

VINTON COUNTY  
COMMISSIONERS'  
DEVELOPMENT  
DEPARTMENT

CONTRACTOR  
PERFORMANCE  
MANUAL



**GENERAL PERFORMANCE STANDARDS  
FOR  
THE VINTON COUNTY COMMISSIONERS' DEVELOPMENT DEPARTMENT  
HOUSING PROGRAM**

## **GENERAL CONDITIONS**

**All rehabilitation work that is done must comply with all Vinton County building codes and/or local jurisdiction or governing municipality.**

1. SCOPE of the work shall include all labor, materials, equipment, permits, drawings (if any), and services necessary for the proper completion of the rehabilitation of the property identified in the WORK WRITE-UP.
2. THE WORK WRITE-UP shall take precedence over this standard specification and when in conflict, the material, equipment and workmanship called for in the WORK WRITE-UP will be required.
3. THE DRAWINGS of floor plans are diagrammatic only, illustrating the general intention of the WORK WRITE-UP. They do not show all of the work required. exact dimensions, or construction details. (Contractors shall verify all dimensions prior to submission of bids.)
4. CHANGES IN THE WORK including substitutions of materials, change in the scope or workmanship required by these specifications, which may be proposed by the Contractor, or found necessary or desirable a the work progresses, shall be in writing with price change given, and shall be approved by the Contractor, the Owner and the Rehabilitation Representative, before any work incidental thereto is started.
5. WORKMANSHIP shall be done in accordance with the standards of the several trades known as a "workmanlike manner."
6. MATERIALS shall be new, in good condition, and of standard grade unless otherwise agreed to in writing by the Contractor and rehabilitation representative prior to the installation.
7. REPAIRS shall be made to all surfaces damaged by the Contractor resulting from his work under this contract at no additional cost to the owner.

Where "repair of existing work" is called for by the contract, the feature is to be placed in "equal to new condition" either by patching or replacement: all damaged or loose, or rotted parts shall be removed and replaced, and the finished work shall match adjacent work in design, dimension, and finish.

Incidental items not mentioned in the specifications or listed in THE WORK WRITE-UP that can be reasonably and legitimately be inferred to belong to the work described or be necessary, in good practice to provide a complete system shall be furnished and installed as though called out in every detail.

8. INSPECTION OF THE WORK during normal working hours by authorized inspectors shall be facilitated by the Contractor, and the work shall be subject to the inspectors' approval and acceptance.

The responsibility of obtaining all necessary permits shall also be facilitated by the Contractor. In the event a permit is not required by a local jurisdiction or municipality, then written notification authorized and signed by a representative of that jurisdiction must be submitted to the Vinton County Commissioners' Development Department Housing Program. If a representative is not available or is unwilling to provide authorization, then a notarized letter from the Contractor will be accepted. Failure to complete this action could cause probation (or even termination from the program).

9. SUBCONTRACTORS shall be bound by the terms and conditions of this contract in so far as it applies to their work, but this shall not relieve the General Contractor, if such a one is awarded the contract, from the full responsibility to the owner and the Vinton County Commissioners' Development Department Housing Program for the proper completion of all work to be executed under this agreement, and he shall not be released from this responsibility by any sub-contractual agreement he may make with others.
10. BIDS OR PROPOSALS will be submitted at the Bidders' risk, and the Vinton County Commissioners' Development Department Housing Program reserves the right to reject any or all bids or proposals.
11. BUILDING CODES - All work to be done shall be subject to the regulations of the U.S. Department of Housing and Urban Developments (HUD) minimum Housing Quality Standard (HQS) and the codes adopted by the Vinton County Building and Zoning Department (CABO one and two family dwelling code.)
12. CLEAN UP and removal from the site of all debris and waste materials resulting from the work shall be the responsibility of the Contractor on a daily basis, who will, upon completion of the work, leave the premises in broom clean condition and all windows washed.
13. TRADE NAMES are used in the basic specifications to establish quality and type of materials required; exact material to be used on a specific property will be described in THE WORK WRITE-UP for the particular property.
14. ADJACENT PROPERTY - When adjacent property is affected or endangered by any work done under this contract, it shall be the responsibility of the Contractor to take whatever steps are necessary for the protection of the adjacent property and to notify the owner thereof of such hazards.

# CARPENTRY

## A. GENERAL ROUGH

Framing General - All framing shall comply with the applicable Vinton County building codes.

1. Framing shall be level straight, plumb and true. Framing shall fit closely; set to line and level indicated and fastened in place rigidly. Framing members shall not be cut, notched, or bored more than 1/4 of their depth without adequate approved reinforcing. Boring shall be in the middle 1/3 of the member. Floor joists shall not be cut notched or bored more than 1/6 of their depth and shall not exceed 2" in diameter and shall be in the end 1/3 of span only.
2. All exterior and bearing walls shall have minimum 2"x8" header with 1/2" plywood spacers over all openings. Any rough opening exceeding 5' in width will require a solid 1/2" core running the continuous length of header.
3. All structural framing lumber shall be construction grade or better. Moisture content shall not exceed 19 percent at time of installation.
4. No untreated wood shall be in contact with paving or within 8" of finish grade. All wood within 8" of the finished grade shall be preservative treated.
5. All framing exposed to weather shall be nailed with galvanized spikes. All exterior nailing shall use galvanized nails.
6. Minimum thickness of sill plates shall be 2". Minimum bearing for ends of joints and wood framing shall be 3 1/2". Sills shall be preservative treated.

## B. SILL INSTALLATION

Termite shields are to be metal and extend 2' over each side of foundation wall. Shields are to separate all exterior sill plates from masonry.

### 1. Studs and Joist

Minimum bearing for joists framing into masonry shall be 3". Joists framing into masonry and all mudsills shall be pressure and preservative treated or shall be redwood, foundation grade. All new joist framing shall have bridging.

### 2. Stud Walls

Studs in one and two story buildings shall not be less than 2"x4" with the wide face perpendicular to the wall. Studs shall be spaced at 16" on center. Sole plates shall be pressure treated if installed on masonry or concrete.

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Header to be made up of two 2"x6"'s for spans up to 5', two 2"x8"'s for spans up to 6'. Use two 2"x10"'s for spans up to 8' and two 2"x10"'s for spans up to 10'. Secure beams together so that load is distributed evenly for load bearing walls. For non-load bearing walls use two 2"x4"'s for spans up to 5' sufficiently anchored to sill and top plates.

### C. ROOF FRAMING

#### 1. Rafters General Specifications

All damaged or deteriorated rafters shall be replaced entirely. No splicing of any rafter will be permitted, unless specified. When **rafter tails** are to be replaced, they shall be cut back flush with exterior siding.

New rafter tails shall be of same dimension as the old and shall be face nailed to the side of the existing rafter a distance of 4" back from the outer edge of the wall.

Approved trusses may be used when specified

Collar Ties shall be installed on all new rafters. Ties shall be 1"x6" pine or fir and located in the middle third of the rafter length.

All saw cuts on roof framing and rafters shall be to the line and closely fitted. When a ridge board is to be installed, it shall be a minimum of 1" in thickness and not less in depth than the cut end of the rafters it joins.

All rafters shall be a minimum 2"x6" 24" OC unless otherwise specified.

#### 2. Gable Ends

Gabled ends shall be installed per applicable Vinton County building codes in a workmanlike manner.

##### a. Aluminum Siding

Shall be a minimum of .024 gauge, installed over a vapor barrier or reflective type insulation as recommended by the manufacturer.

##### b. Wood Paneling Siding

Shall be type A-C, Group 2, exterior grade plywood, D.F.P.A., 3/8" thick minimum.

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c. Textured Wood Siding

Shall be T- III, exterior type. Group 1. sanded or un-sanded. ship lapped edges, D.F.P.A.. 5/8" thick minimum.

d. Sheathing

Sheathing shall be 1/2" CDX plywood nailed with 8d box nails every 6" on perimeter and every 10" on center. Sheathing will run perpendicular to framing with an H-Clip between each rafter.

e. Soffit - Framed

Build soffit under roof overhang by installing 3/8" exterior plywood, type A-C, Group 2, unless otherwise specified, from end of rafter to wall of structure. Maximum spacing for soffit supporting "look out" members shall be 24" center to center. Soffit shall be finished at wall with molding strip and at end of rafter with fascia board. Screen wire for vents shall be 18"x 14" screen mesh nailed with 6d galvanized box nails. All soffits shall be primed upon installation. When replacing a fascia board its length shall be sufficient to reach a minimum of three rafters ends.

3. Soffit and Fascia - Framed Aluminum

Build soffit under roof overhang by installing baked enamel, aluminum, soffit material over wooden soffit framing. Aluminum soffit material shall be ventilated.

Aluminum for soffit shall be minimum thickness of .010" molding, and trim shall be baked enamel aluminum. A fascia board shall be installed on rafter ends and covered with baked enamel aluminum with minimum thickness of .024". Soffit supporting "look out" members shall be maximum 24" center to center.

a. All studs shall be 16" on center. All load bearing stud walls shall have double cop plates.

b. AU girders and other structural support members shall be capable of supporting all designed dead and live loads imposed on them, without sagging or buckling.

D. FLOORING FRAMING

All new and relocated floor joists shall be supported at their extreme ends by either a 2"x2" ledger or metal joist hanger. Toe nailing only will not be acceptable. No splicing of floor joists between supports will be permitted. All floors shall be properly reinforced.

Remove deteriorated floor joist and replace with new joists of pressure treated material, or decay resistant type that have same dimension as old joists.

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If a floor joist is to be scabbed as per THE WORK WRITE-UP. then the new joist must extend 4 times the length of deteriorated portion. The scab shall have the same dimensions of the old joist and be nailed accordingly on both sides.

Bearing for joists shall not be less than 1 1/2" on wood or metal, and 3" on masonry. Joists shall be placed so that the top edge provides an even plane for installation of the sub floor and finished floor. Notches for piping in the top or bottom of joists should not exceed one sixth the depth of the joist and shall be located in the middle of the span. Holes bored in joists for piping or electric wiring shall not be closer than 2" to the top or bottom of the joist and the diameter of the hole shall not exceed 1/3 the depth the joist. All floor girders and joists shall be jacked and leveled as close to level as job conditions permit.

### B. FINISH CARPENTRY

#### I. Trim

##### a. Baseboard. Window and Door Casings Crown and other Molding

Whenever possible new baseboards, moldings and castings are to be matched in size and shape to existing trim. AU joints are to be cut to fit and be tight. Fasten trim work with the appropriate nails, fasteners, and adhesive. All nails are to be countersunk and filled. No new materials that is split or otherwise defective will be accepted. AU joints in continuous rows of trim will be scarfed and break on a stud. Material used should be mill finished and sanded, white pine free from scars. Sand wood before painting. Use stain grade trim where specified and stain or paint to match existing.

##### b. Base and Shoe Molding

1. Clamshell base molding
2. Vinyl base molding
3. Shoe molding
4. Square cut base molding  
Standard to match existing

Base and shoe mold shall be of a clear wood. unless otherwise specified. Base shall be installed in all rooms of the dwelling, and shoe mold shall be installed in all rooms that have resilient type floor covering, after the floor covering is installed.

When necessary to remove existing base and/or shoe mold in order to repair damaged flooring, new base and/or shoe mold shall be installed and finished to match existing base and/or shoe mold.



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### c. CASINGS

Match existing; shall have mitered corners, set back 3/8" from the face of jambs. and nailed to finish and rough jambs and grounds.

## 2. Stairs

### a. Main Interior Stairs

1. Construction of factory made stairs shall have oak or fir treads and risers, stringers to be housed out Douglas Fir. Provide solid bearing at top and bottom. A center stringer shall be installed when the distance between stringers is greater than 2' - 6'. Factory built stairs having wedged and glued treads and risers may be supported by two 12" stringers, provided, that the width of stairs does not exceed 3'6". AU work shall conform to the Vinton County building code.
2. Repair shall include re-nailing or replacing all loose, springy or squeaking treads, risers and stringers. Restore to tight, sound and safe condition. Use same species and size as original when not covered by carpet. When carpeting is not applied over steps. stain and varnish two coats or paint to owner's choice.
3. Every stairway is required to have a handrail installed in a tight sound. safe condition, mounted on standard handrails brackets or equivalent.
4. Job built stairs shall us No. 1 pine stringers and conform to all local building codes.

### b. Exterior

Frame steps shall be of pressure treated material, with 2"x2" stringers. Treads and risers of required stairs shall be so proportioned that the sum of two risers and a tread, exclusive of the projection of the nosing, is not less than 24" nor more than 25". The height of any riser shall not exceed 7 3/4", and treads, exclusive of the nosing, shall not be less than 9" wide. Treads shall be of uniform width and riser of uniform height in any on flight of stairs.

### c. Landings

1. A flight of stairs shall not have a vertical rise of more than 12' between floor or landing. The minimal dimensions for a landing must exceed 3'x3'.

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2. The width of a landing shall not be less than the width of the stairways they serve. Every landing shall have a minimum dimension measured in the direction travel equal to the width of the stairway. Such dimension need not exceed 4' when the stair has a straight run. Doors opening onto a landing shall not reduce the landing to less than 1/2 the required width. When fully open, the door may project 7" onto the landing.

d. Attic Stairs

1. Treads and risers shall conform to existing construction.
2. Handrail shall be 2"x4"'s, mounted on standard handrail brackets.

e. Disappearing Stairs

1. Replace damaged or missing parts, adjust operation for safe usage.
2. Remove entire existing unit: Replace with equivalent unit.

3. Ceiling Scuttles

3/8" thick interior type A-D grade plywood closures supported on continuous wood cleats. Finish wood trim around framed opening.

4. Pre-finished Hardboard Panels

Apply over wall material in accordance with manufacturer's written instructions. Provide factory-finished moldings and other accessories as required.

5. Wood Paneling

Materials:

- a. Pre-finished wood paneling 4'x8'x1/4" sheets, as selected by the owners within the cost allowance
- b. Panel adhesives
- c. Nails with matching color heads
- d. Pre-finished wood molding
- e. Matching color putty sticks.

Installation: Existing Walls

Cover existing wall surfaces with paneling. Remove any loose plaster. protruding objects such as nails and screws. Remove old base board and window and door trim if called for. Break vertical joints over studs and fasten panels securely to the wall using panel adhesive and nails of sufficient length to penetrate wall studs

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at least 1/2". If standard color head nails are not long enough use finishing nails. set heads slightly and cover with matching color putty stick.

Where the new wall paneling is installed directly on the wall framing or over furring strips. install wood blocking as needed for the top and bottom edges of sheets. Break joints of paneling over vertical framing members. Attach panels securely to framing, using a combination of panel adhesive and color matching nails.

Trim: On installations where old base board and trim is left on openings, neatly scribe panels to trim or base board. If new trim is called for, use pre-finished trim and moldings to match paneling, or use white pine and stain with matching stain and apply one coat of interior varnish or lacquer. Install 3/4" cove moldings to inside corners if they are not closely fitted. Install 1 3/4" cove moldings at ceiling, 3 1/4" base board. 2 1/4" casing around windows and door frames and 1/2" x 3/4" shoe molding at floor.

**Paneling:** Remove existing cove 1/4" round or other trim from doors and windows or base board. Scribe paneling to meet remaining trim. Cover with prefinished trim. Finish existing trim to match pre-finished trim as close as possible.

### F. CABINET WORK

#### 1. Material

- a. All cabinets shall be Merilatt equivalent or written approved equal.
- b. All cabinets will be installed, level, plumb and true throughout run.
- c. Countertop will be factory made preformed type with rolled edge and 4" backsplash. All miters will be factory made. Countertop will be screwed into cabinet for secure attachment. Caulk joint between wall and backsplash with silicone caulking.

#### 2. Installation

- a. Wall cabinets and base cabinets will be screwed through a stiles into 2"x4" wail framing and through side stiles to each other. Wall cabinets will be screwed to fun down rafters.
- b. Wall cabinets shall be mounted at 7' top of cabinet height from floor.
- c. Install cabinets after room painting. Touch up walls and ceilings as ceded after installation of cabinets.
- d. Pre-finished cabinet or cabinets to be finished on site shall match existing woodwork, unless otherwise noted, Homeowner to select color and finish.

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- e. Cabinet finishing shall be the responsibility of contractor performing interior construction.
- f. Use cabinet bulkhead from top of wall cabinet to ceiling. Frame fun down cover with 1/2" sheet rock, complete three coat process and finish to owner's preference when specified. Verify mounting height with the rehabilitation representative. Knobs, pulls and catches shall match the existing, otherwise new catches shall be installed (all metal. no plastic) on all cabinets existing and new.

### 3. Cabinet - Medicine

Shall be standard size, recessed, or surface mount, with minimum three shelves, a mirror, unless otherwise specified on THE WORK WRITE-UP. When light fixture is included, fixture shall include separate switch.

## G. CLOSETS

Build in a clothes closet or linen closet in the indicated room by installing 2"x4" studs, 16" on center, from floor to ceiling. Inside dimensions to be 2' by specified Lear. Closet shall be finished inside and out to conform with the room. Baseboard, flush doors, and trim out, minimum 12" clothes shelf and rod inclusive. Linen closet to have minimum of five shelves.

### 1. Closet Repair

- a. Install new (minimum 12") shelf.
- b. Install new clothes rods.

### 2. Installation of Shelf only

Where called for in the scope of work, each shelf shall have supports necessary to carry the load placed upon them. All such shelves shall be 12" wide and 14" apart except when specified in scope of work. All shelves over 4' in length shall have center supports.

### 3. Install Closet Poles

Install new closet poles where missing or damaged. Rods shall be wood or finished metal. All rods over 4' in length shall have a center support. Complete installation with rod hanger and screws.

