



**Planning and Community Development Department
City of Bellingham**

**HOME REHABILITATION PROGRAM
CONSTRUCTION STANDARD SPECIFICATIONS**

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I. GENERAL REQUIREMENTS

A. HOME REHABILITATION PROGRAM POOL OF CONTRACTORS

1. The City of Bellingham is committed to providing equal opportunities to State of Washington certified Minority, Disadvantaged and Women's Business Enterprises in contracting activities.
2. The City of Bellingham Home Rehabilitation Program (HRP) is open to all licensed, bonded, and insured general contractors experienced with the rehabilitation of single family (1-4 unit) homes.
3. Contractors interested in working through the Home Rehabilitation Program must complete a Contractor Qualification Form. The qualification form is available for pickup at the City of Bellingham, Planning and Community Development Department, 210 Lottie St Bellingham WA 98225 or on the web at <https://cob.org/services/housing/funding-opportunities/home-rehabilitation/rehab-contractors>.
4. All contractors that submit a contractor qualification form will be included in a contractor pool, they will then have the opportunity to respond to the City's Request for Proposal (RFP) on privately owned single-family (1-4 unit) rehabilitation construction projects. The City has elected to use the Competitive Proposal Process rather than the Sealed Bid process as permitted under 24 CFR 85.26(d)(3).
5. A background check is required to ensure contractors and sub-contractors are not debarred, suspended or otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension" (24 CFR 85.35).
6. This list of qualified contractors is intended only for the Home Rehabilitation Program. This list **is not** for the Small Work roster for Public Works Projects or for the City of Bellingham on-call list for consultant services.

B. CONTRACTOR LICENSING & BONDING REQUIREMENTS

1. General Contractors that work on Home Rehabilitation Program projects shall hold and maintain a valid Washington State Contractors License and a valid City of Bellingham Business License.
2. The General Contractor shall meet the bonding requirements of Washington State Department of Labor and Industries for the General Contractor's License.
3. All sub-contractors shall also meet the above license requirements.
4. All Contractors shall furnish evidence of comprehensive public liability insurance coverage for not less than \$1,000,000/\$300,000 bodily injury including death, and \$50,000 property damage.

C. COMPETITIVE PROCESS/PROCEDURE

1. As HRP projects become available, contractors on the HRP list of contractors shall be notified of the Request for Proposals (RFP) via email.
2. The HRP list of contractors is not exclusive; contractors or other firms wishing to submit a response to the RFP may complete and return a Contractor Qualification Form to qualify at any time prior to the due date specified in the RFP (24 CFR 85.36(c)(4)).

3. The "Competitive Proposal" method of soliciting proposals shall be used as outlined at 24 CFR 85.36(d)(3) to competitively seek contractors for HRP projects.
4. Responses to the RFP will be received for the execution of the entire work called for on drawings and specifications, and each contractor will be required to include all the various branches and subcontracts as listed therein.
5. A minimum of three proposals shall be solicited for each project.
6. The RFP shall consist of:
 - a. Contact information: The homeowner's address & phone number.
 - b. The Scope of Work for the project.
 - c. Drawings and/or floorplans of the project, as applicable; and
 - d. The deadline for submittal of proposals.
7. HRP Projects are not subject to the Davis-Bacon Act (prevailing wage) per 24 CFR §570.603(a) for CDBG -funded projects and 24 CFR §92.354(a) for HOME-funded projects
8. An addendum (Addenda) is (are) written or graphic instructions issued by the HRP prior to the receipt of responses to the RFP in accordance with these procedures, which interpret, clarify, correct, modify, add, or delete portions of the RFP. Addenda will become part of the Contract when the HRP Construction Contract is executed.
9. Responses to RFPs may be submitted via email or hand delivered to the HRP located in the Planning and Community Development Department in City Hall at 210 Lottie St, Bellingham WA 98225.
10. Any responses received after the deadline will not be considered.
11. Upon review by the HRP and the homeowner of all RFPs received by the deadline, the successful responder with the lowest responsible cost estimate will be notified and given the opportunity to perform the project.

Exceptions: The homeowner has the option to choose a contractor with a higher priced proposal contingent on the homeowner paying the difference out of pocket between the lowest responsible estimate and the contractor of the homeowner's choosing.

D. PROTEST

There is no right of protest in the RFP process.

E. RIGHTS OF REJECTION OF RFP RESPONSES AND NEGOTIATION

Parties submitting responses to the RFP are to understand that the City of Bellingham and/or the owner of the property, reserves the right to negotiate the final agreed figure, and to reject any and all responses.

