

CLARK COUNTY, NEVADA
COMMUNITY RESOURCES MANAGEMENT DIVISION
Equal Housing Opportunity

HOUSING REHABILITATION SECTION

HOUSING

REHABILITATION

SPECIFICATION

MANUAL

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**CLARK COUNTY
COMMUNITY RESOURCES MANAGEMENT DIVISION
HOUSING REHABILITATION SECTION
500 S. GRAND CENTRAL PARKWAY
LAS VEGAS, NEVADA 89155-1212
PHONE (702) 455-5025
FAX (702) 455-5038**

<http://www.co.clark.nv.us>

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PREFACE

This Housing Rehabilitation Specification Manual has been developed to serve as a brief explanation of methods and materials to be used in the rehabilitation of dwelling pursuant to the programs offered by the division of Community Resources Management Housing Rehabilitation Section, Clark County, Nevada. It is not intended to be used in place of the model codes adopted by the jurisdiction, but as a guide for using acceptable methods and materials.

When there are issues of or disagreement on materials or methods being used for rehabilitation, the Housing rehabilitation Specialist for the County may use this guide and/or other applicable codes and materials specifications in addition to the requirements for new construction.

There are exceptions to these standards that permit the use of other methods or materials, but only when it is clear that the equivalent materials or methods used meet or exceed the U.B.C. AND/OR OTHER RELATED CODES, AS WELL AS COMMON CONSTRUCTION PRACTICES. Prior written approval by the Housing Rehabilitation Specialist or staff from the Housing Rehabilitation Section is required to use the substitute materials or construction methods.

All work to be performed under these specifications shall meet or exceed the following codes, standards, and the Clark County ordinances.

Current building code of Clark County

Current electrical code of Clark County

Current mechanical code of Clark County

Current plumbing code of Clark County

Current housing code of Clark County

Current swimming pool code of Clark County

Current solar code of Clark County

Current Clark County zoning ordinances

Current Clark County and State, health and safety codes

Current Clark County building administrative code

NOTE: Unless otherwise noted in the detailed Work Write-Up Specifications, specific areas of projects making reference to disability accessibility for physically challenged shall conform with all applicable codes and ordinances.

1. SITE WORK

Demolition work shall conform to the requirements of all State and County codes, laws, and ordinances, and also serving utility company regulations. When items are scheduled to be removed, they shall be removed completely pursuant to State and Federal laws. Surfaces and items scheduled to remain that are damaged by the demolition work shall be repaired to match their original condition. All companies or authorities owning conduits, wires or pipes running over or under the property shall be notified so that appropriate arrangements can be made for the removal of any utilities and the capping of any pipes that are to be abandoned. All removed services shall be checked to see that they have been effectively plugged or disconnected. Similarly, conduits, drains, pipes and wires that are to remain on the property or serve adjacent properties* shall be carefully protected or rerouted. Existing shrubs and trees to remain shall be protected until demolition is complete and the site is cleared.

Unless otherwise noted in the detailed Work Write-Up, materials that are designated to be removed shall become the property of the contractor to use or to dispose of as he/she sees fit. The demolished material shall be placed in contractor designated dumpsters on site while awaiting disposal. Debris shall be removed from the premises and grounds on a scheduled basis to prevent unsafe conditions. Areas of grass killed by demolition or by the storage of debris and other materials shall be ranked clean and resodded, if needed. All debris must be removed prior to final inspection and all areas shall be left in a neat condition. Combustible materials or rubbish shall not be burned on the premises. The Contractor shall, at all times, take the necessary precautions to minimize dust per OSHA, EPA and Clark County's Health district air pollution control division regulations.

Contractor, shall be responsible for all clean-up and removal of debris and/or material, leaving the job site clean.

State of Nevada Certified Pest Control Company

All chemical applications, fungicide or insecticide, shall be made by a pesticide applicator holding a State of Nevada license. Application of all chemicals shall be subject to local, state and/or U.S. Department of Agriculture regulations regarding the use of certain chemicals. Apply all treatments according the manufacturer's instructions.

Unless otherwise noted in the detailed Work Write-up, when a fumigation is required, the contractor shall be responsible for all required preparations prior to fumigation. An occupant's Fumigation Notice can be obtained from a licensed fumigation company.

*(Note! No sewer line serving adjacent properties may cross a property line, without a recorded easement.)

2. EXCAVATION AND GRADE

Normal Soil Condition: All grades to slope a minimum of 2 percent away from all structures towards a public street or alley.

Single-Story Structures- flooring excavation to be a minimum of 12 inches deep in undisturbed natural soil and 12 inches wide and 6 inches above grade. (Habitable salves- 4 inches clean rock, 6 mil vapor barrier, ½ inch minimum sand and 3-1/2 inch minimum slab.)

Two-Story Structures- footing excavation to be a minimum of 18 inches deep in undisturbed natural soil and 15 inches wide with finished foundation 6 inches above grade.

All sod, roots or other debris is to be removed to twelve (12) inches below the surface of the ground. The base shall be compacted and wet and remove all casual soil before pouring any concrete.

All surplus dirt shall be removed from the property or spread on property as owner directs.

3. CONCRETE

A. General

- (1) Subgrade to be fully compacted and wet.
- (2) Concrete to be placed and finished monolithically (without topping). All edges to be finished to 1/4-inch radius.
- (3) Concrete driveways shall be a full 4 inches thick; other slabs may be a minimum of 3-1/2-inches thick.
- (4) Reinforcing: Two ½ inch rebars to be placed in the threshold of garage doors. No part of steel to be in contact with earth and all steel to be imbedded upon a minimum of 3 inches in concrete. All laps of reinforcing to be a minimum of 40 bar diameters.
- (5) Deep cut expansion joints to be placed a maximum of 15 feet apart on all walkways and driveways.
- (6) All finishes to be steel troweled with a non-slip surface. Driveways and walkways to be steel troweled and then soft-brushed or broom finished to a non-slip surface.
- (7) Flashing: Any concrete poured adjacent to wood shall have a metal flashing placed between wood and concrete (Min. 26 GA Galv.)
- (8) All wood stakes and form lumber is to be removed from job site.
- (9) All concrete to be securely consolidated and free all rock pockets an voids.
- (10) All vandalized or otherwise damaged concrete shall be removed and replaced at no additional expense to owner i.e., lack of drainage, incorrectly formed, sides not plumb and true, containing wood or foreign matter or otherwise not in accordance with the intent of drawings and specifications, poor workmanship and any set of circumstances contrary to sound construction practices.

B. Materials

- (1) Concrete shall reach minimum strength in 28 days of 2,500 psi.
- (2) No more than 6-1/2 gallons of water to be added per cubic yard: a ratio of 1 part cement, 3 parts sand and 4 parts of 3/4-inch rock (5 sack mix). (Concrete to be poured as soon as practical after water and proper mixing have been completed).
- (3) Expansion joints shall be standard felt joints, 2 x 4 redwood or pressure treated wood.