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### H. EXTERIOR SURFACES

#### General Repairs

- a. All new wood will be primed and painted two coats to owners preference. All nails will be galvanized.
- b. Exterior surfaces, such as cornices, walls, soffits, rake board and molding, etc. shall be repaired, removed and/or replaced to match existing as called for in THE WORK WRITE UP.
- c. Surfaces to be repaired shall have all decayed or deteriorated parts removed and replaced with new pans matching original work. Back-up framing shall be repaired to permit this work.
- d. Where cornices, roofs or rooms are to be removed, THE WORK WRITE-UP will describe the treatment of the wall exposed by such removal.
- e. New fascia shall be No. 2 pine, spruce or redwood. Material to be back-primed before installing and nailed with galvanized nails. Re-nail all remaining loose fascia where required. Prime and paint new wood surfaces to owner's choice.

### I. SIDING

#### 1. General Standards

- a. 15 lb. felt paper shall be installed under finish on all exterior walls, including new stucco over siding.
- b. Starter strip of siding shall be separated from foundation by a layer of sheathing paper or by a heavy bituminous coating.
- c. Butt joints of siding shall occur over studs; joints in adjacent pieces shall be staggered.

#### 2. Wood Beveled Siding

- a. All replacement siding will match existing on required areas of structure, or as specified in THE WORK WRITE UP.
- b. Installation shall follow manufacture's specifications and codes regarding surface preparation, nailing, lag and joint staggering, etc.

#### 3. Plywood Siding

- a. Minimum thickness of plywood or hardboard for soffits and ceiin2s of exterior applications shall be 3/8".
- b. Plywood siding shall be exterior type and shall bear the mark of a recognized association.

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4. Exterior Siding - 'Asbestos'

Cover indicated sections of structure with new asbestos shingles. Singles shall be as manufactured by Johns Manville, 12"x 12", or equal. Shingles shall be applied over vapor barrier material, and installed in accordance with manufactures recommendations. Only to be used for repair purposes or replacement in small areas.

5. Vinyl Siding

Vinyl siding shall be (wolverine) T-Lock or equal. installed to manufactures specifications. Siding shall be installed on 1/8" foam backer board or reflective type insulation as recommended by manufacturer. Installation shall include window J channel, door channel, inside and outside corners, starter strip, and finish mold, Installation per manufacturers recommendations.

6. Exterior Siding - "Aluminum"

Cover indicated area of structure with minimum of .024" aluminum siding. Quality as called for in THE WORK WRITE-UP. (Siding shall be installed over a vapor barrier or reflective type insulation as recommended by manufacturer.) Installation shall include window J channel, door channel, inside and outside corners, starter strip, and finish mold, Installation per manufacturers recommendations.

Cover all window, door trim, and sills with baked enamel, coil stock minimum .019".

7. Exterior Siding - "Masonite Lao"

Lap siding shall be 7/16" thick, minimum, by 16' long, smooth, pre-primed masonite panels. Siding shall be installed with corrosion resistant nails, and all ends shall be attached together with H-molding, and sealed with an exterior caulking. Lap siding shall extend to 6" above finish grade.

8. Exterior Siding - "Stucco"

Cover designated sections of structure with cement stucco or decorative stone finish. If stucco or decorative stone is to be applied over frame construction. vapor barrier must first be applied to siding. Over vapor barrier nail metal reinforcement. Over reinforcement, apply one 3/8" brown coat and on 1/4" finish coat. Reinforcement to be corrosion resistant. Stucco finish to extend minimum 6' below grade.

Stucco shall not be applied over block or brick unless surfaces are primed. sandblasted, or chemically treated beforehand for this purpose.

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## J. PORCHES

### 1. Porch Piers

Supporting piers shall be placed on concrete footing, extending below the frost line. Existing masonry piers shall be without cracks or holes. For tuck pointing instructions. For new piers, see 02 CONCRETE, section B. No. 2 of this manual.

### 2. Porch Joists

Wherever indications of weak floor and ceiling joists are noticeable they should be examined. Additional support may be provided by doubling up, adding of joists where distance between existing members is excessive, or shoring up long spans with block or brick piers set in concrete. New joists shall be pressure treated 2x material.

### 3. Porch Decking

Porch decking shall be tongue and groove celc0re or to match existing, unless otherwise specified.

### 4. Porch Steps

Repair of wooden porch steps should only be used where deterioration or defects are minor, otherwise, replacement shall be pre-cast concrete steps.

### 5. Porch Handrail

All stairways having treads located more than three risers above a floor or grade, shall be equipped with handrails located not less than 30" nor more than 34" above the leading edge of a tread. Handrails shall be well secured to the stairwell walls or shall be an integral part of a guard-railing well secured to the stairway framing where wall is not immediately adjacent to the treads and/or stringers.

Metal handrails shall be of 1 1/2" O.D.. minimum, galvanized iron, securely attached to the floor system or steps. If any handrail is to be attached to an existing one, then match the existing handrail as close as possible.

Ornamental steel railings may be of an adjustable type or welded type, primed coated, and shall include all components to properly secure them to walls, floors, and columns.

### 6. Porch Guard rail

Guard railings, where required along open-sided flights of stairs, and all unenclosed floor and roof openings, balconies or porches which are more than 30" above

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grade of floor: shall be of construction adequate in strength, durability and attachment for their purpose. They shall include, besides the hand railings, intermediate vertical or longitudinal rails or lattice work of arrangement which prohibits the passage of a 9" sphere.

### 7. Porch Columns

Any treatment of columns will include plates and base blocks. Brick columns will be constructed to match old as closely as possible.

Ornamental steel or aluminum columns shall be primed coated, tubular steel, and shall be attached securely with the proper type anchors at the top and bottom.

Wood columns shall be of pressure treated lumber, 4"x4", and shall be set on an approved type, galvanized post anchor, properly attached to the floor system, with top properly attached to the roof supports. Decorative columns may be used where specified, provided they are structurally capable of supporting the roof load.

### 8. Porch Ceiling

New installation may be applied over existing material after removal of rotted sections. If plywood is used, it shall be exterior grade, minimum 3/8", and tightly jointed or trimmed at joints.

## K. NEW ADDITION

### 1. Materials

This specification is meant to include a complete enclosed watertight structure, ready except for mechanical and/or electrical equipment. All work shall conform to the local building code.

- a. 2"x4" stud walls at 16" on center with 2"x4" sole plate and double top plate.
- b. 1/2" drywall, interior, taped, sanded and finished with three-coat process, ready to accept paint or other finishing materials.
- c. 1/2" plywood or fiber board (with proper bracing) sheathing exterior.
- d. Fascia, soffit, downspouts, gutters and splash block.
- e. Siding as specified in THE WORK WRITE UP.
- f. Ceiling joist as specified in THE WORK WRITE UP, with 1/2" drywall. on ceiling joist spaced 16" on center; 5/8" drywall on ceiling joists spaced 24" on center. taped, sanded and finished with three coat process, ready to accept paint or other finishing materials.
- g. Roof rafters as specified in THE WORK WRITE-UP. with 1/2" plywood sheathing. Approved truss roof may be used.
- h. Shingles as specified in THE WORK WRITE UP.
- i. Attic Vents.



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- j. R-19 (minimum) in ceiling.
- k. 3 1/2" baa insulation in wail with vapor barrier. R- 13 in wails.
- l. floor joists as specified in THE WORK WRITE UP.
- m. Underlayment and floor covering as specified in THE WORK WRITE UP.
- n. Base and all trim.
- o. Windows as specified in THE WORK WRITE UP.
- p. Doors and frame as noted in THE WORK WRITE UP.
- q. 8'x16' concrete block foundation according to 04 Masonry section A.. No. 1.e.. or 8" poured concrete foundation wail according to 02 Concrete section A.. No. 5.
- r. Foundation walls shall be set on a concrete footing and set a minimum of 32" below grade unless otherwise specified in THE WORK WRITE UP.
- s. All flashing as required.

### 2. Repair Accessory Building

Repairs of accessory building shall be to replace missing or deteriorated component parts to fully restore a weather tight condition. This is only done if the accessory structure is attached to main structure.

### 3. Demolish Accessory Building

After demolishing, all trash and material shall be removed from site.

### 4. Repair Garage

Repair of garage shall be to fully restore to original condition by replacing all missing or deteriorated components to provide a complete weather tight condition. Only to be done when the garage is attached to the main residence.

### 5. Repair Carport

Repair of carport shall be to restore to original condition, by replacing missing or deteriorated component parts for complete restoration. Only to be done when the carport is attached to the main structure and posing a danger of life, health, and/or safety issues.

## L. WINDOWS

### 1. General

Repairing windows shall include replacing of all decayed or broken components. including, panes. and reglazing according to manufacturer's recommendations.

- a. All windows addressed are to be made functional to operate smoothly.

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- b. Repair of existing windows will match existing construction as closely as possible where window *is* replaced or cut in new. Repair of all surfaces will match existing. When window opening is blocked off, opening will be framed with similar framing material and both interior and exterior wall surfaces will match existing.
- c. All window repairs and installations shall include all hardware. locks screens, and drip cap.

### 2. Prime Windows

Unless otherwise specified in THE WORK WRITE-UP replace with new solid vinyl replacement windows made to fit opening.

All Windows shall be double glued and the entire unit wrapped with vinyl.

### 3. Wood Window Units

Exterior wood window units shall be type "S" or "T" styles, with check rail or plain rail. Material shall be preservative treated pine; Ideal brand standard grade or equivalent.

- a. All windows will be double glazed, wooden replacement double hung windows and will be factory primed and painted two coats upon installation.
- b. Windows will be installed square with No. 16 galvanized finish nails, nailed through brick mold into framing members and shimmed and nailed through frame. All nail holes will be filled and sanded before painting.

### 4. Replace Facing Only

Wooden facing shall be C-fir or redwood. Style shall conform to the remainder of the structure.

### 5. Re-glazing

Surfaces shall be properly prepared by removal of all cracked or otherwise unsound glazing material. Proper holding devices shall be installed. New Glazing compounds shall be of good grade and applied according to manufacturer's specifications. Glazing compound shall be of type indicated for materials to which it is to be applied.

### 6. Sash Cords and Supports

- a. Open window frame and remove existing sash weights.

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- b. Re-cord with No. 8 sash cord. Replace weight. if necessary frame, sash and stop as required to assure a smoother operating window. Dress window framing free of unsightly scarring caused by repair work. Clean surfaces prior to job completion. touch up with matching paint.
- c. Guiding devices installed shall be Jiffy spring or nylon insert.

### 7. Storm Windows

All storm windows shall be installed at the exterior side of existing windows and shall fit tight to the frame with aluminum screws and sealed with an approved caulk.

### 8. General

Repairing window screens shall include replacing all decayed or broken components. including painting to match exterior and/or interior areas affected by removal installation.. New screen frames shall be installed so as to fit properly in window opening.

### 9. Rewire Screens

Screens shall be rewired with aluminum screen wire, stretched to form a "tight" screen with no sag. All damaged or missing screen molding shall be replaced. All joints shall be reinforced where needed.

### 10. Aluminum Windows in Existing Frames

After removing existing sash, the exterior casing shall be removed along with the blind stop. Install new aluminum window in the jamb with nails through flange into jamb. Remove old sill and reinstall to bottom of window frame. Close up old area from which old sill was moved with material to match existing siding.

Relocate stool upward to conform with the type and style normally used in window trimming. Type – Jeld-Win, Pella. or equal.

### 11. Installation of Aluminum Windows in New Frame

All new wood frames shall have C or better fir material. Jamb shall be 3/4" thick C fir. Exterior casing shall be 3/4"x width of existing. Sill shall be 2" stock material C fir width 5/8" slope to exterior or plowed to form a water barrier and shall be installed between jamb at bottom of aluminum window. Interior stool and trim shall be of type and size to match existing trim. New wood frame shall be installed in opening after all framing of studs and headers have been completed and approved by Rehabilitation Representative.

Note: No continuous vertical joint will be accepted after installation of new frames in existing horizontal siding. Type – Jeld-Win. Pella, or equal.

# 01 CARPENTRY

## M. DOORS

### 1. General Information

Pre-hung door will be installed wherever possible.

- a. All doors shall operate smoothly without binding and close easily to a snug fit.
- b. All newly installed exterior doors will receive finish on all six sides to homeowners preference immediately after installation.
- c. All newly installed exterior doors will be installed with complete weather stripping. Exterior doors will be installed with complete weather stripping including threshold and will swing in.,
- d. Complete doorway system includes door, jamb, hinges, lockset and trim, both sides.
- e. All jambs will be pre-manufactured type, unless otherwise specified in THE WORK WRITE UP.
- f. All locksets will be Kwikset or approved equal with polished brass finish. Privacy locksets will be installed on all bedroom and bath locations.
- g. Where two or more exterior door locksets are installed, they shall be master keyed.

When installing or repairing doors the Contractor shall repair any surrounding area affected by this work. The repair work shall be finished so as to match the surrounding area affected by this work.

### 2. Exterior Wood Doors

- a. Unless otherwise specified, flush exterior doors shall be 1 3/4" solid core, with or without glazing, or metal exterior door as specified in THE WORK WRITE UP.
- b. Pre-hung wood doors shall be mahogany veneered on both sides unless otherwise specified in THE WORK WRITE-UP. Doors shall be finished immediately. New or replacement door lights will be tempered glass.
- c. Door shall be installed with three 3 1/2" x 3 1/2" brass butt hinges countersunk into the door and door jamb. Door shall have a key-in knob lockset, Kwikset or approved equivalent. The striker plate shall be countersunk flush with door jamb. Door installation shall include the installation of a new aluminum or wood threshold.
- d. Fill any cracks, holes, hinge cutouts, etc. scrape and paint any noticeable defects in the door jamb, stops and casing to match the existing color and texture.

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Minimum thickness of frame components shall be as follows:

Jamb 1 5/16" with ploughed stop  
Sill 2"  
Casing 3/4"  
Drip Cap 3/4"  
Brick Molding 1 1/8"

3. Solid Core

Exterior doors shall be 1 3/4" minimum with weather stripping, flush, solid core luan door.

4. Combination Door

Exterior combination door shall be 1 3/4" minimum with weather stripping, solid or panel lower half, with window and screen insert upper half.

5. Panel Door

Panel door shall be [3/4" minimum with weather stripping, solid core. (Specify number of panels).

6. Metal Clad

Metal clad doors shall be 1 3/4" flush type with steel faces, wood stiles and rails and rigid foam (insulation) core. Both facings shall be hot dipped galvanized and primed. Door shall have factory applied, baked in primer. Facings shall be so formed and fitted that no contact occurs between the outside and inside faces. Exposed edges shall be fully weather stripped on all four edges with magnetic and compressed vinyl gaskets.

7. Exterior Pre-hung Door

- a. A Metal Clad pre-hung door package shall include metal clad door as described above with weather stripping, metal jamb or frame, trim threshold and all hardware. Install as per manufacturer's recommendations. Opening shall be trimmed.
- b. A Wood pre-hung door package shall include wood door weather stripping, jamb (casing), stops, trim, threshold and all hardware.

8. Exterior Wood Door in Existing Frame

Door shall be of exterior standard grade, Ideal brand or equivalent. The door shall be solid core having a minimum thickness of 1 3/4".

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The lock shall be heavy duty cylindrical deadbolt latch in design and to match existing in finish.

### 9. Storm Doors

Aluminum storm doors shall be all extruded construction with a minimum thickness of 1", 2" wide fluted stiles, 2 1/2" wide extruded solid push bar, and heavy duty kick plates; Porta-Lite No. M-750 or equivalent. Doors shall be thoroughly weather-stripped (see Section 1000.02), equipped with a full length hinge, and furnished with 18/16 mesh aluminum screen wire.

Storm door shall have all necessary hardware door closure, safety chain, bottom rail shall be secured to door after adjustment with two metal screws.

### 10. Screen Doors

Aluminum screen doors shall be all extruded construction with a minimum thickness of 1", 2" wide fluted stiles, 2 1/2" wide extruded solid push bar, and heavy duty kick plates; Porta-Lite No. M-750 or equivalent. Doors shall be thoroughly weather-stripped (see Section 1000.02), equipped with a full length hinge, and furnished with 18/16 mesh aluminum screen wire.

Hinges for exterior doors swinging out shall have a setscrew in the barrel to prevent the removal of the pin when the door is closed. Hinges shall be sherardized under plating to prevent rusting.

### 11. Interior Wood Door (Complete)

- a. Unless otherwise specified, flush interior doors shall be 1 3/8" hollow core.
- b. Doors shall be mahogany veneered on both sides unless otherwise specified in THE WORK WRITE-UP. Doors shall be finished on all six sides in accordance with the homeowners wishes.
- c. Doors shall be installed with two 3 1/2" x 3 1/4" brass butt hinges countersunk into the door and door jamb. Doors shall have a lockset as specified in THE WORK WRITE-UP. The striker plate shall be countersunk flush with the door jamb.
- d. Fill any cracks, holes, hinge cutouts, etc., and scrape and paint any noticeable defects in the door jamb, stops and casing to match the existing color and texture.
- e. Closet door types shall be specified in THE WORK WRITE UP.
- f. All trim shall either be painted or stained to provide neat finished appearance.

Note: Contractor shall repair, Paint, or match any areas affected by removal or installation of doorjamb, Casing, and stops.

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12. Wood Pre-hung Interior Door

New pre-hung door package shall include wood door, jamb, stops, casing and all hardware.

13. Bi-Fold Doors

New bi-fold doors shall be either 1 3/8" flush type, hollow core wood doors or metal. Doors shall be installed complete with new hardware. When two pairs of doors are being installed, a door aligner shall be installed for all bi-fold doors. All hardware (door knobs, hinges, etc.) shall be brass or aluminum finish.

14. Bi-Fold Doors and Assembly

New bi-fold doors and assembly shall include 1 3/8" flush type, hollow core wood doors or as schedule, aluminum track and trim, and all hardware. Opening shall be trimmed as necessary for the installation of new assembly. Finger jointed material is unacceptable when casing is to be natural finish.