F. LABOR AND MATERIAL

Each contractor is to furnish all transportation, labor, materials, scaffolding, tackles, and tools at his/her own expense which may be necessary to the completion of the contract. Unless otherwise specified and authorized, all materials must be new and the best quality called for, and the labor performed by craftsmen skilled in their trade.

G. OMISSIONS

In case of materials that have been omitted (all trades) from the plans, and are necessary for a complete job, the contractor shall furnish and install same of equal quality to that specified.

H. SUBSTITUTION

Reference to a specific product by trade name is for clarity only in establishing quality standards. Before any substitution is made of lesser grade or quality, prior approval must be obtained in writing. It is not the intent to exclude any product of equal merit to those specified.

I. ALTERNATES

Alternates shall be listed in a separate paragraph in bid form under the branch of work for which the alternate is called.

J. AS-BUILT RECORDS/CHANGE ORDER

1. Contractor shall keep up-to-date records of all changes or deviations from indicated work, whether because of Change Order or job conditions.
2. All changes to original contract amount will be in writing using an HRP change order form, signed by all parties (Contractor, homeowner and HRP staff). The change order shall be signed by all parties *prior to* the performance of the additional work.

K. SITE CONTIDIONS

1. It is understood that the property shall be occupied by the homeowner for the duration of the HRP project.
2. The site shall be left 'broom clean' at the end of each working day.
3. All debris generated from the project shall be recycled to the maximum extent practicable before going to a landfill.

II. APPLICABLE CODE REQUIREMENTS

A. Permits

Contractor is responsible for ensuring that all applicable permits are obtained and finalized for building, plumbing, mechanical, and electrical work performed on HRP projects.

1. Unless a more stringent or specific requirement is specified in these Standards, all new work performed by the contractor shall comply with current International Residential Codes (IRC), Uniform Plumbing Code (UPC), National Electric Code (NEC) and any applicable local amendments.
2. All existing structural, mechanical, plumbing, electrical components, and systems, including emergency egress, shall comply with the currently adopted edition of the International Property Maintenance Code.
3. In all cases, smoke and carbon monoxide (CO) detectors with audible alarms and heat detectors or other required detectors shall be installed to the current International Residential Code and any applicable local amendments.

III. INDOOR AIR QUALITY

A. Low/No VOC Adhesives and Sealants

1. All interior adhesives must comply with the most recent version of Rule 1168 of the South Coast Air Quality Management District available here:
<https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/regulation-xi>
2. Adhesives caulks and sealants that are used outside the weather resistive barrier or to seal the weather barrier to the building openings are exempt from this mandatory requirement. The weather resistive barrier includes the roof membrane.

B. Interior Composite Wood Products

1. Composite wood products exposed to the interior (inside the weather resistive barrier) shall be free of added urea formaldehyde. This includes particleboard, plywood, OSB, medium density fiberboard, cabinetry, and any other wood products.

IV. ROOF/GUTTERS

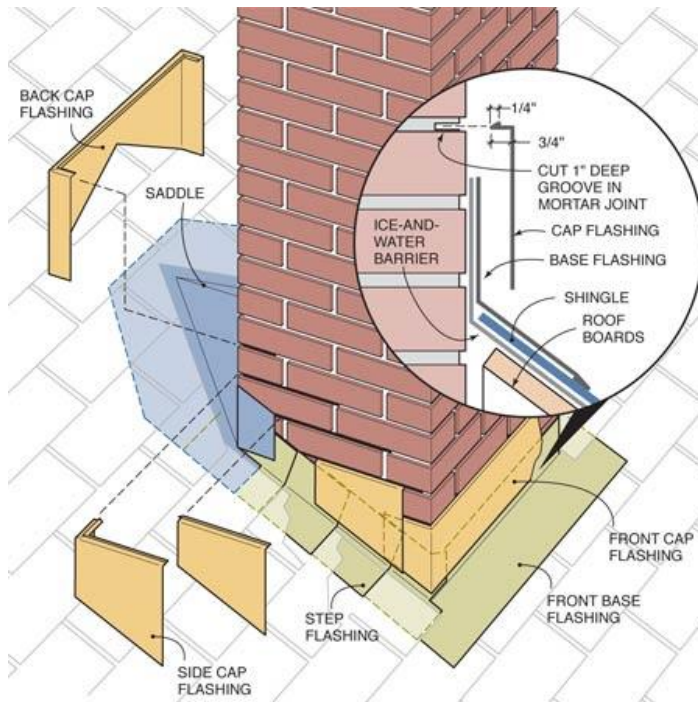
A. Roof Covering

1. All new roof sheathing shall be installed to current IRC standards and Municipal Code specifications. Where a new section of sheathing meets an existing roof section, the joint shall be flush and level.
2. All shakes, composition laminate singles, built up roofs or other material, shall be installed to current IRC standards and product manufacturers' installation specifications.
3. Approved composition shingles shall be Iko, Pabco or approved equal Class C, Mineral Surface Asphalt 235 lbs./sq or better, dual-layer laminated asphalt shingles applied to manufacturer's specifications. It should be noted that fiberglass shingles are not 235 lbs. but offer A fire rating and a 30% longer guarantee.
4. Re-roofing shall comply with current City Code specifications. The existing roof surface should be smooth, secure and sound. Final inspection problems will require re-installation at the expense of the contractor.