C. Concrete Steps, Railing, Landings, and Porches

- (1) All steps shall be provided with footings below natural grade.
- (2) Rise and Run. The rise of every step in a stairway shall not be less than 4 inches or greater than 7 inches. The run shall not be less than 11 inches as measured horizontally between the vertical planes of the furthestmost projection of adjacent treads. The large tread run within any flight of stairs shall not exceed the smallest by more than 3/8 inch.

Exceptions:

•Private steps and stairways serving and occupant load of less than 10 and stairways to unoccupied roofs may be constructed with an 8-inch-maximum rise and a 9-inch-minimum run.

•Where the bottom or top riser adjoins a sloping public way, walk or driveway having an established grade and serving as a landing, the bottom or top riser may be reduced along the slope to less than 4 inches in height with the variation in height of the bottom or top riser not to exceed 3 inches in every 3 feet of stairway width.

- (3) All concrete steps having less than four risers need not include a metal ornamental railing in front or in view of street. Railing shall be one or both steps. Railings 34 to 38 inches above nose of tread.
- (4) Open sides of stairways, landings, ramps, balconies and porches shall be equipped with guard railings of metal where such porches are 30 inches above grade. Wooden railings may be substituted WHEN approved by owner and Housing Rehabilitation Staff. Uniform Building Code Section 1003.3.3.6
- (5) At rear of structure and out of view from the street, iron pipe of 1 1/4-inch diameter may be substituted for ornamental iron. With PRIOR HOUSING STAFF APPROVAL, wood railing may be installed, provided the handgrip portion meets the requirements of UBC 1003.3.3.6

D. Concrete Walkways

- (1) Walkways to be a minimum of 2-1/2 feet wide and 3-1/2 inches thick.
- (2) All new garages, carports and parking pads are to have a concrete walkway installed to the nearest existing walkway or nearest exit from the dwelling.

E. Concrete Ramps, Landing and Railings for Handicap Accessibility

- (1) Ramp Slope: The maximum slope of a ramp that serves any exitway, shall be one (1) foot rise in twelve (12) feet of horizontal run. The surface finish shall be slip resistant as that described as a medium salted finish. Other ramps shall not be steeper than 1 in 8.
- (2) Ramp Width: The minimum widths of ramps serving residential occupancies is 36 inches clear width.
- (3) Ramp Landings Locations: Landings shall be provided at the top and bottom of each ramp steeper than 1 in 15. Intermediate landings shall be provided at intervals not exceeding 5 feet of vertical rise and at each change of direction. The landing width shall be at least 6 feet.
- (4) On ramps having slopes steeper than 1 in 15, handrails shall be placed on one side. They shall be continuous the full length of the ramp and shall be 34 to 38 inches above the ramp surface. Handrails projecting from a wall shall have a space of not less than 1-1/2-inches between the wall and the handrail. The grip portion shall be not less than 1-1/4-inches nor more than 2-inches in cross-sectional dimension, or the shape shall provide an equivalent gripping surface and all surfaces shall be smooth with no sharp corners.

4. **CARPENTRY**

(A) General Construction and Workmanship

- (1) General: Standard framing details are to be in accordance with the U.B.C. The drawings may contain details of framing not commonly accepted as standard practice for the type of construction. The Contractor has the responsibility to include items in the drawings and specifications to provide a well constructed building.
- (2) Install framing, making provisions for the work of other trades. Do all cutting required to accommodate plumbing, heating, ventilating, and electrical. Fit neatly around all exposed items, such as outlet boxes, conduit, pipes and ducts.
- (3) Furring, blocking and backing shall be furnished and installed where required for wallboard, or architectural features, concealment of pipes, conduits, ducts, building specialities (such as blocking for curtain rods) and other fixtures. Contractor shall consult with the trades concerned and set furring and blocking they require.

- (4) Plywood Sheathing: Install sheathing with long dimension perpendicular to supports, rafters or joists. No sheathing may be applied to less than three rafters, except at overhang. Install all wall sheathing as per U.B.C. Wall sheathing shall have solid bearing under all edges and sheets shall be laid up with 16-inch on center spaced supports.
- (5) Roofing Sheeting and Overhangs: Plywood sheathing shall have solid bearing under all edges. Outriggers shall be installed on all gable ends when new sheathing is applied. Outriggers will be spaced so that they bear under the exposed edges of the roof sheathing.
- (6) Roof Sheathing: Structural I 5 ply, ½ inch plywood unless otherwise noted in Work Write-Up. All exposed sheathing shall be CCX plugged and sanded on the side exposed to weather.
- (7) Large Rafters and Facia Boards: (a) facia boards to be one lumber size larger than rafters with 2-inch nominal thickness; (b) barge rafters to be same size as facia boards; and (c) barge rafters and outriggers will be installed when roof sheathing is completely replaced.

B. Materials

- (1) Framing Lumber; #2 or better Douglas fir, surfaced four sides, conforming to the "Standard Grading and Dressing Rules of the West Coast Lumber Inspection Bureau. Grade shall be stamped on the lumber at the mill. Moisture content shall not exceed 19 percent.
- (2) Sills: Foundation grade redwood or approved pressure treated fir conforming to the "Standard Specifications for Grades of California Redwood Lumber", latest edition, as published by the Redwood Inspection Service. Grade shall be stamped on the lumber at the mill.
- (3) Plywood Sheathing: All plywood sheathing shall be Group 1 Species. Each panel shall carry the grade trademark of the American Plywood Association along with the DFPA quality stamp.

C. Lumber Fastenings

- (1) Minimum Requirements: Nailing of wood members shall conform to the minimum requirements of the "Uniform Building Code", Chapter 23, and as specified herein and shown on the structural drawings.
- (2) Framing Anchors: Simpson Company, or equal, galvanized framing connectors and joist hangers as detailed, and installed as per installation instructions.
- (3) Nails for interior trim and finish shall be finishing nails. Nails for exterior work shall be standard types, common wire or box nails, suitable for the purpose and galvanized. All nails for redwood exterior shall be aluminum nails or galvanized nails.

5. ROOFING

A. General

- (1) Surface preparation-REPLACE ALL DETERIORATED AND DAMAGED FASCIA, EAVES, RAFTER TAILS, OR SHEATHING BOARDS. All rain caps, roof jacks, flashing or other metal parts to be replaced and painted.
- (2) After a pre-roof inspection, an asphalt shingle roof having one roofing layer shall be stripped to its original sheathing before reroofing.
- (3) Contractor shall be responsible for all clean-up and removal of debris and/or surplus materials, leaving job site clean.