15. Sliding Doors

New doors for bypassing installation shall be 1 3/8" flush type, hollow core wood doors or as scheduled. New doors for pocket installations shall be as scheduled, either French type or hollow core. Doors shall be installed complete with new hardware. Two recessed doors pulls and one door stop shall be installed for each pair of by-passing doors. All hardware shall be brass or aluminum finish.

16. Sliding Door Assembly

Sliding door assembly shall include 1 3/8" flush type, hollow core wood door(s) or as scheduled, top roller assembly and floor guide, and all hardware. Opening shall be trimmed as necessary for the installation of the new assembly. Finger jointed material is unacceptable when casing and trim are to be natural finish. Pocket type assembly shall include pocket framing, recessed pull handle, and locking latch appropriate to its use.

17. Tub Wall and Shower Stall Doors

a. Double-Slide Tub Wall

New enclosure shall be double-slide type. Frame on top channel, jamb channels and water stop shall be anodized aluminum. Sliding panels shall be glazed with obscure tempered safety glass. Each sliding panel shall have one towel bar. New tub shall fit watertight.

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b. Shower Stall Door and Assembly

New shower stall door assembly shall include stiles, handrail, threshold, door and all operating hardware. Hinge shall be continuous piano type. Metal shall be extruded anodized aluminum, stain finish. Door shall be glued with obscure tempered safety glass.

18. Install Patio Door Screen

6' - 8' height by required width, natural anodized aluminum finished doors. Minimum 22,000-PSI JILT tensile strength and minimum 0.125" main extrusions with standard replaceable weather-stripping of wool, Polypropylene or nylon woven pile. Install as per manufacturer's instructions and adjust for proper fit, sliding action and hardware operation.

19. Install Patio Door Screen

Screen and anodized aluminum frame to match existing unit. Insert shall be set properly in track for smooth operation.

20. Door Repair

Where door repair is specified in THE WORK WRITE-UP the following guidelines shall be adhered to:

- a. Restore to sound, free operating condition and secure fit.
- b. Rehang existing door including new hardware complete. Hinges shall be set in new location and old butt hinge and screw holds filled and sanded smooth.
- c. If cutting is required to size door, cut evenly from all sides to maintain uniform appearance.
- d. Repair all cracks by gluing and clamping (not with nails).

21. Garage Door

Repair/Realign:

Repair or replace tracks, rollers, hinges and all other operating hardware as necessary. Then adjust springs and hardware so that the doors operate smoothly and easily. Replace any missing or deteriorated weather seals. Align all doors that bind at jamb areas and reset for proper gap at top and sides. All locks and latch mechanisms shall function properly.



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22. Repair Patio Door

Repair pull and latch hardware. Replace rollers or friction shoes as required for proper operation. Reset doors in track to provide smooth easy operation. Clean and oil all moving parts.

23. Exterior Door Repair

Replace existing deteriorated or inoperative items with new.

- a. Locking hardware
- b. Deadbolt
- c. Hinges
- d. Hinge or flexible type door stop
- e. Strike place
- f. kick plate
- g. Peephole
- h. Bug sweep
- p. Rehang to open and close properly

24. Interior Door Repair

Replace existing deteriorated or inoperative items with new.

- a. Locking hardware
- b. Hinges
- c. Hinge or flexible type doorstop
- d. Strike plate
- e. Rehang to open and close properly

25. Exterior Frames

New frame and trim to be matching dimensions and style, build from "C" fir or redwood. Sill shall be of 2' treated stock.

26. Interior Frames

New frame and trim to be matching in dimensions and style. built from "C" fir or redwood.

27. Case Openings

Installation, replacement or repairing of case openings shall be of "C" fir or redwood. New case openings frame and trim to be matching in dimensions and style existing in structure.

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28. Rehanging Doors to Fit

Rehanging of doors to fit shall include replacement of any components necessary for proper operation of doors and any sizing that may be needed.

29. Install New Door Jamb

Replace existing deteriorated jamb with new.

30. Door Stops

Replace existing deteriorated or missing doorstops with new.

31. Fire Rated Doors

Fireproof doors will be of Class C rating, solid core, painted with two coats of fireproof paint.

32. Garage Doors

Doors shall be products of the Overhead Door Company equivalent or approved equal.

- a. Suspend tracks from overhead framing with metal angles. Install 1"x4" doorstops in side jamb and head.
- b. Brace rigidly and adjust vertical track to wedge door tightly against doorstops.
- c. Furnish and install additional framing as required, to accomplish installation. Install according to door manufacturer's specifications.

33. New Wood

New door shall be sectional roll-up type. either flush or panel style. Style of door shall be compatible with the style of the house. Nominal door thickness shall be 1-3/8".

34. New Metal

New door shall be overhead type. Metal shall have a corrosion resistant finish applied to both exterior and interior surfaces or shall the manufacturer for garage door siding recommend standard sheet aluminum of a gauge as.

35. New Fiberglass

New door shall be either sectional roll-up or overhead type. Fiberglass shall be of heavy gauge. Color shall be integral with material. The owner and program representative prior to installation shall approve any color other than white.

## 02 CONCRETE

- A. 1. Concrete General Specifications
- a. No concrete is to be placed over grass, roots, or foreign matter.
  - b. All reinforcing shall be free of scale, rust, or coatings that reduce concrete bond.
  - c. All reinforcing rods shall be deformed, as per A.S.T.M. Designation A305.
  - d. All concrete slabs shall be separated from existing construction by 1/4" asphalt-impregnated expansion joint material.
  - e. Fill dirt shall be clean, compacted, and free of deleterious material.
  - f. All materials used for concrete forms shall be removed after concrete has set. Voids in exposed concrete surfaces will be filled with cement and dressed smooth.
2. Reinforced concrete work shall comply with Vinton County building code requirements for reinforced concrete. Reinforcing material shall be new material conforming to the following:
- a. Deformed Steel Bars - ASTM A-305
  - b. Billet Steel Bars - ASTM A-15
  - c. Welded Wire Fabric - ASTM A-185
3. Concrete Cold Weather Protection

At no time will more than 2% calcium chloride be used in freezing weather to accelerate concrete setting. No concrete shall be placed on frozen ground or when the temperature is less than 32 degrees. Concrete may be placed when temperature is 32 degrees or more, provided however, that weather reports indicated a daily high of at least 40 degrees. After concrete has been finished, when temperatures are expected to be below 32 degrees, a 12" cover of straw shall be spread evenly to preclude freezing. All frown or spilled concrete will be removed and replaced at Contractor's expense. A controlled environment with an interior temperature of 32 degrees or greater is acceptable if the temperature will remain 32 degrees or greater for five days thereafter.

4. Concrete General Requirements

For repair and replacement, materials shall be such to produce finish textures and color to closely match existing surfaces.

Bonding of repair work to existing concrete members is critical, and repair work shall become an integral part of existing members.

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### 5. Concrete Placement and Finishing Poured Concrete **Poured Concrete**

Concrete shall be standard, air-entrained Portland Cement concrete with water-cement ratios as recommended by the Portland Cement Association (PCA) for the particular application. The Portland Cement shall comply with ASTM C150 type as required. In no case shall the slump be more than 4". Aggregate shall be clean and free from organic or other harmful material and comply with ASTM C33, except local aggregates of proven durability may be used pending contracting officer's approval. Water shall be clean and free from excessive amounts of acid and alkalis.

The load bearing capacity of the soil shall determine the type of footing, foundation or slab system used. Soils of low bearing capacity necessitate provisions for greater load distribution. On till material, sufficiently compacted to insure against excessive differential or over-all movement of the structure. Refer any questions regarding soil stability to the Vinton County Building Department or local municipality.

Certain concrete installations require open trench inspection prior to placement of the concrete. Should the Contractor suspect the need for such an inspection on any of his contractor work, it shall be incumbent upon him to seek an opinion from Vinton County Building Department or local governing jurisdiction. Should the Contractor fail to schedule such an inspection when required, any cost incurred as a result of this negligence shall be at his own expense.

Concrete placement shall comply with Vinton County building code, placing concrete in a continuous operation within planned joints or section. Do not begin placement until work of other trades affecting concrete is completed. New concrete shall not be placed when the temperature is less than 44) degrees F(or 4 degrees C) or greater than 90 degrees F (or 32 degrees C) unless it is properly protected and controlled during mixing, placement and curing in accordance with the recommendations of the ACT and the PCA. In cold weather comply with ACI 306; in hot weather, comply with ACI 305. The Contractor shall replace all concrete damaged as a result of failure to comply with these ACI provisions. at his/her own expense. Under no circumstances shall any anti-freeze compound or agent be added to the concrete mix in order to prevent freezing.

Formwork shall be true to lines and grades and be properly braced and rigid to prevent displacement. Forms shall be constructed so as to not damage concrete when being removed. Apply form release agents or wet forms, as required. Concrete shall have proper slump when placed in forms. Concrete shall not be deposited in forms from a height greater than 3'. All concrete shall be vibrated to prevent honeycombing.

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After placement, concrete shall be screened to proper elevations. Re-tighten forms during and after concrete placement if required to eliminate mortar leads. During cold or hot weather, steps shall be taken to maintain appropriate curing temperature and rate of water evaporation. After forms are stripped, honeycombed or defective work shall be immediately repaired. Any holes shall be filled. Surfaces shall be swept clean and all loose particles or other foreign matter shall be removed. Slabs shall be washed with water and after drying, shall be swept clean. Quality and finish of all work shall be of the type specified herein for the particular installation and shall be done in accordance with recognized standards.

Liquid chemical floor hardener when required shall be a blend of magnesium and zinc fluorosilicates combined with a wetting agent not less than 2 lbs. of fluorosilicates per gallon.

The contractor shall do all cutting and patching into concrete or masonry surfaces as required for the job. Contractor shall fire stop all openings where pipes or ducts pass through walls or floors.

### FOOTINGS AND FOUNDATIONS

#### 1. Footings

Footings shall have a minimum compressive strength of 2500 PSI at 28 days. Footing size shall be 8" high by 16" wide for a nine-story dwelling, with reinforcing steel composed of 2 5/8" diameter deformed steel bars. 20,000 PSI with a minimum lap of 19 bar diameters, hung in an approved manner, forms shall be used when existing soil is not sufficiently firm to retain the concrete. No concrete shall be poured over grass, roots, or foreign matter.

#### 2. Piers and Bases

- a. Piers shall be solid, or concrete block, one piece, reinforced concrete (2500 PSI) minimum dimension 8"x8", height equal to distance from bottom of joist or sill to existing ground surface.
- b. Bases shall be minimum 4" thick concrete (2500 PSI 16"x 16") or larger. Bases must be set on firm soil below existing ground level.

Where possible, the area under the base shall be cleared, filled and hand tamped to a firmness that will adequately support the load imposed on it. Spacing of piers shall not exceed 8" on center. Each pier shall have a termite shield of not less than 26 gauge galvanized iron, or other suitable metal of proper thickness, installed in an approved manner. The shield is to extend past the edge of the pier 3 1/2" minimum to the end of the crimp, which shall be at a 45-degree angle. Shims shall be of a decay resistant material and shall not exceed 1 1/2" maximum in thickness.

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### C. INTERIOR SLABS

#### 1. Standards

Structural slabs and slab foundations shall conform to Vinton County building code.

#### 2. Porch Pier Footings

Use post hole size width x 32" deep. At the bearing level, flare out top at a 45 degree angle to the width and length of masonry pier being replaced.

### D. CONCRETE SLAB

Base for slab shall be well compacted subgrade. Provide polyethylene vapor barrier between subgrade and slab. Barrier shall be clear 8 mils thick polyethylene, polyethylene-coated barrier paper of 1/8" thick asphalt core membrane sheet Footings will vary with the type of slab, but shall extend at least 24" below grade. Unless fill has been compacted to assure uniform slab support, slabs or fill shall be supported by concrete or masonry piers or intermediate foundation walls resting on undisturbed soil. New slab shall be a minimum of 4" thick, new 2500 PSI concrete. Slump of concrete shall be 2" to 4". Slab shall be reinforced with 6"x6", No. 10 welded wire fabric. Edge of sections of wire mesh shall lap one full mesh of 6". Lap shall be tied together. Where applicable, slope concrete to floor drains. Surfaces shall be troweled and have non-skid texture.

### E. WALKS

#### **Standards**

1. All exterior concrete walks and slabs on grade shall be a minimum of 4" thick. Sidewalks should be of a width to match existing with joints as shown or spaced not more than one times the sidewalk width. 1/2" asphaltic strip expansion joints shall be no greater than 20 feet apart.
2. Slope walks away from buildings a minimum of 1/4" per foot and a maximum of 1/4" per foot. Float trowel to true surface and broom finish. Install 1/2"x4" asphaltic strip expansion joints at each end of walks which abut walks, curb, steps and walks.
3. During hot weather, cure concrete by keeping moist for at least 72 hours.
4. During wet weather, surface shall be protected until set.
5. Protect with barricades, fences or other means until concrete is set Remove forms after 24 hours and restore grade. allowing grass turf to finish flush with top of walk.
6. Protect from freezing for at least two days after placement. Concrete shall not be placed if temperature is below 40 degrees F, unless special measures are taken.

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### F. DRIVEWAYS

Subgrade shall be well compacted, well drained and uniformly graded 6" below finish grade. New concrete shall be a minimum of 6" thick. Slump of concrete shall be 2" through 4". Finish surface of new driveway shall be approximately parallel with that of adjacent soil: driveways shall be constructed so as not to impede the drainage of surface water away from the house and off the property. Contraction joints shall be provided at approximate 10' intervals and expansion joints at intersections with walks, curbs and garage or carport slabs.

Entrances shall be flared or have adequate radii for safe and convenient ingress and egress. On ribbon type driveways the apron at the street shall be flared and improved full width for at least 12' in length.

Provide proper grade so that the undercarriage and bumpers of cars entering the driveway do not make contact with any surface. Width of new concrete sections shall match existing except the new solid driveways shall be at least 10 feet wide, unless otherwise approved by the rehabilitation representative. Ribbon driveways shall be 5' on center with a minimum width of 2' per ribbon. When a ribbon is used also as a walk, the minimum width shall be 3'. Finish surfaces shall receive a light brush finish, be true to cross section and grade and provide for uniform surface drainage. Concrete shall be kept moist for a period of 2 days to ensure proper curing.

### C. CONCRETE PORCH

#### Standards

Slab shall be a minimum of 4", 3500# ready mixed air-entrained concrete having a minimum 4" slump, placed on properly compacted earth and fill. Slab shall have minimum slope of 1/16" per foot and maximum of 1/4" per foot away from house. Install 6"x6" wire mesh in bottom 1/2 of 4" slab.

### H. CONCRETE STEPS

#### Standards

All concrete steps shall be poured in place or precast installed on approved footer. Tread depth shall be a minimum 10" and riser height a minimum 7".

### I. CONCRETE REPAIR

When patching concrete, remove spalled or loose concrete in squared off sections using a masonry saw or chisel. Edges shall be dovetailed so that the opening at the bottom is larger than the opening at the top. Provide wire mesh reinforcement for holes greater than 6"x6". Apply a coat of concrete bonding agent prior to application of patching material. Patching material shall be a leveling latex for concrete and shall be applied

## 02 CONCRETE

according to the manufacturer's recommendations. Floor slabs and exterior wearing surfaces shall be float finished. Deck slabs be steel troweled.

All mortar joints, cracks, and holes shall be cleaned or loose mortar and shall be tuck pointed with new mortar in an approved manner. Any chipped blocks shall be patched with mortar and any structurally damaged blocks shall be removed and replaced with a new unit, properly set in a new bed of mortar.

### r. HOUSE LEVELING

#### Standards

- a. Prior to any structure being raised off its foundation, it shall be vacated and shall remain so for the duration of being raised.
- b. All utilities shall be turned off from the structure for safety.
- c. Leveling shall be done in such a manner as to be permanent. Shims shall be of such material that will not rot or deteriorate.
- d. Materials and equipment used for lifting shall be in sound operating condition. All procedures used shall minimize any damage to the interior walls, ceilings and floors.
- e. The demolition and removal of the old foundation shall in no way jeopardize the existing structure.
- f. Any wood being replaced which will come into contact with concrete, or for an exterior use, shall be pressure treated, as described under "01 Carpentry, section A., No. 4".
- g. The construction site shall be returned to its original condition as per specifications as set for in this document.



## 02 CONCRETE

### A. FLOOR REPAIR

All damaged, loose, or broken sub-flooring shall be repaired or replaced before installation of a finished floor. Spot repairing on existing tongue and groove flooring shall be made so that end joints occur over a floor joist.

Adjacent end joints shall be staggered. Replaced flooring shall match existing in size, quality, and finish, unless otherwise specified.

Flooring or floor covering, when repaired, shall extend into closet storage area.

### B. FLOOR REFINISHING

Replace damaged boards, apply wood filler where needed, and sand floors smooth. Seal or stain floor to match existing, where applicable and apply two coats of polyurethane.

1. Sub-flooring may be plywood or common boards if necessary to match existing.

#### a. Materials

Plywood shall be Douglas Fir, Southern Pine, or Group 1. of Western Softwood: 5/8" T&G where 25/32" finished flooring is to be laid; 5/8" T&G where resilient flooring is to be laid and joists are not over 16" on center.

#### b. Installation

1. Plywood sub-floor shall be nailed to joist at each bearing with 8d or 6d ring-necked nails spaced 6" on center along all edges and 10" on center along intermediate members, and glue panel to each joist with bead of construction adhesive.
2. Plywood shall be installed with outer plies at right angles to the joists and staggered so that the end joints in adjacent panels bear on different joists.

### C. FLOOR SHEATHING

#### 1. New floors

Where new sheathing is installed directly over floor joists, the sheathing shall be D.F.P.A. underlayment grade plywood, 3/4" thick, Group 1, interior, for use under resilient flooring and Carpet.