B. Flashing and Counter Flashing

1. Flashing shall be installed at the eaves and rake edges; step flashing installed where any roof meets a wall.
2. Cap flashing at chimneys shall be set ¾" into the mortar joints with mortar or approved sealant.

Chimney Flashing Detail



3. All flashing to be installed to industry standards and IRC specifications.
4. Galvanized metals in flashing or other roofing materials shall be painted or otherwise sealed to prevent rain from introducing zinc into the runoff.

C. Gutters and Downspouts

1. Complete new installation shall be of enameled aluminum or baked enamel on steel. Minimum thickness of aluminum shall be .027" and of steel shall be 29 gauge.
2. Partial repairs and replacement shall be of like kind and material, properly cleaned, primed and painted. Do not mix aluminum or copper with galvanized materials.
3. Galvanized metals in gutters must be painted to prevent rain from introducing zinc into the runoff.

V. SIDING/DECKS

A. Existing Siding

1. Existing siding, when not required to be replaced, shall have all rotted, broken or otherwise deteriorated materials removed and replaced with like material, properly nailed and finished.

B. New Siding Materials

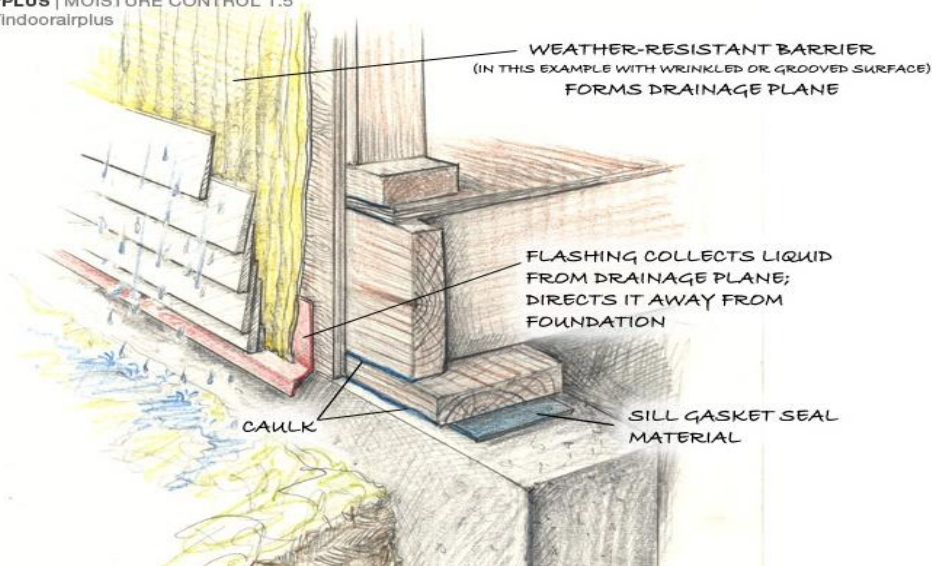
1. T - 111 5/8" structural plywood sheathing.
2. Primed fiber cement vertical panels – Hardie Plank, GAF or approved equivalent.
3. Beveled Cedar Siding.
4. Fiber Cement lap siding - Hardie Plank, GAF or approved equivalent.
5. Engineered Wood Siding products; vertical panels and/or lap siding, require approval prior to installation.

C. Drainage Plane

1. When a large area of siding is replaced (i.e. entire exterior wall plane), a weather resistive barrier and drainage plane/rain screen shall be installed behind the new siding.

2. The drainage plane shall provide a permanent and predictable “Gap” of at least 1/8” to allow moisture and water to drain freely and provide an area of air movement.
3. Screen shall be installed at the top and bottom of the drainage plane to prevent pest intrusion.