B. Metal Flashing

- (1) All exposed plywood roofing sheathing edges are to be protected by metal angle drip-edge type strip when installing new roof covering. Metal angle strips to have 2-inch minimum overlap at splices. All corners of required metal angle stripping to be cut on top and bent around corner to form continuous protection. All metal angle strips to be top-nailed only.
- (2) Valley Flashing: When installing roof coverings, all valleys to have a metal "W" flashing (Min, 26 GA Galv.). (For exception, see E. of this section.)
- (3) Parapet Flashing: All new or reroofing at parapets will be provided with corrosion resistant solid metal horizontal or metal step flashing to be laced in a professional manner and blind-nailed. All vertical ends of flashings will be installed beneath exterior wall coverings. When exterior wall coverings are not new or are not specified to be replace, coverings will be replaced to an adequate height to facilitate installation of counter flashing. The existing walls shall be counter flashed.
- (4) Counter Flashing: Where and when required, counter flashing shall be installed to form a watertight barrier.

C. Antenna Removal and Reinstallation

Antennal removal and installation will be provided by the contractor when dwelling is reroofed.

D. Built-up Roof

Built up roofs shall be stripped to its original sheathing before reroofing. Remove any protruding nails and renail. Install new reglets (groove) at walls and parapets receiving metal counter flashing. Material minimum-base sheets consisting of two layers of 15-pound felt spot or strip mopped or nailed, using not less than one nail per each 1-1/3-square foot. Mineral aggregate surface with not less than non-rated roofs, 40 lbs. hot asphalt, 50 lbs. hot coal tar, 60 pounds of hot asphalt in which is embedded not less than 300 pounds of gravel per roofing square.

E. Composition Shingles

- (1) Composition shingles to be applied only to solidly sheathed roof.
- (2) Composition shingles shall not be applied on roofs having less than a 4-inch in 12 foot slope without prior Housing Rehabilitation Section Staff approval.
- (3) Composition shingles to have a minimum underlayment of 30-pound felt.
- (4) All valleys to have shingles laced per installation using an underlayment of not less than 30-pound felt extending 18-inches from centerline each way or to have metal flashing as per Section , B-2.
- (5) Only a 2-inch or 3-inch pattern will be allowed.

NOTE: For information on all types of roofing material, see U.B.C., Chapter 15, and reroofing appendix.

Owner shall have choice of standard color on all roofing materials.

6. **FINISH CARPENTRY**

A. General

- (1) Work Furnished and Installed: Perform all work necessary for the construction of the project as indicated, in a professional manner. Such work shall include, but is not necessarily limited to:
 - (a) Finish carpentry
 - (b) Wood doors
 - (c) helving
 - (d) Millwork
 - (e) Building specialties
 - (f) Finish hardware
 - (g) Furnishing if building specialities
- (2) Hammer or tool marks or marred surfaces and edges will not be acceptable on any exposed finished surfaces and, as evidence of inferior workmanship shall be cause for rejection of such work and will be replaced at no extra cost to home owner.
- (3) All end splices exposed in finished members shall be accurately and neatly square butted. Install members in a long lengths as possible.
- (4) All work shall be installed to details shown, plumb, level, true to line and securely anchored. Nails and screws shall be neatly set and all wood raised in the driving of nails and screws removed. Exterior corner joints shall be mitered. Interior corner joints may be coped. Casings at head of doors and windows shall be mitered. Interior corner joints may be coped. Casings at head of doors and windows shall be mitered. Where molded members adjoin other molding or plain sections, the molded members shall be carefully and accurately scribed to the other members. All exposed edges shall be eased.

- (5) Secure all interior finish with finishing nails or screws as required, unless otherwise indicated. Set nails and screws for putty stopping.
- (6) Finish Hardware: Install accurately and securely without marking or defacing hardware or finish work. Include the installation of pocket frames and tracks and hangers for sliding doors. Test to assure correct alignment and operation. Items of finish hardware shall be fastened at all where fasteners are indicated or required. Protect finish hardware with suitable coverings until completion of construction. Properly tag keys to deliver to owner at completion of construction. Leave all hardware in perfect order, cleaned and polished.
- (7) Install all other miscellaneous specialty items not specified to be installed under other sections, and complete all on-site finish carpentry work required to produce a complete and finished installation.
- (8) ALL WALL-MOUNTED ITEMS SHALL BE SECURELY FASTENED TO SOLID BACKING OR BLOCKING.
- (10) Miscellaneous Items: Finish carpentry work and miscellaneous items and their related components which are to be furnished and/or installed under this section are not necessarily individually described. The most important features and those requiring detail description are mentioned. Finish carpentry work and miscellaneous items not mentioned or described shall be furnished and/or installed in accordance with the U.B.C. and Housing Rehabilitation Section specifications (Work Write-Up) and as required to complete this work.

B. Materials

- (1) Exterior-Plywood: Where shown, shall be of the species, type and face treatment as per the U.B.C. and I.C.B.O. building standards. The plywood shall be manufactured with exterior glue.
- (2) Interior-Plywood Paneling: Where shown, shall be of the species, type and face treatment as shown on the drawings or as specified in Work Write-Up.
- (3) Rough Hardware: Furnish all items of rough hardware, connections to metal studs, bolts, etc., required to complete the work. Exterior bolts, nuts and washers shall be galvanized. Washers shall be malleable iron.
- (4) Exterior trim and casting/molding trim; SHALL BE DRESSED S4S FIR, DRESSED OR ROUGH REDWOOD, OR CEDAR. There shall be no lose or open knots or knotholes. Any and all splices shall be cut to a 45 degree and bevel and joined over backing.
- (5) Interior trim and casting/molding shall be #2 or better white pine or Douglas fir, properly sealed against bleeding or pitch runs. All corners to be mitered.

NOTE: Unless otherwise noted in the detailed Work Write-Up Specifications, specific areas of projects making reference to disabled accessibility for the physically challenged shall conform with all applicable codes and ordinances.

7. PAINTING

A. Paint Materials

- (1) All paint to be well-known manufacturer of high quality paint and STANDARD (pre-mixed) color. Paint to remain in original containers until an inspection has been made.
- (2) NO LEAD-BASE PAINT TO BE APPLIED TO ANY SURFACE.
- (3) No paint, varnish or stain shall be reduced or applied in any way except as recommended by the manufacturer.
- (4) No flat wall paint will be allowed on any surface unless there is a prior written approval and discussion between home owner, Contractor and Housing Rehabilitation Staff.

B. Condition and Preparation of Interior Surfaces

- (1) The Contractor shall examine all surfaces carefully to be finished under the contract and, before beginning work, shall insure that work or other trades has been installed in workmanlike condition and is ready to receive paint or stain. All woodwork to receive paint or stain is to be thoroughly sanded and dusted clean; collected dust is to be removed preliminary paint work is begun.
- (2) All existing sheetrock shall have nail indentation and holes filled. All damaged or missing portions shall have new sheetrock properly installed. All tape at joints that is loose or missing will require new tape and finish to have a uniform and professionally finished surface. All drywall joints are to be taped and finished in a workmanlike manner, including texture.
- (3) Walls which have been previously painted shall be thoroughly sanded and cleaned of all foreign materials. Any surface painted over which has not been properly prepared, as per this section, shall be required to be cleaned and, over a properly prepared surface, as per this section, be repainted, at no additional cost to the owner.
- (4) Existing plaster walls and ceilings shall have all cracks and holes filled and have a uniform and professionally finished surface.
- (5) All existing paneling shall be renailed and reglued to form a tight bond with the wall.
- (6) Woodwork shall have all knotholes, pitch pockets or sappy portions shellacked before preliminary painting. Nail holes, cracks or other defects to be carefully puttied. New wood shall receive a prime coat before painting.
- (7) All electrical fixtures, cover plates, door hardware, knobs, drawer pulls, etc., to be removed before painting. Also, missing cover plates will be installed. Any such items painted over to be replaced at Contractor's expense. ALL INSPECTION SHALL BE CALLED FOR SURFACE PREPARATION BEFORE ANY PAINT HAS BEEN APPLIED. SURFACE TO BE REPAINTED AT CONTRACTOR'S EXPENSE IF SURFACE IS NOT INSPECTED.