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### 2. Underlayment

Underlayment shall be 1/4", 3/8", or 1/2" a.c. grade as called for in THE WORK WRITE-UP or plans. Nail underlayment with cement-covered, resin-coated, or ring-necked nails placed on 4" centers on all edges and over the face of each pipe. Joints of underlayment and sub-floor shall be staggered. Nail underlayment to joists and break joints over joists. Underlayment shall be provided under all resilient floors and shall be smooth and level before installation of floor covering. Waterproof grade shall be used in kitchens and bathrooms.

A suitable filler (Fix-all or equal) shall be applied over seams, indentations or other openings in the underlayment to provide a smooth surface suitable for resilient floor covering.

### 3. Resilient Flooring

#### a. Materials

##### 1. Vinyl Tile

Vinyl tile shall be 1/16"x12"x12" minimum, installed with an approved mastic. Tile shall be "Armstrong", or approved written equal.

##### 2. Sheet Vinyl

Sheet vinyl shall be minimum .090 gauge. in roll widths, installed with an approved mastic and in accordance with manufacturer specification. Sheet vinyl shall be installed in Kitchen. Bathrooms and entries unless otherwise specified in THE WORK WRITE UP.

#### b. General Requirements and Job Conditions

1. Maintain minimum temperature of 65 degrees F (or 18 degrees C) in spaces to receive resilient flooring for at least 40 hours prior to installation, during installation, and for not less than 48 hours after installation. Subsequently, maintain minimum temperature of 55 degrees F (or 1.3 degrees C) in areas where work is completed.
2. Install resilient flooring and accessories after other finishing operations including painting, have been completed. Moisture content of concrete slabs and environmental conditions must be within limits recommended by manufacturer of products being installed. It is the Contractors responsibility to ensure that all environmental conditions have been met.

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3. Lay sheet flooring to provide as few seams as possible with economical use of materials. Match edges for color shading and pattern at seams in compliance with manufacturer's recommendations, such as reversing adjoining sheets so that abutting edges are from same edge of roll.

### D. TILE AND SHEET GOODS

#### 1. Cleaning and Treatment of Sub-floor

Sweep sub-floors clean and remove spots and paint, grease, dirt, and other foreign matter. Fill all holes, cracks, joints, and indentations in sub-floors; use filler of type recommended by the flooring manufacturer of the floor covering to be used in that area. 1/4" A.C. plywood underlayment is to be installed over existing flooring before installation of new floor covering. Just prior to spreading adhesive and laying, sweep clean or vacuum clean sub-floors.

#### 2. Inspection of Sub-Surfaces

After cleaning sub-floor and prior to laying flooring, contractor shall inspect sub-floors and walls to receive covering. The trade involved shall be notified of any defects such as low spots, high spots, uneven surfaces or damages that will prevent satisfactory installation; placement of flooring shall not proceed until such defects have been corrected. Defer installation of resilient flooring until all work that might cause damage to flooring has been completed.

#### 3. On Site Material Protection

Deliver resilient flooring materials and adhesives in manufacturer's original containers with manufacturer's original seals and labels intact. Store materials in approved protected location in accordance with manufacturer's recommendations. Protect against freezing or other damage during delivery, handling, and storage.

#### 4. Adhesives

Adhesives and primers shall be water resistant type and of consistency recommended and approved by the flooring and base manufacturer for the type and condition of the surface to be covered. Base adhesive shall be of type developed especially for top set cove base. Use adhesive in accordance with manufacturer's printed instructions.

#### 5. Temperature and Ventilation Requirements

Maintain resilient flooring materials and work areas to receive such materials at a minimum temperature of 70 degrees F, beginning at least 24 hours before installation and lasting until at least 48 hours after completion. **(Provide adequate ventilation to remove fumes from solvent base adhesive).**

## 02 CONCRETE

### HARDWOOD FLOORING

#### 1. New Floor Installation

Strip wood flooring is to be laid on a sub-floor covered with building paper. Flooring is to be laid perpendicular to floor joist using the following.

#### 2. Pine Flooring

Install Pine flooring in indicated rooms. Flooring shall be nominal 1"x4", tongue and groove, "C" grade pine, sanded, sealed, and two coats of varnish, or polyurethane. New floors shall be completed with new shoe and/or base mold finished as designated by owner.

Blind nail T & G flooring, driving nail at an approximate angle of 50 degrees. Space nails 16" on center on each course of flooring, nail directly into joist every second course. Countersink and fill any face nailing. Sand new floor as needed. Apply a penetrating floor sealer. When dry, buff floor with steel wood pad. Apply two coats of oil base finish coat, using polyurethane. Allow 24 hours drying time between coats.

#### 3. Refinishing Wood Floors

Furnish all labor, materials, and equipment for sanding and finishing all wood floors, stairs, and landings.

##### a. Repair Work:

Contractor shall examine floors to ensure that all damaged, split, cracked, or defective flooring has been repaired or replaced and include that portion of work under his contract. All flooring must be sound and repaired prior to any sanding and finishing.

##### b. Equipment:

All floors are to be sanded with commercial belt type floor sander. All edging and stairs to be finished with a commercial type floor hand sander. Scrape all corners where sanders cannot reach with a hand scraper.

##### c. First Sanding:

All old finish shall be sanded to the original natural wood with #2 grit sandpaper. Strip all floors to baseboards and under radiator. Fill all cracks with an approved paste wood filler.

## 02 CONCRETE

d. Finish Sandings:

Use 1 - 10 grit sandpaper. Care must be taken to sand smooth all machine marks in flooring made by first sanding.

e. Sealer

Apply a penetrating floor sealer. When dry, buff floor with steel wool pad.

f. Finish Coat

Apply two coats clear gloss synthetic polyurethane coating. Allow 24 hours drying time between coats.

F. CARPETING

Carpet Floor Covering:

Carpet shall be of an F.H.A. approved type, installation over minimum 3/8" rebond padding, F.H.A. approved, or a padding of equal quality. Installation shall be in an approved manner. All tack strips, metal accessories, adhesives, etc., are included in this specification. Carpet shall be of first quality.

## 04 MASONRY

### A. GENERAL INFORMATION

#### 1. Materials

- a. Mortar shall consist of the following minimum proportions by volume:
  1. For foundations, chimneys and load bearing masonry:

Type S	1 Portland Cement
	1/2 Hydrate Lime
	2 1/2 Dry Sand
  2. For other masonry:

Type N	1 Portland Cement
	1 Hydrate Lime
	2 1/2 Dry Sand
- b. Sand shall be clean and well graded.
- c. Water shall be clean and free of deleterious amounts of acids, alkalis, salts, oils and organic substances.
- d. Brick where exposed shall be face brick and shall match in texture and color adjacent brickwork, unless otherwise specified. Where not exposed to view or where to be painted or covered, common brick may be used.
- e. Use standard weight 8"x 16" concrete block unless otherwise specified in THE WORK WRITE-UP. Use concave ends for all block within the length of the wall and either square ends or corner block for all corners. Lay in running bond in full joints of mortar. Strike all joints and rod slightly concave to form a tight seal of mortar to block.
- f. Steel reinforcing bars shall conform to the applicable requirements of Standard Specifications to Deformed Billet-Steel Bars for Concrete Reinforcement, ASTM A6 15-70, grade 40.
- g. The mortar shall be maintained, plastic continuously until used and any mortar awaiting the mason's use shall be turned and remixed as necessary to maintain a workable mix. Retempering the mortar on the mortarboards may be done only by adding water to a shallow basin formed within the mortar. with the mortar reworked in the water. Merely dashing or pouring water over the mortar will not be permitted. Mortar that has become harsh and non-plastic shall not be retempered or used and no mortar may

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be used beyond one hour after original mixing. The mortar shall have a flow after suction for one minute of at least 65% of that immediately before suction has determined by the requirements of Standard Specification for Masonry Cement. ASTM C9 1-70.

- h. The grout shall be sufficiently fluid to completely fill the grout spaces, embed the reinforcing steel and fill the openings in the block joints. Particular care shall be taken to keep mortar out of the grout spaces. Retempering the grout will not be permitted.

### B. BRICK (BRICK VENEER OVER FRAME CONSTRUCTION)

#### 1. Materials

Face brick shall be of size and texture to match existing surface or as designated in the THE WORK WRITE-UP. Duplicate the existing pattern or construct as designated in THE WORK WRITE UP.

#### 2. Installation

- a. Use a corrosion resistant metal base flashing. It shall extend over the top of foundation wall from approximate outside of the wall and not less than 6" up on sheathing under the sheathing paper. Provide weep holes 4' on center.
- b. Water resistant building paper shall be used over sheathing.
- c. 1" air space shall exist between veneer and sheathing. Galvanized metal ties shall be installed in every 6th course (vertical distance not to exceed 23') and at every second brick (horizontal distance not to exceed 36"). There shall be one metal tie for not more than 4 1/2 square feet of wall area. Ties shall be vertically staggered. The ends of ties shall be bent to 90 degree angles to provide hooks not less than 2" long. Additional ties shall be provided at all opening spaces, not more than 3' apart around such opening and within 12" of the opening.
- d. All masonry and masonry veneer shall be footed and supported on masonry, concrete or steel. All masonry construction including reinforced masonry shall comply with local building codes and shall have prior design approval by the issuer of this specification.

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### C. MASONARY CHIMNEYS

#### 1. Chimney Removal

When chimney removal is specified in THE WORK WRITE-UP the following procedures shall be followed:

- a. Remove brick to below the roof, cover stack with three layers of 15 ply water resistant building felt paper and cap with a tight fitting 26 gauge galvanized cover. Use caulking to seal tight.
- b. Fit support framing on so as to provide a solid support for 5/8" exterior plywood sheathing. Use 15 lb. asphalt saturated felt Use roofing cement to seal the edges and make waterproof.
- c. Shingles used for the repair shall match as closely as possible, the color, style and quality of the existing roof.
- d. The Contractor shall be responsible for any repair due to damage resulting from the removal of materials and labor involved in the removal and/or restoration of the chimney.

#### 2. Chimney Repair

When chimney repair is specified in the THE WORK WRITE-UP the following procedures shall be followed:

- a. Remove all deteriorated masonry units to a solid and sound base to build upon.
- b. Rebuild chimney using all new material. New chimney shall match, as closely as possible, the color, size and style of previous chimney.
- c. Install new step down flashing and tie into existing roof. Caulk all seams to be weathertight.
- d. The Contractor shall be responsible for any repair due to damage resulting from the removal of materials and labor involved in the removal and/or restoration of the chimney.

#### 3. Chimney Cap

- a. Remove old cap and check all masonry units for tightness, if loose, restore to a sound condition.
- b. Lay a mortar wash of Portland cement from outer most edge of brick to within 2" of the flue liner top.



## 04 MASONRY

- c. Use a steel trowel at a 45 degree angle to assure fast run off. Make sure there is a water tight seal between the flue liner and the mortar.

### D. TUCKPOINTING

1. All faulty and defective joints of stone and face brick shall be ground with electric masonry saw. In small areas a sharpened chisel may be used. All faulty and defective joints of common brick shall be raked out to a sound masonry bed.

All structural fractures shall be cut deep enough to relieve structural pressure.

2. After the above operation is completed, all joints to be pointed shall be not less than 1/2" deep. The contractor shall rinse all joints with clear, clean water and then proceed with pointing using properly mixed cement and lime mortar. All joints shall be properly tooled to eliminate evidence of replacement.
3. Do not apply to frozen or frost filled masonry or when temperatures are below 32 degrees F.

### E. PARGING

#### **Standards**

Before parging masonry wall repair surface by replacing all defective material and tuck pointing all loose mortar areas. Parge walls with cement mortar mix. Build up uniform surface at least 5/8" thick throughout and leave smooth troweled finish. Keep surface damp for 48 hours after application. Use Miami Richmortar equivalent or approved equal.

### F. STUCCO

Stucco may be applied with or without sheathing or similar backing. In all cases, except in back-plastered construction, an approved water-proof paper or asphalt saturated felt weighing not less than fourteen pounds per 100 square feet or any substantial water-proof paper which successfully passes a 60 lb. Mullen test shall be applied weatherboard fashion directly over the studs or sheathing. Horizontal joints shall be lapped not less than 2" and vertical joints not less than 6". Where sheathing or similar backing is not used, an 18 W & M gauge wire stretched taut horizontally across the stud frame at not more than 6" centers shall be securely fastened in place before the paper or felt is applied: provided, that where such paper or felt is fastened to the metal reinforcing in such a manner as not to affect the waterproof qualities of such paper or felt, the wire need not be installed. Skeleton sheathing shall be of boards not less than 4" wide, spaced not to exceed 4" apart.

Stucco shall consist of three coats:

- I. First or scratch coat

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2. Second or brown coat.
3. Finish coat.

The total thickness of the three coats shall be not less than 7/8" at every point. No one coat of stucco shall be less than 1/4" thick, except the finish coat, which shall be not less than 1/8" in thickness at any point.

The stucco shall be portland cement and sand and shall consist of one part by volume of portland cement to not more than three parts of sand by volume, with an addition of not more than ten percent of hydrated lime or similar material based on volume of cement in either the scratch coat or brown coat and with not more than 33 1/3 percent of hydrated lime or similar material based on volume of cement in the finish coat.

The first of scratch coat of stucco shall be shoved thoroughly through the metal reinforcing until all space between the metal and the backing is filled solidly and such coat shall be kept thoroughly moist during the first 24 hours after being applied. The brown coat shall be kept thoroughly moist during the first 24 hours after being applied and at least seven days shall elapse between the application of the scratch coat and the brown coat, except when an approved high-early-strength cement is used, when at least 48 hours shall elapse between the application of the scratch coat and brown coat.

The above requirements shall not apply to stucco placed on masonry backing. Before applying stucco on masonry backing, such backing shall be thoroughly washed and cleaned.

Gunite, shall be applied in not less than two coats, and shall be reinforced as specified for stucco. Gunite shall be not less than 3/4" in thickness on one or two story buildings and not less than 1" in thickness on three story buildings.

### 0. CLEANING GENERAL

#### 1. General

All precaution shall be taken not to inconvenience any occupants while cleaning operation is in process. Protection canopies shall be installed by entrances while work is being completed in that area and removed upon completion of work and job site shall be left broom clean daily.

#### 2. Steam Cleaning

All brick and cut stone shall be cleaned free of dirt, soot, and carbon with a high pressure cleaning machine and proper solution of acid and water.

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### 3. Hydro Blasting

All brick and stone shall be cleaned free of dirt, soot, and carbon with a high pressure machine and proper solution of acid and water followed by a high pressure air and water rinse at minimum 800 P.S.I. to a clean surface.

### 4. Sandblasting

All stone trim and brick masonry from roof toping down to ground level shall be sandblasted, using clean, sharp silica sand and rinsed with clean, clear water to a clean surface free of dirt, soot, carbon, and dust. All excess sand to be removed from premises.

### 5. Masonry Cleaning (New Work)

- a. All exposed masonry, not less than seven days old: to be cleaned with solvents like Sure-Klean, Foam Masonry, or Grays Ferry, or 2 percent solutions of muriatic acid. Thoroughly rinse acids or cleaners with water after cleaning.
- b. No cleaning shall be done until all work has been pointed and pouted.
- c. For stronger solutions or other methods, Contractor must obtain specific approval of the Rehabilitation Representative.

## 05 EXTERIOR

### A. STRUCTURAL

#### 1. Materials

- a. The Contractor is responsible for determining the size of the structural members to be installed.
- b. Structural members shall be installed as specified in THE WORK WRITE-UP and per the local building code.
- c. Design and fabrication of structural steel shall be in accordance with AISC specifications.

#### 2. Installation

- a. Bearing on walls for lintels. beams and girders shall be that required to distribute load but not less than 4".
- b. Bearing plates. 1/4" minimum thickness, shall be installed where beams or girders rest on masonry and shall be in at least 1/4" mortar.

### B. STEEL COLUMNS

#### 1. Materials

Columns shall be 3" in diameter, standard steel pipe. steel adjustable, with bearing plates at top and bottom unless otherwise specified in THE WORK WRITE-UP. Columns shall be of sufficient strength to carry the required loads. Provide concrete footing of width and depth necessary to conform to Uniform Building code. Used pipe will not be acceptable.

#### 2. Installation

Anchor both top and bottom plates to structure with a minimum of two bolts or lag screws each.

### C. HANDRAILS AND GUARDRAILS

#### Materials

1. Railings and component parts shall be black prime-coated steel. All joints shall be secured and ground smooth. If not prefinished. prime with rust preventative paint, and paint one coat exterior flat black.

## 05 EXTERIOR

2. Metal handrails and component parts shall be constructed of minimum square baluster posts spaced not more than 6' apart.

Channel rails shall be not less than 1' in width, in conformance with Vinton County building code.

### D. PORCH IRONWORK COLUMNS

1. Materials

Corner and flat iron columns shall be of sufficient strength to carry required load. Columns must be plumb and resting on sound plates.

2. Installation

Attach to floor and ceiling with approved flanges, If not prefinished, prime with a rust preventive paint and paint one coat exterior flat black.

### E. FLUE LINERS

1. Materials

Metal flue liners shall be prefabricated metal liners as approved by the Uniform Mechanical Code or local governing jurisdiction.

2. Installation

Liners shall be installed according to manufacturer's specification to 6" above top of exterior brickwork. All work shall comply with all applicable codes.

### F. ALUMINUM SIDING

1. Materials

- a. Aluminum siding shall be high impact aluminum alloy with a tensile strength of 20,000 PSI minimum. Each panel shall be coated to assure bonding and corrosion resistance. The back of each panel shall be "skipcoated" at the interlock to provide positive contact, panel to panel. for the electrical bond and grounding system.
- b. Surface texture shall be smooth, or wood grain as specified in THE WORK WRITE UP, or as selected by Owner.
- c. Nails shall be made of aluminum, minimum 1' long 5/16' head diameter and .125 gauge.

## 05 EXTERIOR

- d. Siding accessories shall be of same quality and appearance in order to provide unit responsibility, and all materials shall be delivered to the job site in their original cartons. bearing the manufacturer's name and quality of materials identification. Electrical grounding shall include minimum No. 6 copper wire, set screw lugs and pressure type water line clamps. All grounding shall conform to N.E.C.