EPA Indoor airPLUS | MOISTURE CONTROL 1.5
www.epa.gov/indoorairplus



**Drainage
Plane & Drip
Edge
Flashing with
Wood
Horizontal
Siding Detail**

D. Decks

1. Footings

- a. Decks under 200 SF: Pier blocks set level on undisturbed native soil, w/adjustable saddles.
- b. Decks over 200 SF: Shall comply with the requirements of current IRC, poured concrete footings, same (min) depth as for foundations.
- c. Posts and beams supporting the deck shall be structurally rated naturally resistant to decay or equal pressure treated wood. Pressure treated wood shall be rated for ground contact as required by code.

2. Ledger board

- a. Lag or through-bolted to rim joist. Lags or bolts exposed to moisture are to be hot dipped galvanized, stainless steel or equal.
- b. Ledger shall be properly flashed to prevent moisture intrusion into the building envelope.
- c. Deck joists attached to ledger with appropriately sized joist hangers listed for exterior use (z max or equal). Joist hanger nails to be listed for use with the selected joist hanger in exterior conditions.

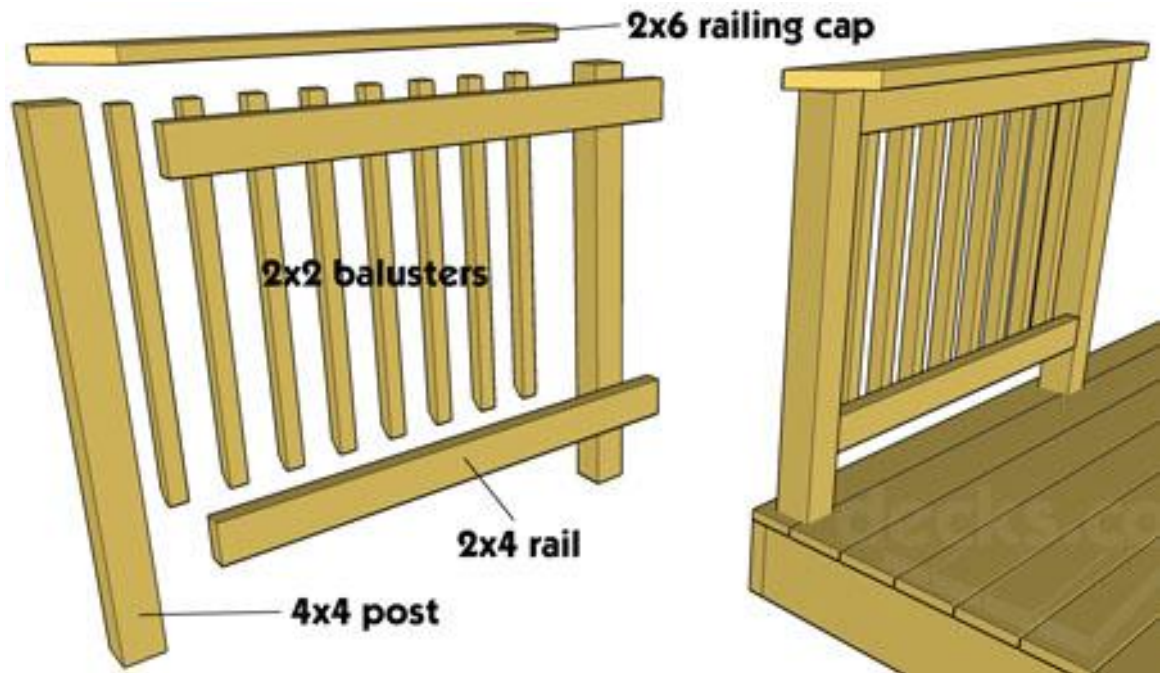
3. Deck planks

- a. Materials: 5/4 cedar or treated wood, Trex or approved equal.
- b. Fastened to joists with approved screws (stainless steel, hot-dip galvanized).
- c. 2 screws (min) on deck planks at each joist.
- d. Wood planks sealed with 2 coats quality water seal.

4. Guardrail required for decks over 30" above finished grade and installed to current IRC.

5. Stairs shall have a firm and level landing 36" min. in the direction of travel at the base of the stairway.

6. **Handrails** shall have a graspable handrail and be installed at stairs that meet current IRC requirements.



Deck Guardrail Detail

E. Exterior flooring

1. 1" x 4", top grade vertical grain Douglas Fir, Grade "C" or better, unless otherwise specified. Exterior grade 1/2" Douglas Fir plywood or MDO may be substituted under some circumstances upon approval.
2. If the exterior flooring will be exposed to weather, the wood must be pressure treated.