- (8) Mildew: Walls and ceiling surfaces with moisture or mildew conditions will not only be made free of those conditions and properly prepared for painting as per this section, but the source, problem, and/or cause must be corrected.
- (9) Lead-Based Paint Or Defective Paint: In compliance with Part 35 (Lead-Based Paint Poisoning Prevention in certain residential structures), the following techniques shall be used when abating lead-based paint or defective paint surfaces (a paint surface that is cracking, scaling, chipping, flaking, peeling or loose), if any, included in this agreement.

Covering may be accomplished by adding a layer of wallboard to the wall surface. Depending on the wall's condition, wall coverings which are permanently attached may be used. Covering or replacing trim surfaces is also permitted. Paint removal may be accomplished by such methods as scraping, heat treatment (infra-red or coil-type heat guns) or chemicals. Machine sanding and use of propane or gasoline torches (open-flame methods) are not permitted. Washing and repainting without thorough removal or covering does not constitute adequate treatment. In case of defective paint spots, scraping and repainting the defective area is considered adequate treatment.

If chewable surfaces defined as protruding paint surfaces to five (5) feet from the floor or ground which are readily accessible to children under seven (7) years of age, e.g. protruding corners, window sills and frames, doors and frames, and other protruding woodwork) are found on any interior or exterior of a project they will be properly abated.

C. Professional Work

- (1) Each coat of paint shall be applied at proper consistency as recommended by the manufacturer, and shall be FREE OF BRUSH MARKS, SAGS, RUNS (INCLUDING THOSE EXISTING BY PREVIOUS COATS), etc., with no evidence of poor workmanship. Care shall be exercised to avoid lapping of paint on glass or hardware. Paint sharply cut to lines. Finished paint surface to be free from defects or blemishes. All exposed nails shall be set and holes filled.
- (2) Finish work is to be adequately covered with a uniform color and finish. The number of coats herein specified as being a minimum shall be one prime coat and one coat of paint. Contractor shall provide any additional coats to produce a first-class job. All unpainted wood is to receive a prime coat before painting.

D. Defective Work

Any defective work shall be corrected by the Contractor and shall be corrected with no additional cost to the owner.

E. Exterior Surface Preparation

- (1) New Wood: Contractor is to inspect all wood surfaces to be painted to see that all other trades have made proper and complete installation. All knots, pitch pockets or sappy portions to be shellacked or sealed with know sealer. All exposed nails to be set. Fill all imperfections and sand smooth. All dust to be collected and removed from job. Wood is to receive a sealer coat before painting. A primer coat or two coats of paint alone will not be sufficient.
- (2) Repainted Wood: By scraping, sanding, burning or other method, remove all defective material such as peeling, blistered, or scaling paint. REPLACE DEFECTIVE SIDING OR OTHER INADEQUATE MATERIAL TO BE PAINTED. Fill all imperfections. A surface conditioners to be applied to all weathered or bare wood before any paint is applied.
- (3) Stucco or Block: By scraping, wire brushing, sandblasting or other method, remove loose and defective material. Before painting, scrub the building down with a mixture of T.S.P. and water and brush to remove dust or other materials. Clean all cracks, chipped corners, etc., and fill with proper material. All unpainted surfaces must be sealed and primed prior to painting.
- (4) Trim: Trim is to include all wood molding around doors, windows, and/or other openings, overhang (eaves), fascia, window shutter, window boxes or other exterior decorative adornment and to be prepared and painted as per 1, 2, and 3 of this section.

NOTE: Painting of trim includes all wooden window frames, re-glazing as necessary, cleaning of glass and freeing windows of all new and old paint.

F. Spray Painting

All surfaces not to receive paint or finish surfaces shall be protected from over-spray. All over-spray or other surfaces to be cleaned and completely removed. Paint to be thinned or reduced per manufacturer's recommendations. All roof areas are to be protected from over-spray.

G. Metal Surfaces

- (1) All surfaces will be sanded prior to priming and scraped to remove old scaling paint.
- (2) All metal surfaces to have all foreign material completely removed, i.e., oil, rust grease, etc. All surfaces are to be primed before painting.
- (3) On a prepared surface, apply sufficient paint to ensure complete coverage. Any indication of defective surface preparation will be cause for re-preparation and repainting at no extra cost to owner.

H. Clean up

Protective coverings or drop cloths are to be used to protect floors, fixtures, vegetation, plants, and equipment. Care exercised to prevent paint being splattered onto surfaces which are not to be painted. Surfaces from which paint cannot be satisfactorily removed shall be painted, repainted or replaced as required by Housing Rehabilitation staff to produce a satisfactory finish.

All debris related to or created by painting shall be removed from the job site, and the job site left neat and clean. All windows to be free of paint and shall operate properly.

All shrubs and vegetation shall be protected in an approved manner or replaced by Contractor at no added cost to home owner.

8. **FLOOR COVERINGS**

A. General

- (1) Unless otherwise specified, the Contractor shall bid all floor coverings at a maximum allowance of ~~\$20.00~~^{\$30.00} per square yard retail for all materials and labor, with owner selection of color and pattern, unless otherwise specified in the work write-up.
- (2) Wall to wall carpeting shall be bid to be installed over 3/8" 4.0 lb density bonded urethane "re-bond" pad and secured by tackless strips. Prime foam or rubber waffle pad types shall not be acceptable. The cost of the pad shall be included in the maximum price selection of ~~\$20.00~~^{\$30.00} per square yard retail unless otherwise specified in the work write-up.

DO NOT commence installation until work of other trades within area has been substantially completed and a sub-floor nailing inspection has been completed. Commencing installation implied acceptance of surfaces to be covered.

B. Preparation

- (1) Clean all floor area of all deteriorated and damaged materials.
- (2) RENAIL ALL SUBFLOORS. All new sub-floor installations will be nailed with hot dip galvanized nails.
- (3) All floors are to be clean, smooth and free of dirt, grease, oil and/or other construction films.
- (4) Fill all cracks, minor holes, crevices and depressions with crack fill as recommended by floor manufacturers.
- (5) Concrete floors shall be dry, and have a smooth, steel troweled finish.