### 2. Horizontal Siding, Soffits and Fascia

- a. Aluminum siding and fascia shall be .024 gauge and aluminum soffit shall be of .019 gauge.
- b. Owners final selection of siding to be installed shall be limited to two colors.

### 3. Finish

Aluminum materials shall have a finished coating with a minimum 30 year transferable warranty against defects.

### 4. Installation

Exterior wall surfaces to be covered shall be dry and free from all defects that might affect the application of siding.

All defective sheathing shall be repaired or replaced. All loose sheathing shall be securely re-nailed.

Siding shall be installed in a workmanlike manner in accordance with the recommendations of the manufacturer(s) in every detail, including flashing and caulking where required.

## G. HARDWARE

### 1. Materials

- a. All hardware (rough and finish) shall be standard brands and fully suitable for the intended purposes.
- b. In existing structures, new hardware should match existing butts as close as possible. Suitable deadbolt locks shall be installed on each exterior door.

## 05 EXTERIOR

- c. New locksets and latchsets shall be equivalent to those manufactured by Kwikset, Weiser or Westlock. Locksets for the swinging exterior door of the residence itself shall be the deadbolt type with the longest throw economically feasible or conventional locksets with separate deadbolt locks. Devise keyed on one side only.
- d. New hinges shall be equivalent to those manufactured by Hager, Lawrence, McKinney and Stanley and be of the size required to clear the door trim. Hinges for exterior doors swinging out shall have a setscrew in the barrel to prevent the removal of the pin when the door is closed and Sherardized under plating to prevent rusting.
- e. New door stops shall be solid bumpers screwed into the wall base behind each door or in special cases, screwed to the door itself.
- f. Peepholes - Install new peephole. Peephole shall be placed 5" above floor.

### 2. Window Hardware - Lifts. Locks. Building Devices

- a. All window hardware shall be polished brass plate or to match existing.
- b. Guiding devices shall be jiffy spring, or nylon insert.

### 3. Window Balances

Window Balances shall be Unique brand or equivalent, or as specified in THE WORK WRITE-UP. Sash cord shall be no less than 1/4" nylon cord.

### 4. Installation

- a. The installation of finish hardware shall be performed in a workmanlike manner in accordance with the standards of the relevant trade.
- b. Finish hardware shall fit perfectly. be uniform in color and free from imperfections affecting serviceability or marring appearance.
- c. The new finish hardware shall be furnished with the necessary screws, bolts or other fastenings of a suitable size and type to anchor the hardware in position for heavy use and long life and these fastenings shall harmonize with the hardware to material and finish. Where necessary, the fastenings shall be furnished with expansion shields, sliding bolts, toggle bolts or other approved anchors according to the material to which applied and as recommended by the manufacturer of the finish hardware item.

## 05 EXTERIOR

- d. Carpentry cuts for the finish hardware shall be carefully and accurately made. The screws shall be tuned to a firm grip but not to the point of distorting the hardware and in no case shall the screws be hammered into place. The doorknobs shall be positioned at the height of the existing doorknobs in each building and the other hardware shall be uniformly positioned in accordance with good general practice.

### H. FOUNDATION VENTS

See 06 Weatherization. Section 0.1.

### ROOF VENTS

See 07 Roofing, Section 1.1.

### GUTTERING

See 07 Roofing, Section 0.

### K. WINDOW

See 01 Carpentry, Section 1.L.

### L. DOORS

See 01 Carpentry, Section I.M.

#### I. Interior Doors

All doors shall be installed complete with new passage set hardware and shall be hung with two. brass or steel 3 1/2" butt hinges.

#### 2. Exterior Doors

All exterior doors shall be complete with new hardware, and lockset, in the Kwikset or equal.



## 06 WEATHERIZATION

### A. INSULATION MATERIALS

#### Fiberglass

Fiberglass will be non-flammable moisture absorbing type as manufactured by Owens Corning, John Mansville or approved equal. Batts will be foil or craft faced installed with face toward warm side of construction and firmly fastened to framing members. Insulation shall be cut carefully around electrical boxes, pipes and water lines. Fiberglass batts will not be compacted to accommodate fit.

### B. CRAWL SPACE INSULATION

#### Installation

1. Batt insulation shall be tightly attached to band boards so that edges butt tightly and bottom laps vapor barrier 12".
2. When standing water or other problems prohibit installation in the above manner, floor joists will be insulated with 9" batts and a vapor barrier will be attached to the floor joists. Batts will be held in place with 'Tight Claws' or approved equal.

### C. OPEN WALL INSULATION

#### 1. Frame Walls

Insulation shall be minimum 3 1/2" fiberglass batts. R- 13 with Kraft vapor barrier on one side. Insulation shall be installed between studs, and attached per manufacturers recommendations.

#### 2. Masonry Walls

Insulation shall be minimum 3/4" fiberglass with Kraft vapor baffle on one side. The insulation shall be installed between the furring strips as recommended by the manufacturer. Un-faced fiberglass insulation may be used, but the inside face of the insulation must be covered with minimum 4 mil plastic, properly attached to the furring strips.

### D. SIDE WALL BLOWING

#### Installation

1. All interior sides of walls to be blown will be inspected for holes, cracks or openings prior to blowing. Any voids found will be filled or patched so no insulation will be lost.

## 06 WEATHERIZATION

2. All blowing will be done by qualified Contractors.
3. Inaccessible wood siding walls will be blown full using two hole method with cellulose insulation. Wooden plugs will be used when exterior is to be exposed and will be sanded flush and feather painted.
4. Aluminum and vinyl siding will be removed prior to drilling.
5. Asbestos will be removed unless too brittle in which case appropriate drill bits will be used.

### E. ATTIC INSULATION

1. Insulation shall be minimum 6" fiberglass, R-30, with Kraft vapor barrier on one side. The vapor barrier side shall be installed on the room side of the attic, and attached to the ceiling joist according to the manufacturers recommendations.

2. Blown Insulation

Insulation must be of an approved type, properly tested, and warranted to meet applicable requirements. The insulation shall be installed to the proper thickness to meet the RIO requirement for that type of insulation.

**NOTE: All attic access covers shall have R-19, batt insulation permanently attached to the attic side of the cover.**

### F. 1 1/2 STORY ATTIC

#### Installation

Kneewalls will be insulated with batt insulation run to roof sheathing to provide dam for fatter runs.

### G. DUCTWORK INSULATION

Sound lining shall be applied to all air ducts and shall be fiberglass ultra liner 1/2" thick by C.S.B. Aeroflex by Owens Corning or equal. Duct lining shall be installed in accordance with manufacturer's recommendations. Stick clips, where used, shall not compress around lining more than 10 percent of its nominal thickness. Liner shall be U.L. approved for use in accordance with NFPA Pamphlet 90A. insulating procedure. Insulation will be installed with vapor baffle on outside and joints in vapor baffle will be sealed with duct tape.

## 06 WEATHERIZATION

### H. HOT WATER HEATER JACKETS AND EXTERIOR METAL ENCLOSURES

#### 1. Materials

Insulate hot water heaters with prefabricated standard brand hot water heater "Energy Jacket Kits"; as per manufacturer's recommendation. Cut out around all controls.

#### 2. Installation

- a. Do not insulate round open flames.
- b. Seams shall be taped.

#### 3. Sheetmetal Enclosures

- a. All enclosures shall be prefabricated using a minimum of 28 gauge metal. Set on 4" concrete slab when at grade level.
- b. Openings of enclosure to crawl space shall be enclosed with 1/2" exterior grade plywood; primed and painted. (i.e. Twickler sheetmetal, Orleans steel products, or equal).

### I. VAPOR BARRIERS

#### 1. Materials

All vapor barriers will be minimum 4 mill plastic.

#### 2. Installation

- a. Crawl space vapor barriers will be placed smoothly on ground and weighted on sides and corners with gravel or bricks.
- b. On open walls with batt insulation vapor barrier will be stapled firmly to studs.

### J. STORM WINDOWS - (See windows metal)

Windows will be set in bead of caulk squarely to ensure smooth operation of all sash. Attach with window aluminum wood screws.

### K. ALUMINUM STORM DOORS - (See doors metal)

- 1. Frames and trim shall be of rigid construction (extruded sections) with perimeter set in caulking and fastened with wood screws.

## 06 WEATHERIZATION

2. All hardware, including hydraulic door closer and storm chain, to be furnished by contractor and shall be included in this installation.

### 3. Installation

Fill any cracks, holes, hinge cutouts. etc.. and scrape and paint any noticeable defects in the door jamb, stops and casing, to match the existing color and texture.

Door shall be firmly screwed to frame and operate smoothly.

### L. CAULKING

Installation - (use proper caulk for work to be preformed)

1. Joints, spaces and surfaces to be caulked shall be dry. clean and free from dust.
2. Prime according to manufacturer's directions.
3. Pack deep joints and cracks with backup filler within 1/2" of surface before caulking.
4. Apply caulking with gun having proper size nozzle; fill joints and spaces solid, remove excess compound; leave surface smooth and clean.
5. Apply caulking nearly after final coat of paint.
6. Caulk 1/4" bead around bath tubs with silicone sealer tub seal.
7. Caulk under entire perimeter of lip on sinks and lavatories, base of tub before installation, with a waterproof. silicone caulk.
8. No caulking shall be applied when temperature is under 40 degrees F.
9. Counter top shall be installed to cabinet. finished to conform to surrounding area and caulked along wall line.

### M. WEATHER STRIP

1. Materials
  - a. Weather stripping for all doors and windows will be either adjustable tubular vinyl spring bounce or interlocking aluminum systems and shall be installed with magnetic weather stripping.
  - b. New thresholds shall be aluminum and shall be of proper height and width for the particular installation: Porta-Lire or equivalent. After installation. the top and bottom of the doors shall be sealed to match existing finish.

## 06 WEATHERIZATION

All doors shall be weather-stripped in such a manner as to prevent entrance of air and moisture into structure; rigid aluminum weatherstripping is required.

- c. Door sweeps will be aluminum strip with rubber sweep cut 1/16" shy of door edges.
- d. Threshold (wood) - Provide and install new wood threshold. New threshold to be securely anchored. Bottom of door to be trimmed for proper fitting above threshold.

### 2. Installation

Weather stripping shall fit snugly against door without gaps.

## N. GLAZING

### I. Materials

- a. Glazing compound will be Dap Glazing Compound or approved equal. Glass will be "B" strength or better. Use tempered glass within 4' of door.
- b. All glazing will be done prior to pointing. No glazing will be done in temperatures less than 40 degrees F.
- c. New glazing points will be used in all glass replacement or where deteriorated.

### 2. Installation

Glazing compound shall be installed at 45 degrees bevel to hide all points and all new glass will be set in thin bead of caulk. All glass will be cleaned thoroughly after job is complete.

## 0. VENTS

### Standards

1. Foundation vents will be metal closeable screened vent 8"x16" one per 500 square feet to allow moisture to escape from crawlspace area. One full block will be removed for installation and vent will be caulked in place.
2. Soffit vents will be continuous 2" strip with insert screens set in caulk. Lookouts will not be damaged during installation.

## 06 WEATHERIZATION

3. Gable vents will be sized as needed and installed with louvers pointing down. Gable vents will be aluminum and placed as high as possible without interference from framing members. All cut structural members will be headed off, as referenced in the carpentry section of this manual. All vents will have screens and be set in caulk.
4. Roof vents will be aluminum, 8", screened vent flanges will be installed under top and side shingles and over bottom to allow efficient run off. All edges and nails will be coated with roofing cement. Hole will be same diameter as vent and line up exactly. Vents will be centered between rafters. No rafters shall be cut. All holes will be headed off.
5. Continuous Ridge vent - Installed standard vents to manufacturer's recommendation.

## 07 ROOFING

### A. GENERAL INFORMATION

“All roofing shall be applied according to Local Governing Jurisdiction or Governing Municipality”. If more than one layer of roofing exists strip all roofing OFF down to sheathing, install roof felt, install new roof.

1. Protect all finished surfaces of the building against damage due to the work of this Section.
2. Proceed with roofing work only after related repair or replacement work (deck, fascia, nailers, flashing, etc) has been accomplished.
3. Proceed with roofing and associated work only when existing and forecasted weather conditions will permit the work to be accomplished without interruption until completion.
4. Provide temporary coverings for roof when adverse weather conditions prevent the roofing and associated work from being installed and protection is required.

Coordinate installation for roofing materials and associated work to provide a complete roofing system.

6. Prevent materials from entering and clogging gutters, drains and downspouts.
7. All new roofing shall have an economic life of not less than 15 years covered by a manufacturer's warranty for the material's used.

All new roofing shall be applied in conformance with the applicable Code.

All damaged or rotted sheathing boards shall be replaced with new. End joints shall be made over a rafter.

Roofing nails shall not penetrate through roof sheathing at any open or visible spot. Nails shall be corrosion resistant and shall be installed in accordance with material specification and manufacturer's warranty. When new roofing is installed in conjunction with aluminum fascia: eave drip, gravel stops, and flashing shall be aluminum and match existing.

8. Repairing roof includes replacing deteriorated, inadequate, and missing components of the roof structure, including roof decking, rafters, gable stud, collar beam, and ridge board. Surfaces to which roofing is to be applied shall be even, sound, thoroughly clean, dry, and free from all defects that might affect the quality of the application. Rafters shall be properly braced before roofing is applied.

Any repair work on roof covering shall match existing roof as close as possible. Deteriorated roof sheathing shall be approved by the Rehabilitation Representative prior to reinstallation.

## 07 ROOFING

### B. SHINGLES INSTALLATION-NEW

1. Remove old roofing from deck, including all deteriorated surfacing materials.
2. Repair deck by replacing defective sheathing, leaving deck surface smooth and clean. Re-nail all loose sheathing.
3. Replace defective material in overhang and remove all protruding nails.
4. Apply one layer of 15 lbs. felt and install minimum 210 pound self sealing, fiberglass shingles. All roofing materials shall be applied according to manufacturer's specifications.

**NOTE: OWNER HAS CHOICE OF COLOR OF SHINGLES.**

5. Metal edging shall be installed on all exposed edges of roof.
6. Flash open valleys with 20 gauge galvanized metal flashing. Flash and counter flash at chimneys or vertical walls to be 28 gauge galvanized sheet metal.

Apply new 215 lbs. per square 'T' lock shingles or square butt shingles with seal tab. Labeled U.L. Class 'C' or better. Shingles shall be nailed with 7/8' nails in accordance with the manufacturer's specifications and have at least 15 year warranty. Roof sheathing shall be approved by the Rehabilitation Representative before felt is applied.

All nails on the ground. old material. debris, and residual new materials shall be removed from the premises.

### C. ROLLED ROOFING

Only to be used in very small areas as a patch not to be used over any inhabited or occupied space.

#### Installation

1. Strip existing rolled roofing, removing all rolled roofing, shingles and felt areas.



## 07 ROOFING

2. Examine existing roof sheathing, cornice and eave edges before continuing work. *Notify* the Rehabilitation Representative of any defects, and do not proceed until all defects have been corrected. Starting new roof material implies acceptance of under-roofing conditions.
3. Make repairs to the existing roof if necessary and clean roof thoroughly to remove all debris and ready to accept new material.
4. At all eaves, apply one (1) 36" wide, 15 lbs. felt under starter strip. Lap the next sheet 8" over the first. Extend felt to crown of roof.
5. Installation and Materials

Roofing shall conform to Underwriter's Laboratories (UL) standard UL. 55B Class C. Each roll of roofing shall be identified with UL. Label. Roofing shall overlay according to manufacturer's recommendations and weigh at least 90 lbs. per square. Nails should be corrosion-resistant, have sharp points, large flat heads 3/8" to 7/16" in diameter, with smooth or threaded shanks. Nails should have a minimum length of 1-1/4" for new construction, longer for re-roofing. Spacing and nail patterns shall be in accordance with manufacturer's recommendations. Roofs with less than 3/12 pitch must use double coverage roll roofing.

### D. BUILT-UP ROOFING

#### Installation

1. Built up roofs shall be 3 ply construction with 30 lbs. base sheet and two 15 lbs. felt plies on top. Each ply will be mopped after installation.
2. Base sheet shall be lapped 4" over preceding sheets and 6" on butt seams. Mop with 25 lbs. per square Bituminous Roofing Asphalt
3. Remove existing roof. replace damaged sheathing, rafters and fascia. Install new flashing and gravel stop.
4. All roofing materials shall be applied according to manufacturer's specifications.

### E. ROOFING - METAL

#### New Corrugated Steel Roofing

Remove all old roofing. repair and or replace defective rafters and nailing strips. Nailing strips shall be no less than 1"x4", No. 2 pine installed on two foot centers. Corrugated steel roofing shall be 28 gauge galvanized, hot dipped with 2 1/2" corrugations or less.

## 07 ROOFING

Application of roofing shall be with side lap of no less than 2 1/2" corrugations and end lap of no less than 6", nailed 8" apart on strips.

Apply roof as to manufacturers' recommendation.

### F. ROOF SHEATHING

Repair

Repair of sheathing shall include removal of all defective materials and replacement with new materials similar to existing. New materials will comply with sheathing standards.

Install 1/2" exterior roof sheathing grade where sheathing replacement is required.

### G. GUTTERS AND DOWNSPOUTS

#### I. Aluminum

Aluminum with baked enamel finish shall be properly attached to gutters and wall with proper clamps. A splash block shall be installed under each downspout. Gutters shall be properly sloped to prevent water from forming on pond.

#### 2. Galvanized

Galvanized gutter and downspout shall be .028 gauge galvanized metal. Installation shall be the same as specified for aluminum gutters and downspouts.

### H. FLASHING

Material and Installation

1. All flashing material will be either .26 gauge galvanized tin or 28 gauge aluminum sheet product unless otherwise specified.
2. Valley flashing shall be minimum 20" wide 28 gauge aluminum sheet laid over 36", 15 lb. felt base sheet set in valley with nails.
3. All vent stacks protruding through roof will be flashed with prefabricated metal or rubber boot flashing.

