandpaper, scrape all loose, cracked, peeling and blistered surfaces.
7. Caulk, prime, sand, set all nails, and fill holes in all woodwork and trim including trim, doorframes, facing, baseboard, etc. paint shall be selected by the homeowner and the HRP.
8. Exterior painting shall include fascia, soffit, doorframes, posts of porches, wall, etc.

9. Remove all paint from hardware, windows, and glass (inside and out).
10. Paint shall be free from runs, sags, brush marks, and overspray.
11. Color to be selected by homeowner.

XX. Floor Coverings:

When removing carpet, replace it with hard-surfaced flooring when possible and cost effective. When carpet is installed, it should be located only in low-moisture areas. All carpet should be tacked down, not glued. When possible, choose carpet products that are made from natural materials, such as wool, cotton, jute or hemp, and which have not been treated with pesticides or contain residues from dyes and finishes used in manufacturing.

1. Floor coverings will be selected by the homeowner and approved by the HRP.
2. Carpet is to be stretched to eliminate puckers, scallops, and ripples and installed to manufacturer's specifications.
3. All damaged and missing tack strips or metal edging must be replaced.
4. All doors are to operate properly after installation of flooring.
5. Color and pattern to be selected by homeowner from standard color charts.
6. Protect carpet and vinyl after installation. Location will be specified in the work write-up.

XXI. Pest Control:

1. Where severe infestation of insect or vermin is apparent, a licensed exterminator must be consulted to examine the dwelling to determine an appropriate course of action and then the treatment must be applied.
2. All penetration in exterior and interior walls, ceilings, and floors shall be sealed to prevent pests from entering the structure.
3. Termite inspections and treatment certificates may be provided for the project upon approval of the HRP.

XXII. Contractor Selection and Plan for Mitigating and Addressing Homeowner Complaints:

The homeowner will be requested to sign off on each stage of the construction process, beginning with HRP's formulation of the scope of work to be included in the bid packages. Following the homeowner's signed consent to the scope of work, he/she will be invited to attend a non-mandatory pre-bid conference that HRP will hold at the residence. At this time, the homeowner will be able to directly interact with potential contractors. The contractors may take this time to become familiar with the property, the scope of work, HRP staff and the homeowner. All attendees to this pre-bid conference will be requested to sign an attendance sheet.

Once bids are received from contractors, HRP will review the bids to determine if they are accurate and responsive to the requirements set forth in the bid package and the work write-up, and that funds are sufficient to finance the project. HRP will complete a bid tabulation on the project and will provide a copy of that analysis to the homeowner. After HRP makes a determination on all of the bids that were responsive, HRP will review the responsive bids and made recommendations on which bid is the lowest bid and which bid is the best in terms of price and value. This may or may not be the low bid depending upon the scope of work which a contractor proposes.

The homeowner will review the HRP recommendations and will select the contractor. There are three potential scenarios that can occur. Scenario 1: The homeowner selects the low bidder which was also recommended by HRP as having the best price and value. Scenario 2: The homeowner selects a contractor who is not the low bidder and HRP has concluded that the low bidder's proposed work is equal or better in terms of price and value. In such a case, the homeowner will be given three options: 1) select the low bid contractor; 2) pay the difference between the low bid contractor and the homeowner-selected contractor; 3) not proceed with the funding request. Scenario 3: The homeowner selects a contractor who is not the low bidder but whose proposed work HRP has concluded is the best in terms of price and value. In such a case, the homeowner may select this next lowest bid contractor.

Once the homeowner selects the contractor, a pre-construction conference will be held. At the pre-construction conference, the scope of work will again be discussed, these Housing Rehabilitation Standards and the National Association of Homebuilders Residential Performance Construction Guidelines, Fifth Edition will be reviewed and incorporated by reference into the construction contract, roles and responsibilities of all parties will be discussed, and the contract will be signed by the contractor and the homeowner.

Once construction begins, the homeowner will be invited to monitor progress of the project and will be asked to be present at the periodic inspections performed by HRP staff. The homeowner will be asked to sign off on each periodic inspection and final inspection, as well as HRP staff. If there is a disagreement over the work that has been done, HRP staff will attempt to mediate the disagreement using the NAHP Residential Performance Guidelines and these Housing Rehabilitation Standards as a basis for either demanding that the contractor perform additional work and holding retainage and final payment until that work is done, or informing the homeowner that his/her request for additional work is not supported by the HRP or the contract and that the contractor will be paid for the work that has been done, including any final payment.

If the homeowner does not accept this ruling from the HRP, it may pursue the dispute resolution procedures as set forth in the construction agreement. In the construction agreement, binding arbitration is the option provided to resolving a dispute in court. The arbitration process allows the parties to select an individual with a specialized expertise in the subject matter of the dispute to listen to the evidence and render a binding decision. At the end of a binding arbitration, the arbitrator, usually within thirty days, makes an award to the prevailing party. The arbitration award is a legal document and is enforceable in a court of law.

XXIII. Accessibility Features:

If required, due to the need for a person with disabilities, an existing home renovation may be designed and built with accessible features based on the latest adopted edition of the American National Standard adopted by the State of New Mexico, Construction Industries Division. Accessible features include, an accessible route that will provide access to the inside floor surfaces and changes in floor levels. The renovation may include providing turning radius spaces and access to necessary home components. The entry door should have a minimum 32-inches width to allow for passage by persons with disabilities, including persons who use wheel chairs. Bathroom sink countertops should not be higher than 34-inches. Grab bars should be installed in a shower and next to the water closet. Kitchens and bathroom should be made usable to a person with a disability. Operable parts, for example, thermostats, some electrical outlets, appliance controls, operable windows, controls for security, plumbing fixtures and access to bathroom facilities.

XXIV. Asbestos:

Asbestos is a natural mineral product that is resistant to heat and corrosion. It was used extensively in the past in products such as insulation; cement siding, roof and some floor tiles and adhesives. If asbestos is located in a home, it is usually not a serious hazard. The danger is when asbestos materials are disturbed and may become airborne. The asbestos materials may release fibers and become a health hazard. Asbestos material found in a home may be in roofing or siding materials, drywall board produced before 1977. Homes built between 1930 and 1950 may have asbestos in the insulation. Asbestos may be present in drywall texture, such as popcorn ceiling texture and spray or hand applied textures, and joint compound that was banned in 1977. There may be many other products used in older homes that might require testing and remediation.

At the beginning of a project, a contractor must perform a visual assessment of the potential presence and location of asbestos. In the alternative, the contractor may contract with a certified asbestos testing firm to perform the visual assessment. If the visual assessment indicates the potential presence of asbestos, then a certified asbestos testing firm may be brought in to test the potentially affected areas and if the tests are positive, recommend a strategy for encapsulating, removing or otherwise remediating the asbestos. The contractor would then be responsible for complying with all applicable federal, state and local laws in the handling, remediation and disposal of asbestos.

XXV. Mold:

Mold is considered a biological contaminant and can lead to serious health risks to the occupants of the home if not detected quickly and immediately removed. Mold often resides in older homes that have not had a recent inspection. Fungus grows in areas of high humidity, such as kitchens and laundry rooms. In order to protect the home and family, an examination and elimination of the mold contaminant must be performed. The contractor is responsible for performing a visual assessment of the potential presence of mold, and then arranging for the removal of mold if it is discovered.