C. Installation

- (1) Follow manufacturer's specifications and recommendations for all installations.
- (2) Adhesive: Spread adhesive uniformly and at coverage rate recommended by manufacturer. Use notched steel trowel or other devices as specified by manufacturer of adhesive and flooring. Apply adhesive only to the extent which can be covered with flooring within the recommended "tack" time of the adhesive.
- (3) All joints and seams are to be tightly butted, straight and aligned square with room axis. Neatly trim the materials abutting other work to form a true, clean joint. Where the flooring edges are covered by other materials, make cuts sufficiently accurate so that edges are completely concealed. All joints and seams between carpeting and vinyl flooring shall have trim and proper tack strips installed.
- (4) Floors in kitchens, bathrooms, and service porches shall be of durable, waterproof, non-absorptive materials such as asphalt, vinyl asbestos, vinyl plastic or rubber. Ceramic floor tile or wood finish flooring may be used in these rooms with prior approval.
- (5) All flooring in kitchen, service porch and bathroom to cove at the walls and under toe space of kitchen base cabinet and vanity unless otherwise specified in the Work Write-Up.
- (6) Covering to have sufficient adhesive required to form a tight bond at the wall.
- (7) All exterior corners at covering are to be neatly cut and trimmed straight with sufficient adhesive to form a tight bond.
- (8) Unless otherwise specified, vinyl floor coverings shall be installed over 3/8" particle board or equal under-layment. The cost of the under-layment shall not be included in the maximum price selection of ~~\$29.00~~ **30.00 RLS** per square yard retail for materials and labor.
- (9) Should the aggregate price of all floor coverings selected by the owner be less than ~~\$29.00~~ **30.00 RLS** per square yard retail or materials and labor, the Contractor shall credit the difference to the owner via change order and documentation.

9. **WOOD DOORS AND WINDOWS**

A. Doors

- (1) Hanging of Doors: All doors shall be expertly hung or installed in proper frames as scheduled and shall fit snug against all stops. Doors shall fit accurately and hang free from hinge bind with uniform clearance of 1/16-inch at heads and jambs. Undercut doors for floor finishes shall be expertly hung and installed without binding and shall slide and operate smoothly under fingertip pressure. Finished hardware shall be removed from painting and reapplied after finishing is completed and dry or protected from paint by masking.

- (2) Unless otherwise noted in the detailed Work Write-Up: Doors shall be stain grade mahogany. Solid core, 1-3/4-inch doors for exterior and hollow core, 1-3/8-inch doors for interior and shall be the size indicated on Work Write-Up. No exterior door shall be smaller than 2 feet 8 inches with at least one measuring 3 feet 0 inches. No interior door to be a habitable room to be smaller than 2 feet 6 inches.
- (3) Set wood door frames plumb and square. Jambs at nailing points, butts and lock strikes shall have solid backing.
- (4) All doors shall be installed plumb, level, true to line and securely anchored. Nails and screws shall be neatly set and all wood raised in the driving of nails and screws removed. Exterior corner joints on door casings shall be mitered and interior corner joints to be coped. Casings at head of doors shall be mitered. Where molded members adjoin other molding or plain sections, the molded members shall be carefully and accurately scribed to the other members. All exposed edges shall be eased.
- (5) Exterior frames shall be completely caulked and sealed around their perimeter, between frames and adjoining construction, with mastic and tape as required.
- (6) Unless otherwise noted in the detailed Work Write-Up: ALL EXTERIOR DOORS SHALL HAVE DEADBOLTS AS PART OF THE NORMAL INSTALLATION.
- (7) Unless otherwise noted in th detailed Work Write-Up: FRONT DOORS SHALL CONTAIN A SECURITY VIEW PORT.
- (8) All exterior door shall be provided with rigid aluminum strip with neoprene-type or vinyl weather stripping securely fastened to sides and head jambs. Install to ensure no air leakage around openings in exterior doors. Weather stripping shall be expertly installed in accordance with manufacturer's installation instructions.
- (9) All exterior doors shall have an aluminum threshold installed with rubber attached to door shoe at bottom edge of door. Aluminum thresholds with rudder exposed to foot traffic shall not be acceptable except in exterior water heater or heater enclosures.
- (10) All doors to finished shall have edges finished to match exposed face. Top and bottom of door shall be effectively sealed against moisture.

NOTE: Unless otherwise noted in the detailed Work Write-Up Specifications, specific areas of projects making reference to handicapped accessibility for the physically challenged shall conform with all applicable codes and ordinances.

B. Windows

- (1) All windows shall be installed plumb, level, true to line and securely anchored. Nails and screws shall be neatly set and all wood raised in the driving of nails and

screws removed. Exterior corner joints on window casing shall be mitered and interior corner joints to be coped. Casings at head of window shall be mitered. Where molded members shall be carefully and accurately scribed to the other members. All exposed edges shall be eased.

- (2) Set wood window frames plumb and square. Jambs at nailing points shall have solid backing.
- (3) Weatherproofing shall be provided for all window rough openings when new windows are installed. This shall consist of a 15-pound felt or Kraft paper wrapped around all framing members before window is installed.
- (4) Wood window stools and aprons may be provided for all new window installations unless detailed Work Write-Up indicates otherwise.

10. CABINETS AND COUNTER TOPS

A. Materials for Cabinets

- (1) All cabinet walls shall be a minimum of 3/4-inch thick with the exception of the rear interior wall which can be 1/4-inch.
- (2) Exterior wood to be mahogany or birch and all door drawer facings will be flat and plain with plain pulls (owner to select color of paint or stain).
- (3) Unless otherwise noted in the detailed Work Write-Up; range hood and vent cabinet shall be provided over stove when new cabinets are installed.
- (4) Unless otherwise noted in the detailed Work Write-Up; switch-operated light fixture in a soffit will be provided over sink when new cabinets are installed.

B. Materials for Counter Tops

- (1) Unless otherwise noted in the detailed Work Write-Up; post form Formica/Wilsonhart (standard) with a 4-inch back splash with end cap will be the Housing Rehabilitation standard installation unless otherwise specified in the Work Write-Up.
- (2) Unless otherwise noted in the detailed Work Write-Up; standard ceramic tile with 4-inch splash and standard nosing shall be installed when tile is specified by Program staff (owner to have choice of color of tile and grout).

C. Installation

- (1) All corners in Formica/Wilsonhart installation shall be factory cut and mitered.
- (2) All tile shall be professionally installed using standard construction practices.