## 07 ROOFING

### ROOF VENTS

#### Standard

- I. Roof vents shall be 8" aluminum screened vents installed as close to ridge as possible with a flange set under top shingles and over bottom shingles so as to shed water properly. Holes cut in roof must be neat, uniform and clean and 8" in diameter.
2. In the absence of soffit vents, low roof vents are required.

#### J. CHIMNEY - (See 04 Masonry, Section 4.c.)

Chimneys will be flashed with base flashing, counter flashing and stepped rake flashing of approved material. Where chimney is on slope of roof a saddle or cricket is required. All flashing must extend at least 6" up masonry surface and be grouted into brick joints. flashing must run at least 8" along roof deck.

## 08 SITEWORK

### A. EXCAVATION

#### General Information

- I. Excavation shall be to elevations and dimensions indicated in THE WORK WRITE-UP. Allow for working space. If suitable bearing is not found at elevations indicated, notify the Rehabilitation Representative immediately before proceeding.
2. In the event of over excavation, use compacted backfill to the required grade.

### B. BACKFILL

#### 1. Materials

- a. Use only materials free of roots, stumps, wood, cinders, trash and stones larger than 4" in diameter.
- b. Any foreign matter other than suitable backfill dirt shall be removed to a minimum of 24" below the surface of the ground.

#### 2. Installation

- a. All grade shall slope away from the residence.
- b. Fills shall be placed in successive layers not exceeding eight (8) inches loose measure. Each layer shall be adequately and uniformly compacted.
- c. All fill shall be compacted to a density which will avoid damaging settlement to walks, driveways, lawns and other site improvements.
- d. Backfill shall not be placed upon mud.
- e. Settlement or washing that occurs in backfilled areas prior to the acceptance of the work, shall be repaired and grade re-established to the required elevation.
- f. Rough grades shall be established at 4" below the finish grade.

### C. SAND FILL

#### Materials

Use acceptable local materials. Sand shall be free of clay, rock or gravel larger than in any dimension. It shall also be free of debris, waste, frozen materials, vegetable and other harmful material.

## 08 SITEWORK

### D. ROUGH GRADE

#### General Information

Rough grade shall be to within 4" of desired finish grade, sloped away from building, and compacted. Finish grade shall conform to Vinton County Building Code.

### E. TOPSOIL

#### 1. Materials

- a. Topsoil shall be used to establish the finish grade except where dust free surfaces are required.
- b. Topsoil shall be fertile, easily crumbled, natural surface soil obtained from well drained areas. Topsoil shall be free of subsoil, brush, organic litter, objectionable weeds, clods, shale, clay, large stones, stumps, roots or other material harmful to plant growth or hindrance to planting or maintenance.

#### 2. Installation

The topsoil shall be uniformly distributed on the designated areas and evenly spread to a minimum of 4" for lawn areas to be seeded. Any irregularities in the surface resulting from topsoiling or other operations, shall be corrected in order to prevent the formation of depressions where water will stand.

### F. SEEDING

#### 1. Materials

- a. All seed shall be new seed labeled in accordance with U.S.D.A. and the rules and regulations under the Federal Seed Act as to the manufacturer's guaranteed analysis. The seed shall be 95 percent pure. The germination rate shall be at least 85 percent.
- b. Commercial fertilizer shall conform to all applicable State Fertilizer Laws. The fertilizer shall be delivered in bags fully labeled with the manufacturer's guaranteed analysis as follows: Nitrogen [2 percent and Potassium 12 percent The fertilizer shall be evenly distributed at a rate of 10 lbs. per 1000 square feet.

#### 2. Installation

- a. The seed shall be uniformly distributed over the areas to be seeded at the rate of 4 lbs. per [000 square feet. The seed shall be lightly covered by raking and the surface rolled with equipment weighing 60 to 90 lbs. per linear foot of contact surface.

## 08 SITEWORK

- b. When an area has been completed. the area shall be thoroughly cleaned. Debris, rubbish, subsoil and waste materials shall be cleaned up and removed from the property.
- c. The newly planted areas shall be watered to promote seed germination. The watering period shall extend through the contract period to the final inspection. At the time of final inspection, the home owner will be responsible for continuing the watering.

### G. SOD

#### Installation

Cultured sod shall be laid in area shown on site plans and/or as specified in THE WORK WRITE-UP. Roll and compact to assure bond with topsoil. Water as necessary to maintain a proper moisture condition and assure rooting. Sod failing to become established at the end of one (1) month, shall be replaced by the contractor at contractor's expense. Stake sod on slopes flush with top of mat to prevent slippage.

### H. TRIM TREE

#### Standards

1. Tree(s) to be removed as set forth in THE WORK WRITE UP.
2. Removal shall be by a professional experienced tree person and include stump removal to a minimum of 18 inches below grade.
3. All limbs, branches, roots, leaves. etc. shall be removed from the premises.
4. Topsoil shall be used to fill the void and grade level with surrounding surfaces. Use seed, fertilizer and water as provided by those sections of this document.
5. Homeowner will have first choice of wood.

### I. PARKING AND DRIVEWAY SURFACES BITUMINOUS

#### Standards

Excavation shall be to depth required. Earth sub-grade shall be compacted thoroughly.

Base shall be 4" of gravel: compacted to 2" below finish grade.

Finish shall be two 2" wearing surface of (hot plant mix) bituminous surface flush with grade. Finish surface shall be rolled to slope 1/4" per foot in direction of surface drainage flow as indicated on site plan and/or as set out in the Work Write-up.

## 08 SITEWORK

### J. PARKING SURFACES . CONCRETE

For concrete surfaces see 02 CONCRETE, Section F.

### K. REMOVAL OF TRASH

#### Standards

Trash shall be disposed of in a proper manner and area shall be raked or swept clean and level with the surrounding grade.

### L. PEST EXTERMINATION

1. When pest extermination is specified, the entire main structure is to be treated. The "treatment" shall be that treatment recommended by a bonded, licensed, exterminator to rid the structure of any and all types of infestation and shall carry a minimum guarantee of one year.

Chemicals used shall be those that will cause the least inconvenience to the property owner (moving of foam rubber articles, plants, etc.) caused by infestation, shall be repaired or replaced by the contractor.

NOTE: When Drywood Termites are present tent fumigation is required.

2. Entire structure shall be treated for pest, rodents and other creatures by licensed and bonded exterminator.

### M. DEMOLITION WORK

The contractor shall be responsible for the clean up and removal from the site all trash, debris, and surplus materials generated during the course of his work. This shall include all debris and trash inside and under the dwelling. The contractor shall protect the adjacent areas so as not to damage any property in the surrounding area. The dwelling shall be left broomed clean, and the site rake clean after the completion of construction.

### N. FILL AND SEAL CISTERN. SEPTIC TANKS. WELLS

#### Procedures

1. Break concrete bottom, remove or cut and seal tap lines leading from the cistern. Pump and dispose of sludge prior to filling.
2. Fill cistern to within 4' of the surface using appropriate backfill material (sand) and methods.

## 08 SITEWORK

3. Break out top walls and remove to a minimum of 24" below the surface of the ground. Continue to backfill to a rough grade, 4" below the surface of the ground. Fill with topsoil to a finish grade, seed, fertilize and water as set forth in PM SITEWORK SECTS.

### 0. POWERWASH EXTERIOR SIDING

In situations where the exterior siding is not damaged, deteriorated, or missing, the Rehabilitation Representative may request powerwashing in THE WORK WRITE-UP. This will be done to remove all dirt, grime soot, etc., from the siding.

Powerwashing shall be conducted with a high pressure washer using bleach and T.S.P. or equivalent.

1. Powerwashing may be done prior to repainting aluminum siding to provide clean surface.
2. Powerwashing may be done as finish to existing exterior siding to clean.
3. The Contractor shall be responsible for any damage done to the property during this process.
4. All window, openings, shrubbery, etc., shall be protected from damage by the contractor.



## 9 WALL COVERINGS

### A. WALLBOARD

#### 1. Standards

Wallboard shall be Gold Bond or 11.5. Gypsum Board with beveled edges, carefully fitted and sized prior to nailing in place.

#### 2. Wall Finish - Drywall

1/2" drywall shall be taped, bedded and sanded smooth. All sheetrock used in areas subject to excessive moisture, shall be of moisture resistant type. All corners shall be finished with metal corner bead.

#### 3. Coat process - Follow manufacturer's directions

- a. Over joints the tape shall be embedded in texture and covered with a layer of texture; a second and a third coat shall be applied. Each coat shall be dry before applying the next coat

Each coat shall be feather-edged and extended beyond the previous coat, approximately 2".

The finish coat shall be sanded lightly and any imperfections filled in prior to any painting or decorating.

- b. Over nails check to see that all nails have been driven so that their heads are below the surface of the board, leaving a dimple in the surface without breaking the paper.

Cover nails with three applications, allowing time to dry between each coat.

The final coat shall be sanded lightly before application of paint or other decoration.

- c. Inside corners shall be tape imbedded in cement and finished as specified in "Over Joint", section 3.a. above.

- d. Outside corner reinforcement shall be finished as specified in "Over Joints" with two coats cement

Ceiling(s) that have not been taped and bedded properly shall be retaped, bedded, and sanded smooth, ready for finish.

## 9 WALL COVERINGS

### B. Wall Finish - Repair Work (General)

Wherever existing walls are to be repaired, the damaged material shall be completely removed, and new material shall be installed to match and blend in with surrounding wall finish as close as possible. All repairs shall *be* done in a workmanlike manner, and properly prepared to receive the finish application.

### C. Ceiling Finish - Drywall

Ceiling finish shall be 1/2" sheetrock, taped, bedded, and sanded. 3/4" inch to 1 1/2" cover molding shall be used only when ceiling butts to wood or paneled walls. Drywall shall be applied:

- a. Directly to existing ceiling.
- b. Directly to existing joists.

### D. Drop Ceiling - Drywall

Ceiling finish shall be 1/2" sheetrock, taped, bedded, and sanded. Drywall shall be installed over new ceiling joists, properly supported from roof framing, at 16" on center. 3/4" to 1. 1/2" cove molding shall be used only when ceiling butts to wood or paneled walls.

### E. Ceiling Finish - Repairs (General)

Wherever existing ceilings are to be repaired, the damaged material shall be completely removed, and new material shall be installed to match and blend in with the surrounding ceiling finish as close as possible. All repairs shall be done in a workmanlike manner, and properly prepared to receive finish coat

### F. Wall Finish - Paneling

Paneling shall be of the pie-finished type, and shall be either pre-stained luan or veneered wood on a plywood backing. All paneling shall be a minimum of 1/4" thick. Installation shall include matching inside and outside corner trim, caps, dividers, window and door trim, cove molding and base trim. When installing paneling in conjunction with new windows, paneling shall return to windows. Method of installation shall adhere to manufacturer's recommendations.

### G. PLASTER

Base coat shall be "Gold Bond", "Gypsolite" or equal mill mix proportioned lightweight Gypsum-Perlite basecoat plaster. Finish coat shall be Gold Bond "E-Z Soak" finish lime, or equal. Water shall be clean and free from organic materials, oil, and

## 9 WALL COVERINGS

Alkaline, Mixing - All base coat and finish plasters shall be mixed in accordance with manufacturer's Instructions for Repair.

Rake cracks and holes clean, remove loose plaster or drywall and fill with patching plaster. New repair shall be struck level with surrounding surface and finished to match existing walls.

### Installation

1. Minimum thickness of plaster over metal lath, wire fabric, masonry or concrete shall be 5/8": over lath, gypsum lath, fiberboard lath or wood lath, 1/2".
2. Apply plaster in three coat process or two coat process if base is gypsum lath or masonry.
3. Install suitable plaster grounds of required plaster thickness at openings and at intersection of walls and floor.
4. Internal angles shall be reinforced with expanded metal lath or cornerite having not less than 2" legs, or of woven or welded wire-fabric of equivalent strength. External angles shall be protected with corner bead.
5. For gypsum or fiber lath, reinforce corners of all openings with strips of metal lath (approximately 6"x8") installed at 45 degrees.
6. Perforated lath supported by clips shall not be used for ceiling installations.

### H. STUCCO

See Masonry Section "F"

### PLASTIC COVERED HARDBOARD

1. Materials
  - a. Hardboard shall be marlite or written approved equal.
  - b. Pattern, design and color to be chosen by owner.
  - c. Molding, edges, fillers, fasteners and adhesives shall be as recommended by manufacturer. **NO EXPOSED NAILS WILL BE ACCEPTED.**
  - d. Molding strips for use between panels shall be of same material, color and design as panel.

## 9 WALL COVERINGS

2. Installation
  - a. All hardboard shall be installed as recommended by manufacturer.
  - b. Where wood molding strips are installed by approval of Rehabilitation Representative they shall be either painted (Color to be chosen by owner) or stained and/or varnished.

### J. CERAMIC TILE

#### Wall Finish –Ceramic Tile

##### 1. Thick Bed

Remove existing material on indicated walls and replace with ceramic tile using thick-bed method over wire lath. Trim edges with bull-nose tile. Wall tile shall equal or exceed the standard Grade Requirements of the U.S. Department of Commerce. Wall tile shall be standard grade.

##### 2. Thin Set

Apply ceramic tile on new drywall or existing drywall. Remove existing material on indicated walls and replace with ceramic tile using thin set method on drywall. Trim edges with bullnose tile. Wall tile shall equal or exceed Standard Grade Requirements of the U.S. Department of Commerce, Wall tile shall be Standard Grade.

##### 3. Repair

When repairing existing tile, first remove all cracked, loose, chipped or otherwise defective tile. Then repair setting bed or wall board as necessary to provide a level surface for installation of new tile. When repairing floor tile, wash adjacent areas with an approved solution to remove any oil film present. New tile being installed next to existing tile shall match existing as closely as possible in size, color, texture and glaze. When replacement tile cannot be matched to existing in color, texture, or glaze, install new contrasting white ceramic tile. Any other procedure shall require the approval of Rehabilitation Representative.

NOTE: All ceramic tile work to be properly grouted to ensure waterproof job.

##### 4. Ceramic Tile Repair

- a. Install ceramic tile on existing bathroom wall(s). Tile shall be laid with adhesive recommended by manufacturer for tub and shower enclosures. Existing wall(s) shall be repaired and patched in sound condition to receive ceramic tile. Tile shall be 4"x4"x 1/4".
- b. Remove all existing material on bathroom wall(s) and replace with 1/2" greenboard to ceiling height. Install ceramic tile with adhesive recommended by manufacturer for tub and shower enclosures. The shall be 4"x4"x 1/4".

## 9 WALL COVERINGS

- c. Install ceramic tile on walls, 5' above tub area only. Tile shall be laid with adhesive recommended by manufacturer for tub and shower enclosure. The shall be 4"x4"x 1/4".
- d. Install ceramic tile on wall of shower area only, 5' 6" above floor. Tile shall be laid with adhesive recommended by manufacturer for shower enclosure. Tile shall be 4"x4"x 1/4".

NOTE: Interior window frame within the tub or shower area shall be tiled.

### K. WALLPAPER

#### 1. Materials

- a. Wall paper colors shall be sunfast and waterfast. Owner's choice of color.
- b. Wallpaper in kitchen and bathroom shall be waterproof type.
- c. All walls shall be repaired as requested, prior to installation of wallpaper; this shall include all holes.
- d. Adhesive for wall fabric shall be that recommended by fabric manufacturer.

#### 2. PREPARATION

Remove all wallpaper and loose paint to bare plaster. Cut out and patch all plaster cracks. Remove any and all loose plaster and re-plaster leaving a smooth true even surface. Spackle all nicks, holes, wall blemishes and paint removed patches. Sand and/or scrape all wall and ceiling surfaces smooth ready for painting. Clean all grease, grime and oils from all kitchen walls by washing with degreasing agents. Roughen all previously semi-gloss or gloss painted surfaces.

### L. SUSPENDED CEILINGS

A grid made with inverted "T" members and installed in accordance with manufacturers recommendations shall support tile on suspended acoustical ceilings. Ceiling tile shall be a minimum of 1/2" thick. Grid shall be metal 2"x2" with longitudinal dimension of tile running longitudinally with room. Any tile soiled or damaged during installation shall be replaced.

## 9 WALL COVERINGS

Hanger wires shall be of a type as recommended by grid manufacturer, and shall be installed level and free of defects.

### Installation

1. Finish ceiling height and installation shall conform to the Building Code.
2. Provide and install (a) 24"x24", (b) 24"x48" suspended acoustical ceiling on aluminum T-bars, securely anchored to existing ceiling as per manufacturer's specifications, complete with aluminum angle around perimeter of room.

### M. CEILING TILE

1. Materials
  - a. Tile shall be 12 x12" 1/2" fire rated Class A ceiling tile manufactured by Celotex, Armstrong or approved equivalent.
  - b. Tile to be tongue and groove type.
  - c. Furring strips shall be 1"x3".
  - d. Ceiling trim shall be included in the installation of new ceiling tile. Trim shall be 3/4" cove molding around entire perimeter of room at wall and ceiling seam.
  - e. Tile in high moisture areas to be scrubbable vinyl faced. All work shall conform to the local Building Code.

Tile shall be staggered on grid pattern. Tile shall be tongue and groove interlocking type and shall be properly nailed or stapled in accordance with manufacturer's recommendations. Tile soiled or scarred during installation shall be replaced. Moldings necessary for a finished ceiling job are to be considered a part of this bid item.

# 10 PAINTING

## A. PAINTING (GENERAL)

### 1. General information: Interior/Exterior

- a. Inspect all surfaces before starting work and report deficiencies to the Rehabilitation Representative. Starting work implies acceptance of surfaces.
- b. All surfaces must be thoroughly clean and dry, and free of all extraneous hardware, nails, etc.
- c. Paint material shall be completely free of all lead or lead based compounds.
- d. All materials shall be completely free of all lead or lead based compounds.
- e. Owner shall have choice of color unless otherwise stated in THE WORK WRITE UP.
- f. Painting shall not be done when the temperature is expected to be below 40 degrees F.
- g. Do all mixing on premises and follow manufacturer's label instruction completely.
- h. Where painting is required on concrete and masonry surfaces, it shall be done on a clean, dust and scale free surface (wire brushed), and in full compliance with specifications of manufacturer of finishing material.

### 2. Materials - Interior/Exterior

- a. All materials shall be best quality of Pratt-Lambert, Benjamin Moore, Sherwin-Williams, Pittsburgh, Cooks, or written approved equal, unless otherwise specified in THE WORK WRITE UP.

#### b. Interior Schedule

Latex Enamel shall be used on all interior woodwork.

Latex ceiling and wall enamel shall be used in kitchen and baths.

Latex ceiling and wall flat shall be used in all other rooms.

## 10 PAINTING

### c. Exterior Schedule

All priming shall be done with a "Long" oil base primer (a breathable oil based primer).

Main House painting shall be Semi-gloss Exterior Latex or Acrylic Latex.

House trim shall be Exterior Latex.

Masonry and concrete surfaces shall receive one coat block filler or sealer Silicone USE approved concrete paint and finish shall be Latex.

d. Deliver all materials in original unopened containers bearing manufacturer's labels.

### 3. General Instructions (Paint)

All surfaces to be painted shall be cleaned. Remove loose and scaly paint and rough spots. Where previous paint coats have chipped and peeled, the edges shall be sanded down to obtain a smooth surface before new paint is applied; bare spots to receive one coat primer prior to final finish. All joints in trim, *siding*, and frames shall be gun caulked at all locations where called for or needed to make a water-tight job. AU preparatory paint work to include the removal of unused superfluous hardware (such as screen holders, hooks, wires, screws and etc.).

## B. INTERIOR PAINTING

### 1. STANDARDS

- a. UNLESS OTHERWISE SPECIFIED [N THE WORK WRITE UP, PAINTING SHALL INCLUDE ONE (1) PRIMER COAT AND ONE (1) FINISH COAT. ALL PAINTING SHALL ADEQUATELY COVER EXISTING SURFACE.
- b. Prepare surface shall mean patching all holes and cracks smooth, cleaning surface prior to any paint application, scraping all loose paint and sanding rough edges smooth.
- c. Keep premises clean and orderly and well ventilated; remove waste daily and at completion of job. Protect all adjoining surfaces by covering or moving.
- d. Sand enamels with 00 sandpaper between coats.  
  
Coat all knots or sap streak with one (1) coat of shellac or other approved sealer before painting.



## 10 PAINTING

- f. Putty nail holes, cracks and blemishes after primer coat has been applied, but before application of finish coats.
2. INTERIOR WALLS AND CEILINGS All cracks, holes, and damaged areas shall be properly filled and retextured to remove all evidence of repair before painting. Paint shall be applied to give full coverage, leaving no streaks, shadows, or other blemishes: Sherwin-Williams latex or equivalent. All paint shall be applied according to manufacturer's specifications. Colors shall be selected by the owner.
3. Area to have one coat of sealer or stain killer (with equivalent or approved equal) applied to correct stains and treat alkaline condition before applying finish coat.

### C. PAINT OR VARNISH

Surfaces shall be properly prepared to receive finish by sanding and by filling all holes and joints. Interior semi-gloss latex, Sherwin-Williams or equivalent, shall be applied according to manufacturer's specifications to cover.

Varnish shall be Spar or equal and applied according to manufacturers' specifications to cover.

Colors shall be selected by the owner.

### D. DOORS AND WOODWORK

Interior wood surfaces shall be properly prepared to receive finish by filling all holes and joints. Use Interior semi-gloss latex, Sherwin-Williams or approved equivalent, shall be applied according to manufacturer's specifications, paint to cover.

Colors shall be selected by the owner.

### E. INTERIOR WOOD TRIM

Interior wood trim surfaces shall be properly prepared to receive finish by filling all holes and joints. Two coats of interior semi-gloss latex, Sherwin-Williams or equivalent, shall be applied according to manufacturer's specifications, paint to cover without streaks, shadows or other blemishes.

Colors shall be selected by the owner.

Walls finished with 1/4" Plywood Paneling shall be trimmed out with necessary molding when installed.

Ceilings and Floors shall be finished to conform with room therein, unless specified otherwise.

## 10 PAINTING

### F. EXTERIOR PAINTING

#### Standards

**Unless Otherwise set forth in THE WORK WRITE UP, all painting shall include on one primer coat and two finish coats. All bare wood will receive two primer coats.**

### G. EXTERIOR WOOD SURFACES

All exterior wood surfaces, when attached to main residence, shall be properly prepared by scraping and washing with high pressure washer, using Bleach and T.S.P. in order to remove all unsound surface material. All exterior openings and nail holes shall be caulked and/or puttied. After surfaces have been prepared for painting, the contractor shall call for an inspection before paint is applied. All surfaces to be painted shall receive O'Brien exterior oil base paint or equivalent.

All paint shall be applied according to manufacturer's specifications, paint to cover. Owner shall select color.

All paint spatters shall be removed from all doors, window glass, screens, masonry units etc. All areas shall be protected during painting operation, including shrubbery.

Coat all knots, sap streaks, and water stains with one (1) coat of shellac or other approved sealer before painting.

### H. ASBESTOS SIDING

All exterior surfaces, including garages and accessory buildings, shall be properly prepared by scraping and washing with high pressure washer using bleach and T.S.P. in order to remove all unsound surface material. All exterior openings and nail holes shall be caulked and/or puttied. After surfaces have been prepared for painting, the contractor shall call for an inspection before paint is applied. All surfaces to be painted shall receive semi-gloss exterior Acrylic latex paint or equivalent.

All paint shall be applied according to manufacturer's specifications. Owner shall select color.

All paint spatters shall be removed from all doors, window glass. screens, masonry units etc. Shrubby shall be protected during painting operation.

Paint will be top grade labeled for asbestos siding, paint to cover.

1. Old painted surfaces on wood shall be scraped and wire brushed or sanded to remove loose paint. Hard, glossy and non-caulking surfaces should be dulled and surfaces washed or rinsed.

## 10 PAINTING

2. Painting is not to be done during or immediately following foggy, rainy or frosty weather, or when the temperature is likely to drop below 40 degrees Fahrenheit. Avoid painting surfaces while they are exposed to the hot sun.
3. All coats are to be thoroughly dry before applying succeeding coats in accordance with manufacturer's recommendations.

### EXTERIOR DOORS

All surfaces, shall be properly prepared by scraping in order to remove all unsound surface material. All nail holes shall be caulked and/or puttied. All surfaces to be painted shall receive O'Brien exterior oil base paint or equivalent.

All paint shall be brush applied. All paint shall be applied according to manufacturer's specifications. Owner shall select color.

All paint spatters shall be removed from all doors, window glass, screens, etc. All areas shall be protected during painting operation.

### J. PORCH FLOOR

#### Procedure

1. Scrape all loose paint from porch floor. Sand to feather edges. Sweep area free of dirt, dust and debris.
2. Paint with two coats of quality exterior floor and deck enamel.
3. Coats shall be allowed to dry 24 hours between applications.
4. Mold and mildew shall be removed and neutralized by washing with a solution of 2 oz. trisodium phosphate, 8 oz. sodium hypochloride (clorox) to 1 gal. of warm water. Rinse with clear water and allow to dry thoroughly before painting.

### K. CONCRETE AND MASONRY PAINTING

#### Procedure

1. All masonry shall be primed with one coat of silicone masonry primer or approved equal.
2. All masonry surfaces shall be wire brushed free of loose material.
3. All voids will be patched and allowed to dry prior to painting.
4. All paint used on masonry will be water based.

## 10 PAINTING

5. When specified, waterproof paint will be Thoroseal or approved equal.

### L. METAL PAINTING

1. Procedure
  - a. Scrape all metal surfaces free of loose materials and remove all rust prior to painting prime metal surfaces with one coat metal primer then finish painting with two coats Rustoleum, Kilrust or approved equal.
  - b. Galvanized metal shall be allowed to weather two weeks prior to painting or paint with zinc chromate or vinegar solution prior to painting.

### 2. ROOF

Metal surface shall be cleaned of all dirt, dust and scale. Apply zinc chromate or other agent to insure proper bond with metal and paint. Paint shall be of an approved metal roof paint as specified for such by manufacturer. After cleaning and preparing metal roof painting, call for inspection of roof and paint to be applied.

Upon approval, paint shall be applied according to manufacturer's recommendations.

### M. CLEAN COATINGS AND STAINS

General Information: Interior/Exterior

1. Inspect all surface before starting work and report deficiencies to the Rehabilitation Representative. Starting work implies acceptance of surfaces.
2. Finishing material shall be applied in consistency adequate enough to give thorough and acceptable coverage. Do not apply any finish material when temperatures are below 70 degrees F.
3. After surfaces have been prepared (interior and/or exterior), the contractor shall request an inspection from the Rehabilitation Representative prior to the start of finishing.
4. All tinting of finishing materials shall be Owner's choice.
5. All surfaces shall be clean and dry, free of all extraneous hardware, nails, etc.

## 10 PAINTING

### N. APPLICATION

Finished work shall be uniform, of an approved color (owner's choice), smooth and free from runs, sags, brush, and roller defects. Make edges of paint adjoining other materials or colors, sharp and clean. All newly installed surfaces shall receive one coat of primer prior to final finish.

All paint and material shall be of good quality, such as Pittsburgh, Sherwin-Williams, Benjamin Moore, Glidden or approved equivalent.

## 11 ELECTRICAL

### A. CODES AND PERMITS

The Contractor shall comply with all the regulations of the National Electric Code, the National Safety Code as well as the regulations of the National Board of Fire Underwriters as interpreted by the local inspection department. The Electrical Contractor shall secure and pay for all permits required by any of the foregoing authorities. All work must be done by licensed electrical contractors and final certificates of approval or completion must be submitted before payment will be made for electrical work. The Electrical Contractor is responsible for all inspections that are required and must complete work accordingly.

### B. MATERIALS/GENERAL STANDARDS

#### 1. Standards/General Requirements

- a. All existing wiring that is unsafe, deteriorated or not in use will be disconnected and removed from premises.
- b. All kitchens shall have separate 20 amp circuit when two usable countertop surfaces are separated by a sink, each surface shall be equipped with an outlet

#### 2. Materials

- a. Electrical materials, fixtures, equipment and appurtenances shall be Underwriter's Laboratory listed.
- b. All service panels shall be 100 amp; 120/240 volt, three wire grounded: circuit breaker type. All circuits shall be balanced and labeled and provision for at least two future circuits shall be made.
- c. All newly installed receptacles shall be of the three-prong grounded type, properly grounded to the outlet box or ground wire. All newly installed outlet boxes shall be properly grounded.
- d. Light fixtures shall be installed by contractor as required. The WORK WRITE-UP shall indicate which fixtures shall be replaced. The owner selects fixtures and shall pay any amount exceeding material allowance shown on THE WORK WRITE-UP. Fixtures shall be Progress or approved equal.
- e. No aluminum wiring is permitted except as service feed.

## 11 ELECTRICAL

- f. All conductors shall be copper. All boxes and raceways shall be the proper code size for number of wires passing through and terminating therein.

### 3. Installation

- a. Electrician shall do all drilling, cutting and patching required for the installation of the work of this section. All patching shall be of same materials, workmanship and finish as the original work and shall accurately match surrounding work. Where a first class job cannot be obtained, the plasterer shall do the patching at the electrician's or general contractor's expense.
- b. Wiring shall be concealed, wherever possible. Where wiring must run exposed, it shall be enclosed in rigid metal conduit or wire mold, as required by Code, and firmly attached to ceilings and walls with approved fasteners.
- c. Where fixtures or devices are replaced and the existing wiring is deteriorated to the extent that malfunctioning is likely, the wires shall be replaced with new material to the next outlet source.

### C. FIXTURES AND WIRING DEVICES - Special Instructions

When a fixture, switch or receptacle is scheduled to be installed new with wiring, the item shall be installed complete with all wiring and accessories incidental to its proper functioning. (Bulb included)

When an item is scheduled to be replaced, the existing device shall be removed and a new fixture, switch or receptacle shall be installed and connected up to the existing wiring.

When an item is scheduled to be relocated or removed, *it* shall be removed complete (or when the existing outlet box and wiring cannot be removed, a blank cover plate shall be installed) and a new fixture, switch or receptacle shall be installed complete in a code approved or more appropriate location.

The contractor shall provide all lighting fixtures, complete with lamps, bulbs, glassware, mounting hardware, frames and trim, stems, ballasts, sockets, etc., to provide a complete operating fixture at each location as called for.

NOTE: Wiring shall be run concealed wherever called for. Any wiring to be installed by using EMT wire mold must be approved by the Rehabilitation Representative.

## 12 HVAC

New furnace system complete shall imply complete installation of furnace, thermostat, all necessary accessories and controls, main disconnect switch and all wiring complete ductwork system including flue pipe and adjustable registers.

New furnace shall imply the replacement of an existing furnace with a new one of similar size and type retrofitted to existing ductwork system including new thermostat. All work to be done by licensed mechanical contractor and final certificate of completion by governing jurisdiction or municipality must be presented before payment will be made for mechanical work.

### A. FURNACES GENERAL

#### 1. Material

Unless otherwise specified, furnaces shall be new natural gas fired forced air type, Comfortmaker, Armstrong, Luxaire, Janitrol, Carrier, Lennox, etc., or written approval equivalent of sufficient size to maintain an indoor temperature of 70 degrees Fahrenheit at a level 30" above the floor throughout the structure, when the external temperature is at 0 degrees Fahrenheit

#### 2. Installation

- a. Installation shall comply with National Fire Protection Standards (NFPA) and the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) guide of the Warm Air Heating and Air Conditioning Association as modified by local Codes.
- b. All work performed in the assembly, erection, installation, connection, etc., shall be in accordance with the manufacturer's recommendations. Mechanical equipment shall be so installed and located that inspection, routine maintenance, repair and/or replacement is possible without removing items of permanent construction. All approved gas burners shall bear the manufacturer's identification marking, the burner trade name and the model or size number and shall be UL listed. Dampers shall be provided when ducts also serve evaporative coolers.

### B. HEATING

All heaters will conform to the current, applicable Codes.

#### 1. Gas

Indicated model shall be installed in the area designated, and tested for proper operation. No unvented gas heaters shall be accepted unless specified in THE WORK WRITE UP.



## 12 HVAC

All gas installations shall be done by an approved technician and shall include all new lines and connections. All gas fired equipment shall provide full cut off electric ignition.

### 2. Electric

Indicated model shall be installed in area designated, and tested for proper operation. Individual heaters shall be on separate circuits.

### 3. Heater Repair

All Existing heaters are to remain. Heater shall be thoroughly cleaned and all worn or damaged parts, fittings and accessories replaced, and the entire system tested and left in perfect working condition, including thermostat, wiring, and all necessary controls. This will include, but not necessarily be limited to, cleaning the exchanger, burners, burner area, cleaning and oiling motor and cleaning the squirrel cage, checking and adjusting gas pressure with pressure gauge, adjusting the thermostat level and anticipator.

### 4. Replace existing inoperative thermostat with a new one, and test to ensure proper functioning of heating system.

All gas fired equipment shall provide full cut off electric ignition.

## C. DUCTWORK

### 1. Standards

a. Ductwork shall be of size and material as recommended by manufacturer. All ductwork shall be run through the area as stated in THE WORK WRITE-UP and all joints shall be fastened securely with metal screws. Ductwork shall include flue pipe if necessary. Installed to meet Code.

b. Where ductwork is to be added or replaced as stated in the WORK WRITE-UP. the following criteria shall be met:

1. A vent damper and controllable register is provided to each supply outlet in all rooms.
2. Return air from any living unit shall not be recirculated and delivered to any other living unit.
3. Supply ducts shall be on exterior walls where possible.

## 12 HVAC

4. Insulate supply ducts in unheated attic spaces, ventilated crawl spaces, on cold side of stud spaces in exterior walls, and other exposed locations to prevent excessive heat loss. Insulation may be omitted from ducts in crawl spaces having insulated walls.

2. Heating Ducts Extension

Contractor, when required, shall extend the necessary heating ducts from the existing system as indicated in THE WORK WRITE-UP or drawings. The system shall be installed in accordance with all applicable local codes.

3. Replace Missing Heating Registers

Replace all missing or damaged grills and/or registers for hot air or air-conditioning system.

### D. THERMOSTATS

#### Standards

All furnaces shall be equipped with a thermostat located on an inside wall, and properly sealed behind to prohibit drafts through interior wall. Verify location with the Rehabilitation Representative. Honeywell or approved equal.

### E. WIRING

#### Standards

All wiring for furnaces shall be in accordance with national electric code.

### F. SERVICING EXISTING HEATER AND AIR CONDITIONING SYSTEMS

1. Gas furnaces and/or Wall Heaters

Work shall include: Clean burners, combustion chambers, and flue of all gas fired heating units and install approved cap. Adjust flame and pilot, correctly set fan limit control and high limit control switches. Clean and oil blowers and motors and install new filter. Wrap with foil metal tape all joints and adjustable elbows on single wall flues. Contractor will operate unit long enough to establish proper operation, including automatic parts and controls.

2. Metal Duct Systems and Registers

Work shall include: Remove all registers and vacuum clean all horizontal ducts. Clean registers and oil moveable pans for easy operation. Provide proper size, usable metal baffles for furnace and evaporative cooler drops. If no provision exists for baffle installations, notify the Rehabilitation Representative.