11. PLUMBING

A. General

- (1) No plumbing fixtures, device or construction shall be installed which will provide a cross connection of any kind between a potable water supply and a waste pipe or drain.
- (2) Any drainage of any plumbing system, building sewer or part thereof which is installed, altered or repaired, if covered or concealed before being inspected, tested and approved, shall be uncovered for inspection upon notice to uncover.
- (3) Venting systems to conform to Chapter 5 of the Uniform Plumbing Code. Each vent pipe or stack shall extend through its flashing and shall terminate vertically a minimum of 6-inches above roof and not less than 12-inches from any vertical surface and shall be painted. (Note: Water-base paint to be used on ABS.)
- (4) All water closets to be water conservation type.
- (5) All gas appliances shall have proper gas flex, shut-off valve, and be vented according to Uniform Plumbing and Mechanical Codes.
- (6) All exterior sewer clean-outs will be properly installed level with finish grade as per Office of Housing and Neighborhood's standards.
- (8) Unless otherwise noted in the detailed Work Write-Up; all exposed plumbing will be replaced with new plumbing, including faucets, when sink, vanity or tub it replaced, removed or reinstalled.

B. Sewer Line

Within practical alignment and at uniform slope of 1/4-inch to the foot fall from dwelling to property line, install and ABS plastic sewer line.

A clean-out it to be placed at the dwelling and at each change of direction in excess of 135 degrees and at each 100 feet. Clean-outs are to be installed so that they open in the direction of the flow. Clean-outs are to be extended to the grade.

Sewer line piping shall be laid on a firm bed throughout its entire length and backfilled with sand or fine earth. Throughout the full length, trench to be flooded and tamped. Any surplus dirt to be either removed from the property or spread as owner directs. An excess of settling within a 12-month period shall be refilled at Contractor's expense.

C. Water Line

- (1) A main shutoff gate valve is required where the water service line enters the dwelling.

- (2) Installation of new water line from the property line to the dwelling; pipe may be galvanized, wrapped, or PVC schedule 40 (schedule 80 @ riser or where subject to impact).
- (3) All joints on metal pipe which are to be buried must be wrapped with a 20 mil. plastic tape.
- (4) The water line may be installed in same trench with sewer line if the following conditions are met:
 - The sewer line is made from materials approved for use within a house.
 - The bottom of the water piping at all points shall be at least twelve (12) inches above the top of the sewer pipe.
 - The water piping shall rest on a solid shelf at one side of common trench.

D. Water Heaters

- (1) A pressure and temperature relief valve is required on all installations. The relief line is to be 3/4 inch galvanized steel or solid drawn copper pipe.
- (2) Additional information may be found in the Uniform Plumbing Code.

12. **ELECTRICAL**

A. Minimum Requirements

All electrical installations shall be in accordance with the current regulations of the National Electrical Code.

- (1) New electrical service/installations shall be a minimum of 100 amperes.
- (2) Service conductors for 100 amperes shall be three No. 2 aluminum or three No. 4 copper wires.
- (3) Grounding conductor for 100 amperes shall be NO. 8 copper and sheathed or No. copper with no sheathing and solid going to both ground rod and cold water pipe.
- (4) Non-metallic sheathed cable entering plastic boxes must be stapled within 12-inches of the boxes.
- (5) All new meter service panels will require connection to a driven ground rod (or uffer) as well as bonded to a cold water pipe and gas line. The ground clamp must be visible and the grounding electrocode conductor must be continuous.
- (6) All circuits at panel to be balanced and identified.
- (7) At least one receptacle outlet is required outdoors on a ground-fault circuit interrupter (GFCI) with a water-proof cover, when dwelling is rewired.
- (8) All wall outlets shall be rated for an installed on 20 amp circuits.
- (9) No solid strand aluminum wiring will be allowed in branch circuit sizes.
- (10) Maximum number of receptacles and/or fixed outlets per circuit is thirteen, on a 20 amp. circuit with a # 12 AWG wire.

- (11) Washer outlets to be 20 amp rated T-bar receptacles (dishwashers, garbage disposals).
- (12) All Major appliances to have a dedicated 20 amp circuit. Major appliances are considered to be washers, dishwashers, garbage disposals, freezers, refrigerators and micro-wave ovens.
- (13) All new light bulbs shall be installed by the Contractor in all new light fixtures.
- (14) All boxes for fixtures and receptacles shall be installed in walls and ceilings with a maximum 1/8-inch gap from wall or ceiling coverings and flush with surfaces or wall or ceiling covering.

B. Complete Rewiring

Work Write-Up specifications which call for the complete rewiring of a dwelling shall be taken to mean the removal of all existing wiring, receptacles, switches, substandard conduit, subpanel and the installation of all new material in accordance with the current National Electrical Code. A complete rewire shall not permit the reuse of any existing material (except properly installed make up boxes) and shall further require that existing concealed wiring be replaced with new concealed wiring.

B. Concealed Conductors

The Contractor shall be responsible for the proper repair of any interior or exterior surfaces which are damaged during the course of running concealed conductors within the dwelling. "Proper repair" shall be taken to mean replacement of damaged siding, sheetrock, trim, etc., to match adjacent surfaces as closely as possible.

In structures where the type of wall or ceiling construction does not permit the installation of concealed conductors, the Contractor shall install the wiring in approved surface mounted conduit or write mold. The Contractor shall notify the Rehabilitation specialist of such conditions prior to proceeding with the electrical installation.

13. INSULATION

New wall, ceiling, rafter and floor insulation shall be fiberglass batt or blanket insulation or loose thermal insulation material, as is required for the particular installation. Floor insulation shall be R-19; wall insulation shall be R-13; and ceiling insulation shall be R-38. Fiberglass batt or blanket insulation adjacent to exterior surfaces shall be combination insulation with vapor barrier; vapor barrier to be installed to warm side. Install insulation according to manufacturer's instructions. In attic situations, install baffle blocks at soffit vents or openings and around heat-producing fixtures to prevent the movement of insulation or the possibility of excessive heat build-up. Insulation shall not be installed so as to cover "know and tube" wiring in attic areas.

14. VENTILATION

When changes are made in the ventilation of the crawl space or the attic, the total ventilation shall conform to the existing U.B.C. requirement. Re-screening ventilation screens shall include 1/4" galvanized wire mesh screening for crawl spaces and 1/8" aluminum screening for the attic.

15. PLASTER AND DRYWALL

A. Plaster

- (1) Patching: When patching plaster, all broken, bulging or loose and damaged plaster shall be removed to straight lines with clean, sharp edges. Vee lath reinforcing strips, plaster straps, grounds, casing beads and corner reinforcement shall be installed. Use plaster bond material for proper adhesion of new plaster to existing. The areas to be patched shall be filled with base material and then given a finish coat of the same material as the adjoining plaster. Patched areas shall match the adjacent work in finish and texture and be free of bulges. Joinings shall be flushed and smooth so that the joints between the existing and the new plaster are undetectable. See description of new installation below.
- (2) New Installation: Support and fasten lathing to provide true lines and surfaces for new plaster. Use flat reinforcing strips where existing and new plaster surfaces butt together. Install reinforcing at all points where surfaces change or where cracking is likely to occur. All metal shall be galvanized or coated with rust-inhibiting paint. New application shall be three (3) coats wet plaster over metal lath, two (2) coats wet plaster over gypsum "rock-lath" or two (2) coats veneer plaster system. Apply plaster with minimum thicknesses as established by industry standard for the types of bases being used.

(B) Drywall

Drywall installed over framing members shall be on-half inch (1/2") on walls and ceilings, except that for installations requiring a one (1) hour fire rating drywall shall be 5/8-inch Type "X". Drywall installed over existing surfaces shall be no less than 1/4-inch.

New drywall shall be tapered gypsum wallboard. When going over existing surfaces, first remove all damaged material and fur walls or ceilings as necessary so that the finished product is properly aligned. Edges and ends of wallboard shall occur on framing members, except those edges and ends which are perpendicular to the framing members. To minimize end joints, use wallboard maximum lengths. Wallboard shall be first applied to ceiling, then to walls. When both sides of

partitions are to receive wallboard, stagger joints on opposite sides. Protect all vertical exterior corners with corrosion-resistant metal corner beads. When butting up to existing trim, cut drywall carefully and use casing beads for all exposed edges. Where surfaces are to be painted or wallpapered, joints shall be taped and both joints and nail depressions shall have three (3) coats of joints cement (spackling paste) applied as per manufacturer's recommendations. All edges shall be feathered. Finished surfaces shall be sanded smooth and left straight and well aligned. Texture spray finish is not to be used on ceilings unless listed in the Work Write-Up. When used, texture spray shall be medium texture, hard finish only—no coarse, polystyrene or other soft finish is allowed. Before application, prime ceilings with a vinyl primer or equivalent. Any existing surfaces to receive texture spray must also be properly prepared for complete adhesion and non-burn through. Application must be as per manufacturer's recommendations. Texture shall not be applied to any trim. No finishing of drywall shall be done unless inside temperature is a least 55 degrees F. This temperature shall be maintained during and up to completion of finishing, including drying. Moisture-proof drywall shall be used in areas subject to moisture, in bathrooms, and in laundry and kitchen areas adjacent to sinks. All edges, holes and joints shall be treated with a water resistant sealant designed for this purpose. Conventional wallboard tape shall not be used.

16. HEATING and AIR CONDITIONING

(A) Construction Requirements:

Generally speaking the work of Trade Contractors and their employees is expected to be performed in a good and workmanlike manner. Workmanlike quality is defined as workmanship that meets or betters those criteria indicated in applicable building codes, using materials and installation methods identified in the construction plans and this Scope of Work.

(B) Code Requirements:

All jobs shall conform to those standards stipulated in the building code, mechanical code, plumbing code, and electrical code applicable in the local jurisdiction. All construction on Clark County Rehab jobsites shall meet or exceed NAHB Performance and Building Standards.

(C) General Comments:

Clark County considers our Trade Contractors to be experts at producing a high-quality job. But everyone on our construction team—staff, Trade Contractors, and suppliers—must recognize the importance of providing quality in both the product and service areas while on our jobsites and in the homes of our purchasers.

Since we work as a team, poor quality or service, from any of us, reflects unfavorably on all of us. An exceptional level of product quality and highly effective service can help us all to increase our business and grow.

Clark County's definition of quality construction also requires that every job be completed correctly the first time. When this does not occur it costs both of us additional money, imposes on the purchaser, and hurts our reputations as quality builders. That is why, in situations where construction was not completed in a quality manner, prompt corrective action is required to remedy specific deficiencies.

In the following information the term Site Superintendent shall refer to any of Clark County's representative with authority to perform the specified task. The term Trade Contractor shall mean the Trade Contractor's organization or any representative that is assigned the authority to perform the specified task.

General: The heating system should be a complete and functioning system tested and ready for operation. The equipment and system shall be installed in accordance with all approved building, plumbing, electrical, and health codes and function as specified. Installations shall pass the initial compliance inspection at each phase. The heating and cooling systems should operate correctly for the first two (2) years of Warranty coverage with the exception of those items caused by owner negligence.

The heating system should be capable of producing an inside temperature of 70 degrees Fahrenheit (F), as measured in the center of each room at a height of 5 feet above the floor, under local outdoor winter design conditions as specified in the ASHRAE handbook. Federal, state, or local energy codes shall supersede this standard where such codes have been adopted locally. The cooling system shall be a complete and functioning system tested and ready for operation. The equipment and system shall be installed in accordance with all approved building, plumbing, electrical, and health codes, and function as specified. Installations should pass the initial code inspection at each phase.

The cooling system shall be capable of maintaining a temperature of 78 degrees F, as measured in the center of each room at a height of 5 feet above the floor, under local outdoor summer design conditions as specified in the ASHRAE handbook. In the case of outside temperatures exceeding 95 degrees F, a differential of 35 degrees F from the outside temperature shall be maintained. Federal, state, or local energy codes shall supersede this standard where such codes have been adopted locally.

The stiffening of ductwork and the gauge of the metal used shall be such that ducts do not "oil can." Refrigerant lines should not develop leaks and there should be no condensation on refrigerant lines during the first year of the Warranty period.

Clark County will furnish the Trade Contractor a full set of plans in a timely manner to allow the Trade Contractor time to complete the necessary heat-load calculations and HVAC layouts. It is the responsibility of the Trade Contractor to determine the tonnage and number of units required for each house.

Materials: Systems shall be installed using new materials of the grade and quality required to meet or exceed local or state and ASHRAE standards. The type and manufacturer of the heating and cooling system shall be approved by Clark County Rehab Specialist and cannot be changed without the written approval of Clark County purchasing agent. Approval must be received in writing. All systems must be energy efficient per current code. Should the requirements for HVAC systems change because of any change in the applicable codes, the Trade Contractor must notify Clark County immediately and all plans must be rebid.

Installation: All work is to be done by trained, experienced individuals. Workmanship shall be so as to require a minimum of repairs and patching after installation. **No roof or floor truss may be cut, notched, moved, or otherwise damaged in any manner.** If any truss interferes with the installation of the HVAC system, the Site Superintendent should be notified so that the truss manufacturer may solve the problem. Should any truss be damaged accidentally the Site Superintendent must be notified immediately. The truss manufacturer's engineer must approve any repairs before they are made.

Warranty: Certain items are warrantable for one (1) year and some for two (2) years. Refer to Clark County specifications printed Limited Warranty booklet for a list of these items. The Trade Contractor will furnish to the homeowner, via a tag on the HVAC unit and on the sticker on the inside of the left door of the cabinet located to the left of the kitchen sink, a regular office hour phone number and an emergency phone number. The Trade Contractor is required to furnish emergency service.

The Trade Contractor shall have seven (7) days in which to correct any Warranty problem. If the problem is not corrected within seven (7) days then Clark County shall correct the problem and will back-charge the Trade Contractor at the rate of \$75.00 per hour, with a minimum charge of \$100.00 plus the cost of any materials.

Inspection Reports: The Trade Contractor and the Rehab Specialist shall walk the job together and complete each section of the inspection report(s). The Trade Contractor must correct any deficiency found during the inspection and the job must be 100-percent complete before payment will be made. The Trade Contractor and the Rehab Specialist must sign-off on all sections of the inspection report(s) attesting that the job is 100-percent complete and is correct per the job requirements found in this Scope of Work.