## 12 HVAC

### 3. Central Refrigeration and/or Heat Pumps

Work shall include: Replace filters, necessary belts, oil all moving parts and clean duct. etc., from condenser and evaporator coils, check refrigerant charge and temperature differential, comb out grills of condensing unit, check if poor, fair, good, or excellent, and report if capable of adequately cooling and/or heating dwelling, so that no major repairs are done on obsolete units.

### G. AIR CONDITIONING SYSTEM

1. Leak check copper connector and pump down valves at condenser and evaporator.
2. Charge air conditioning system with proper refrigerant to proper running capacity to afford maximum efficiency and cooling.
3. Provide and install new plenum sized **to** fit existing air handler, securely attach to discharge end of horizontal or vertical evaporator unit.
4. Connect existing trunk and feeder ducts **to** new plenum. All joints, runs and connections shall be taped, stapled and bound with mastic and gauze intended for this use.
5. Check existing ductwork. Repair any existing holes, loose joints turns and connections. Any repair work shall be taped, stapled and bound with mastic and gauze intended for this use and type of duct system.

Note to Contractor: Completion of indicated repairs shall leave a completely operable system free from defects in ductwork and in copper refrigerant lines. System shall be fully operable by thermostat both in the heating and cooling mode and shall operate at maximum efficiency for that system.

### H. EVAPORATIVE COOLERS

Work shall include: Thorough cleaning and removal of excess scale, oil blowers and motors, and install new pads, replace belt if worn and set at proper tension. Adjust or replace <pulley so that load on motor is within recommended limit. Reset spacers to eliminate excessive noise. Service distribution spiders for equal flow on low water volume, including replacement or installation of restrictors. Install butterfly metering valve in water supply line adjacent to cooler if one does not exist. Replace drain fitting if leaking. When cooler stands are solid sheet metal on sloping roofs, cut an inverted 'V' on low side large enough to provide positive drainage out of the stand.

### F. GENERAL REOUIREMENTS: HVAC

The work of this section shall conform to the applicable requirements of all authorities having jurisdiction.

## 12 HVAC

### Standards

1. All permits, licenses and inspections required for the work of this section shall be secured and paid for as a part of the work of this section.
2. Workmanship shall be the best standard practice of the trade. Any illegal unvented space heaters discovered in a residence or outbuilding shall be pointed out to the Rehabilitation Representative.
3. The Homeowner shall be provide with all manufacturer's guarantees and warranties.

## 13 PLUMBING

### A. PLUMBING STANDARDS

#### 1. General Requirements

- a. The apparatus and materials installed as a part of the work of this section shall comply with local Plumbing Code or standards/code imposed by local jurisdictions or governing authority.
- b. The plumbing contractor shall obtain all permits and call for all inspections for the work of this section.
- c. All work to be done by Licensed Plumbing Contractor and final certificate of completion must be presented before payment will be made for plumbing work.

#### 2. General Instructions

All plumbing shall comply with Vinton County Codes. All vent stacks are to be concealed in the walls. The plumbing contractor shall verify adequacy of existing building "main" and plumbing before submitting his bid to general contractor. If existing plumbing is inadequate, the plumbing contractor shall notify the Rehabilitation Representative before submitting bid. Once contract is let, general contractor will be responsible for the passing of all plumbing by the plumbing inspector. Unless otherwise specified, all new gas and water supply and sewer drain lines both in the dwelling, and from the dwelling to the City main, are included. AU installed fixtures shall be caulked along floor and wall line for water tightness.

The Contractor shall furnish all instruments, gauges, and equipment required for testing and shall perform those tests required by the related authorities. Equipment, materials or work found to be defective during testing shall be replaced by new work and be re-tested until proven satisfactory.

The Contractor shall be responsible for securing all permits, approvals, inspections and licenses required for the work in this section.

All equipment and items installed under this section shall operate safely, without leakage, undue noise, vibration, corrosion or water hammer. All fixtures shall be securely supported so that no strain is placed on the connected piping. All work, fixtures and materials shall be protected at all times.

## 13 PLUMBING

AU excavation and backfill necessary for the installation of new underground piping shall be a part of the work of this section. The trenches shall be backfilled evenly and be thoroughly compacted using acceptable fill materials, in no case shall the excavation for the trenches undermine or disturb the stability of the building foundations.

When rough-in for new equipment requires connections to the existing plumbing system, the Contractor shall obtain all necessary data on locations, sizes, connections, fittings, and arrangements needed to assure the proper installation of that equipment.

All drilling, cutting and patching necessary for the proper installation of work under this section shall be done by the Contractor. All patching shall be of the same materials; workmanship and finish as the original work and shall accurately match all surrounding work.

All work shall be done without critical damage to structural members.

Sleeving shall be provided as required and upon completion of rough-in-work, sleeves shall be made sound and fire-tight.

All remaining plumbing fixtures and piping not in use shall be disconnected and removed by the Contractor.

The Contractor shall be required to wet test all plumbing systems at the expected working pressure of the system after repairs and/or replacements have been made.

All escutcheon plates shall be installed tight: caulked if necessary. The entire new and existing installations shall be left in a neat, clean and usable condition.

### B. PIPING MATERIALS

#### Materials

1. New soil and waste piping under the building to a point 2 feet outside of the building shall be serviced weight, cast iron, soil pipe and fittings or approved plastic pipe and fittings conforming to the applicable requirements of local Plumbing Code.
2. New soil and waste piping from a point 2 feet outside of the building to the street connection shall be schedule 40 PVC plastic or other piping acceptable to the local Plumbing Code.
3. New vent piping shall be galvanized steel pipe, standard black cast iron, DWV copper or plastic pipe conforming to the applicable requirements of the local Plumbing Code.

## 13 PLUMBING

4. New water and piping shall be CPVC, PEX or Type L or M copper above ground and Type K copper below ground. Joints in the copper piping above ground shall be formed with sweated solder fittings; there shall be no joints in the copper piping below ground or encased in concrete.
5. New fuel gas piping shall be schedule 40 black steel pipe with standard weight malleable iron 150 psi screwed fittings. All gas piping to be placed underground must be green.

### C. FIXTURES

Special Instructions .Fixtures must be Delta, Kohler or approved equal. No plastic fixtures may be used.

New plumbing fixtures shall be standard builder's models unless otherwise specified in the WORK WRITE-UP. Unless otherwise indicated, color of new fixtures shall match existing or be white.

AU new exposed trim; fittings and pipe in finished spaces shall be chrome-plated brass or be covered with chrome-plated brass sleeves except that laundry tray trim may be rough brass. No new trim shall be installed such that its outlet is below the rim of the fixture.

### D. WATER HEATER

Replace existing water heater with new 40 gallon glass-lined, quick recovery water heater. Heater shall be equipped with a high limit safety cut-off and a pressure relief valve to the outside. Heater shall have five year warranty and be energy efficient.

1. Gas water heater, Model Rudd RP 30-30 or equal. Provide heater with code approved vent to outside.
2. Electric round water heater as specified.

### E. KITCHEN SINK

Remove old kitchen sink and replace with new. Sink shall be two compartment:

1. Stainless steel, #20 gauge. 32" x 21", or equal. Sink shall be complete with stops. stainless steel basket strainers, trap, drain, ledge mounted swing spout, and sink faucet with spray and aerator.
2. Enameled steel with ledge, 32" x 21", as manufactured by Crane 5-131-S. or equal. Sink shall be complete with stops. stainless steel basket strainers, drain. traps. and ledge mounted swing spout, sink faucet with spray and aerator.

## 13 PLUMBING

### F. GARBAGE DISPOSAL

New garbage disposal shall be ½ horsepower, continuous feed type, with manual reset  
Shredder shall be stainless steel and hopper shall be corrosion resistant  
Disposal shall be installed complete. Mount shall be sound deadening. Modify  
existing drain piping as scheduled to accommodate new appliance.

### G. LAVATORY

#### 1. Wall Mounted

Package shall include new porcelain enameled cast iron lavatory, faucet with trip  
waste, fixture stops and supplies, trap, drain and wall hanger and legs.

#### 2. Lavatory (Vanity)

a. Vitreous china self rimming type.

b. Porcelain enameled self rimming type.

c. Imitation cultured marble top.

NOTE: INSTALLATION SHALL INCLUDE CENTER-SET FAUCETS, WITH POP-UP  
DRAIN, FIXTURES STOPS SUPPLY, AND TRAP.

### H. WATER CLOSET

Package shall include new water saver vitreous china bowl (siphon jet action type) with  
close-coupled tank and cover, plastic seat, flange and waxed ring, bolt and caps, fixture  
stop supply and float or flush valve with trip lever. Complete with 4" drain and vent.

### BATHTUB

Package shall include new porcelain enameled steel bathtub, pop-up waste and  
overflow with trap, fixture supply shut-offs or straight valve screw shut-offs where  
necessary. and when scheduled, concealed shower diverter with trim and fittings. Tub  
will generally be recess type, but bathroom layout may require corner tub.

Junction of ceramic tile and tub shall be grouted and junction of plastic waterproof  
material and tub shall be caulked with a silicone rubber sealant

### J. SHOWER AND TUB KIT

Package shall include new three piece fiber-glass (reinforced polyester resin) integral  
shower and wall surround tub kit or cultured marble kit complete with diverter. trim and  
fittings. Install as per manufacturer's recommendation.

Marlite Paneling will not be accepted.



## 13 PLUMBING

### K. SHOWER STALL

Install new metal enamel shower stall with pre-cast concrete base. 32" x 32", complete with necessary drain, vent, and two-valve mixer, and curtain rod.

### L. PLUMBING GENERAL

1. Where an existing plumbing fixture and/or its fittings cannot be brought up to acceptable condition, as determined by the Plumbing Inspector, new white fixtures and fittings equivalent to the following items shall be installed:
  - a. Bathtubs shall be American Standard Bildor 2265.254 right outlet or 2267.250 left outlet enameled cast iron recess bathtub with 1330.158 tub-shower diverter and 1576.289 pop-up drain or equal by other manufacturers.
  - b. Shower surrounds shall be famed in as necessary, covered with waterproof drywall, and finished with ceramic tile, or one-piece surround.
  - c. Vanities shall be wood minimum 24" wide with shelf, back shall be enclosed. Tops shall be cultured marble covering with washer less faucet assembly.
  - d. Toilets shall be American Standard Cadet 2 122.059 vitreous china close-coupled siphon jet action toilet or equal by other manufacturers, with Church 5200.159 molded wood white seat or equal. All-plastic seats are not acceptable. The porcelain caps covering the tops of the bolts securing the toilet to the floor will match the color of the toilet.

### M. SERVICING OF EXISTING PLUMBING SYSTEM

#### Plumbing repairs

All new exposed trim, fittings and pipe in finished spaces shall be chrome-plated brass or be covered with chrome-plated brass sleeves, except that laundry tray trim shall be rough brass. No new trim shall be installed such that its outlet is below the rim of the fixture.

#### 1. Water closet

##### Fill and flush mechanism:

- a. Replace ball cock assembly with float, and trip lever mechanism. If necessary replace handle, overflow and supply line. Handle shall be chrome-plated.
- b. Replace existing broken toilet seat with new seat and cover.

## 13 PLUMBING

- c. Fasten existing loose water closet securely to floor and caulk to make it watertight
- d. Replace existing wax ring with a new one.
- e. Replace existing supply with new chrome water shut-off and 3/8" chrome supply.

### 2. Bathtub and Shower Trim

Replace tub, faucet, handles, escutcheons, valve stems, shower head, shower control and any escutcheon plates. All exposed surfaces shall be chrome-plated.

### 3. Repair Tub Sliding Door

All channels and doors shall be put back into a sound condition. All seams shall be watertight Drain holes shall be unclogged.

### 4. Shower Head

New shower head shall be chrome-plated and of a style or type compatible with any existing trim.

### 5. Shower Diverter and Trim

Replace handles, escutcheons, valve stems, shower head, shower control with any escutcheons plates. All exposed surfaces shall be chrome-plated.

### 6. Shower Diverter and Trim

Remove existing bathtub faucet fixtures and replace with new:

- a. Three-valve diverter (with shower)
- b. Two-valve mixer (no shower)
- c. Two-valve chrome mixer for free-standing tub. Chicago Specialty. Model #355. or equal.

### 7. Tub Pop-up Waste and Overflow with Tray

Replace tub waste lever-escutcheon plate, pop-up or strainer, overflow and trap. All exposed surfaces shall be chrome-plated.

### 8. Lavatory

## 13 PLUMBING

Install new washer less lavatory combination faucet or individual faucets. Replace damaged or defective supply lines. Caulk all flanges to lavatory surface. Replace waste pop-up and lever as necessary. All exposed surfaces shall be chrome-plated.

### N. HOT AND COLD WATER SUPPLY SHUT-OFFS

New hot and cold water supply shut-offs for risers and groups and/or individual fixtures shall be conveniently located and easily accessible. Shut-offs shall be installed so as to allow individual shut-off of hot water tanks, water closets, lavatories, bath tubs, shower stalls, kitchen sinks and laundry trays.

### O. ROUTING DRAINS AND BUILDING SEWERS

Drains scheduled to be routed shall be cleaned with a power drive rotary cleanout apparatus similar to the "Roto-Rooter" device. Cleaning area drains shall include either replacing or re-caulking the drainage strainers. Building sewers scheduled to be routed shall be cleaned all the way to the main sewer connection(s). Drain when routed shall be free of all miscellaneous debris so as to allow the free and unobstructed flow of liquids and solids.

### P. VENT PIPING

New vent piping shall be schedule 40 galvanized steel pipe with standard black cast iron screwed fittings. DWV copper tubing or plastic approved by local jurisdiction. Vent piping shall extend at least 6 inches above finish floor surfaces. Vent piping shall be at least 1/2 of the diameter of the drain to which it is connected or be a minimum of 1-1/4 inches in diameter. Vent shall be into the soil stack or waste stack. No new vent piping shall be installed on the exterior of a building. New piping passing through the roof shall be flashed with a minimum 26 gauge galvanized iron flashing assembly or plastic flashing approved by Code. Flashing shall be set in waterproof mastic compound and be caulked around the vent

### Q. SEPTIC TANKS

1. The cleaning of septic tanks shall comply with the provisions of any State or Municipal Public Act or Law Amendments thereto.
2. SEWER LINE: Disconnect existing line to septic tank; septic tank to be drained. Top to be breached and filled with compacted dirt to existing grade. Provide and install new sewer line to main sanitary sewer to meet requirements of the local jurisdiction.

ALL PLUMBING WORK SHALL INCLUDE REPAIRS AND PATCHING OF DAMAGED WALL, CEILING, AND FLOOR SURFACES NECESSITATED BY THE INSTALLATION OF ANY PLUMBING MATERIALS.

## ABBREVIATIONS

AA	Aluminum Association
AAMA	Architectural Aluminum Manufacturers Association
AASHO	American Association of State Highway Officials
AC	American Concrete Institute
A.I.A.	American Insurance Association (Successor to NBFU)
AIMA	Acoustical and Insulating Materials Association (Successor to AMA and [B])
AISC	American Institute of Steel Construction
PUSI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMA	Acoustical Materials Association
ANS	American National Standard
ANSI	American National Standards Institute (Successor to USAS and ASA)
APA	American Plywood Association
API	American Petroleum Institute
ASA	American Standards Association
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASTM	American Society for Testing and Materials
AWL	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BMS	Building Materials and Structures (National Bureau of Standards U.S. Department of Commerce)
BY&D	Bureau of Yards and Docks, Navy Department
CDA	Copper Development Association, Inc.
CE	Corps of Engineers (Army)
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard (U.S. Department of Commerce)
CSI	Construction Specifications Institute
DFPA	Douglas Fir Plywood Association
FAA	Federal Aviation Agency
FGMA	Flat Glass Marketing Association
FIA	Factory Insurance Association
FM	Factory Mutual Engineering Division
FPL	Forest Products Laboratory, Department of Agriculture
FS	Federal Specification
FTI	Facing Tile Institute
GTA	Glass Tempering Association
HPMA	Hardwood Plywood Manufacturers Association
IEEE	Institute of Electrical And Electronics Engineers
[LI	Indiana Limestone Institute
MFMA	Maple flooring Manufacturers Association
MIA	Marble Institute of America
MR	Military Specification
MLMA	Metal Lath Manufacturers Association
NAAMM	The National Association of Architectural Metal Manufacturers

## ABBREVIATIONS

NBFU	Nation Board of Fire underwriters (See A.I.A.)
NBGQA	Nation Building Granite Quarries Association, Inc.
NBHA	National Building Hardware Association
NBS	National Bureau of Standards
NCMA	National Concrete Masonry Association
NEC	National Electric Code (of NBFU)
NEMA	National Electrical Manufacturers Association
NEMI	National Elevator Manufacturing Industry, Inc.
NFPA	National Fire Protection Association
N.F.P.A.	National Forest Products Association (Successor to NLMA)
NOFMA	National Oak Flooring Manufacturer's Association
NPA	National Particleboard Association
NRMCA	National Ready Mixed Concrete Association
NPVLMNPA	National Paint, Varnish and Lacquer Manufacturer's
NTMA	The National Terrazzo and Mosaic Association, Inc.
NWMA	National Woodwork Manufacturers Association
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PEI	Porcelain Enamel Institute
PS	Product Standard (U.S. Department of Commerce)
RMA	Rubber Manufacturer's Association
SCPI	Structural Clay Products Institute
SDI	Steel Deck Institute
SJI	Steel Joist Institute
SMACNSPA	Sheet Metal and Air-Conditioning Contractors National Association
SPA	Southern Pine Association
SPI	The Society of the Plastics Industry, Inc.
SPR	Simplified Practice Recommendation (U.S. Department of Commerce)
SSPC	Steel Structures Painting Council
SWI	Steel Window Institute
T&G	Toung and Groove
TCA	Tile Council of America
TSP	Trisodium Phosphate
UBC	Uniform Building Code of International Conference of Building Officials
UL	Underwriter's Laboratories, Inc.
USPHS	United States Public Health Service
WCLA	West Coast Lumbermen Association
WOFI	Wood Flooring Institute
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association