(D) **Detailed Job Procedures:**

- (1) A new set of plans is required for each house. Plans are subject to changes and modifications. It is the responsibility of the Trade Contractor to have the new plans before beginning work. Plans should be picked up at the job trailer

- from the Rehab Specialist. The Trade Contractor at no cost to Clark County will correct any errors that occur from using an incorrect set of plans.
- (2) Purchase orders will be mailed from the office. If a purchase order has not been received prior to the beginning of the job one should be picked up from the Rehab Specialist.
 - (3) The Trade Contractor and the Rehab Specialist must walk the job together and complete the pre-work section of the inspection report(s) before work may begin. The pre-work section of the inspection report(s) must be signed-off on by both parties.
 - (4) The Trade Contractor must be licensed in the county in which the subdivision is located prior to beginning work.
 - (5) The Trade Contractor is responsible for obtaining all necessary permits.
 - (6) Heating and cooling equipment shall be installed per manufacturers' instructions and all applicable codes.
 - (7) Trade Contractor shall be responsible for installing vent for hot water tank.
 - (8) The framing Trade Contractor is responsible for framing and completing the attic access and platform area for all HVAC units to be installed in attic. If the attic area is not complete or completed incorrectly the Site Superintendent should be notified immediately before the unit(s) is installed.
 - (9) The attic unit(s) requires a metal condensation drain pan.
 - (10) All heating and cooling equipment shall be located with sufficient clearances from walls or other equipment to permit cleaning of heating and cooling units, replacement of filters, blowers, motors, controls, vent connections, lubrication of moving parts, and adjustments. Should any area be inadequate to allow for the above the Rehab Specialist should be notified immediately.
 - (11) The Trade Contractor shall furnish a pre-built pad for the AC unit. It is to be installed level and square.
 - (12) All ducts should be properly sealed at the heat exchanger per energy code and should not become loose or detached.
 - (13) All ducts shall be installed per the manufacturer's installation instructions. No duct shall be crimped, bent, or otherwise installed in such a manner to restrict airflow. All duct work leaving the heating or cooling unit shall not obstruct the unit in such a manner that the unit cannot be cleaned, filters changed, maintenance performed, etc.
 - (14) Under no circumstance shall the roof or floor trusses be cut, notched, or otherwise damaged. Should any truss be accidentally damaged the Site Superintendent should be notified immediately. No repairs may be made without the approval and direction of the manufacturer's engineer.
 - (15) All floor ducts are to be covered to prevent debris from falling into the ductwork.
 - (16) All floor duct openings shall be level, square, and flush with the floor. When grills are installed they should not tilt more than 1/16 inch when stepped on.
 - (17) All ceiling grills shall be square and set flush with the ceiling. They shall have the proper insulation materials installed and shall fit snugly.
 - (18) All gas lines shall be of a material approved by the applicable gas company and code.

- (19) The Trade Contractor is responsible for the installation of gas lines and the necessary connections for the gas starter in the fireplace, hot water tank, kitchen range, and clothes dryer.
- (20) Clark County uses either concrete siding or vinyl siding. If siding is on the house and lines have not yet been piped to the outside of the house, the Trade Contractor is responsible for **cutting** a neat, clean hole and for completely sealing the hole. Any excess sealing material is to be removed.
- (21) All gas cutoffs must be properly installed and readily accessible (clothes dryer, fireplace, and furnace).
- (22) All piping joints and connections shall be suitable for the pressure-temperature conditions and compatible with the piping material.
- (23) Programmable thermostats shall be installed at location(s) noted on plan. The instruction booklet is to be placed in kitchen cabinet drawer to the left of the range.
- (24) Condensation pumps shall be plugged in and operational.
- (25) Heating units shall have filters installed.
- (26) The vent and grill in the kick plate under the cabinets shall be installed high enough to allow shoe molding to be installed below the kick plate.
- (27) At completion of job house shall be broom-swept and all debris removed to the dumpster or a designated trash area.
- (28) The Trade Contractor is responsible for passing all required inspections.
- (29) After gas inspection is completed the gas pressure gauge must be removed and pipe capped. The gas company will not hook up service until gauge is removed and pipe is capped.
- (30) Any re-inspection fees assessed Clark County or owner, will be charged to the Trade Contractor.
- (31) The Trade Contractor is responsible for cleaning up all residual materials before the job will be accepted as complete.
- (32) The Trade Contractor and Rehab Specialist must walk the job together and perform a final inspection of the job. The final section of the inspection report(s) must be completed and signed-off on by both parties. The inspection report(s) must be attached to the office's copy of the purchase order and the Trade Contractor's invoice or payment will not be issued.
- (33) Any items found during the final inspection that need correction shall be corrected before payment will be made

17. ALUMINUM WINDOWS

All meeting rails shall be interlocking and weather tight. All operating sash shall be fully weather stripped. No metal-to-metal contact is permitted at the edge of sash and frame. Sash and screens shall be easily removable from the inside for maintenance and re-glazing and repair. After installation, aluminum shall be thoroughly cleaned with plain water or a petroleum product such as kerosene or distillate. No abrasive cleaning agents shall be used.

- A. Sash
All aluminum windows shall be constructed of anodized aluminum. New sash sections shall be extruded aluminum alloy 6063-T5. Minimum nominal wall thickness shall be .062 inch. Construction shall be in accordance with the Architectural Aluminum Manufacturer's Association (AAMA) specifications.
- B. Assemblies
New window assembly sections shall be extruded aluminum alloy 6063-T5. Minimum wall thickness shall be .062 inch, nominal. Construction of frame shall be in accordance with AAMA specifications and shall form neat weather tight connections. Weep holes shall be provided at the factory. When appropriate to the installation, new aluminum assemblies shall have an anodized aluminum exterior "surround" designed to form an integral union with the existing frame and be joined in a manner as to prevent any water or air infiltration. Surround shall be on the same construction as aluminum section described above. Surround shall be sized to cover all exposed exterior wood trim and shall fit neatly into openings. Complete window unit shall meet AAMA performance standards.
- (C) Replacement Windows
Replacement sections shall be extruded aluminum alloy 6063-T5. Minimum nominal wall thickness shall be .050 inch. Construction of frame shall be in accordance with AAMA specifications and shall form neat weather tight connections. Weep holes shall be provided in the factory.
- D. Bedroom Windows
All bedroom windows shall comply with UBC Section 310.4 for egress.

ACKNOWLEDGMENT AND RECEIPT

I have received a copy of the April 5, 1999 Housing Rehabilitation Section Rehabilitation Specification Manual and will comply with the contents in all work done for clients who receive technical and/or financial assistance through its office, the Community Resources Management Division.

Name of Firm (Print or Type)

License #

Name of Licensee

License Expiration Date

Contractor's Signature

Date

Telephone #

Fax #