VI. EXTERIOR DOORS/WINDOWS

A. Exterior Doors

1. Exterior doors shall afford safety and protection for the household, person, and possessions of the occupants, and shall be easily and readily maintainable.
2. When replacing the main egress door, it shall be side-hinged, and shall provide a clear width opening of not less than 32" in width and 6'-8" in height.
3. Other exterior doors shall be a standard 6'8" height unless otherwise specified, and shall be Energy Star Rated (refer to Energy Star website: www.energystar.gov/products).
4. Exterior doors, when replaced, shall have aluminum thresholds. A key-operated lock and at least two keys shall be furnished to the owner on completion of construction.
5. Installation of new exterior door unit to include door, jamb, weatherstripping, trim, threshold and hardware. Install door plumb with 1/8" clearance at head jamb and 1/8" clearance at floor threshold or rug, whatever the case may be.
6. Mortise new door to receive appropriate lock. Door shall have dead pin lock and peep hole. Adjust all hardware so door works properly.

B. Aluminum Combination Storm Doors

1. Minimum 1" stock aluminum storm door. Door is to be pre-hung aluminum with storm chain, hydraulic closer, and lock-in latch.
2. When replacing existing door, new door swing to be the same. Patch scarring from old door.
3. The owner shall be permitted to select either natural finish or baked enamel finish.
4. All glass must be safety glass and contain push bar grille. All doors must have a minimum of one aluminum or fiberglass screen insert.

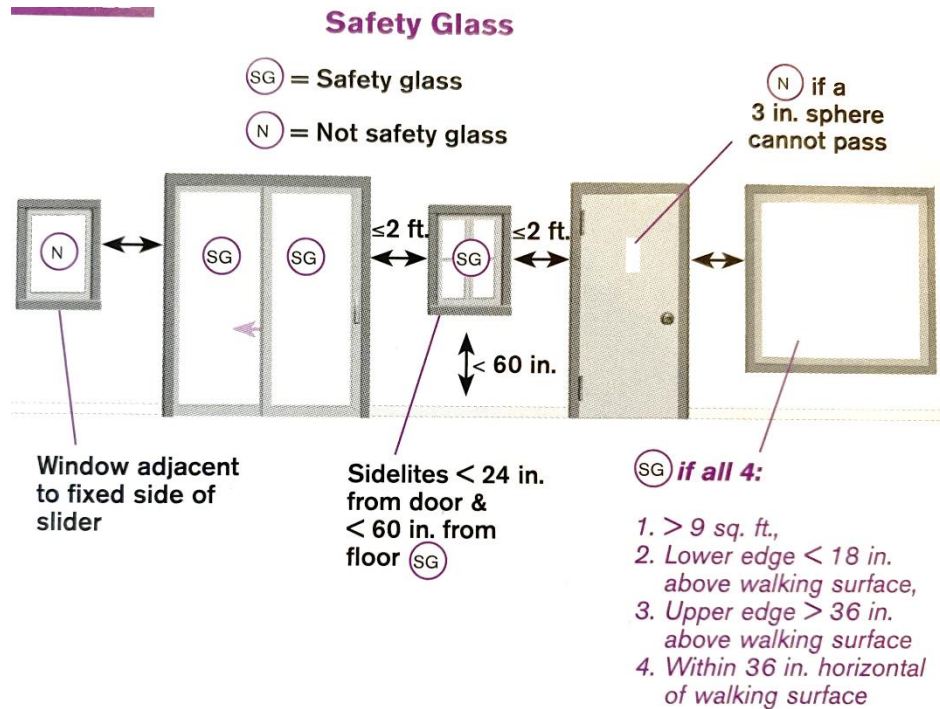
C. Locks

1. Entrance Locks: To be keyed Kwikset (#400B), Westlock, or equal.
2. Passage Set: To be Kwikset (#200B), Westlock, or equal.
3. Bedroom Lock: To be Kwikset (#300B), Westlock, or equal.
4. Bath lock will be "privacy".

D. Windows, General

All replacement windows shall;

1. Be Energy Star labeled (refer to Energy Star website: www.energystar.gov/products).
2. Meet current Washington State Energy Code (WSEC) requirements.
3. Be double pane, with minimum heat transmission of U-30 or better.
4. Be installed and flashed per the manufacturer's installation instructions.
5. Have new wood stops installed unless otherwise noted.
6. Have a positive weeping system
7. Be lockable.
8. Where safety glazing is required, it shall meet the glazing requirements of the current IRC.



9. When bedroom windows are to be replaced and the rough opening will not be enlarged, the new window shall meet the current IRC requirements for emergency escape and

rescue opening requirements to the maximum extent practical. Typically, this requires installation of a casement window.

E. Double Hung Windows (Wood)

1. Double hung windows being installed shall have aluminum flashing at head, weather stripped & spring balanced with locks and pulls installed.
2. Andersen, Jeld-Wen, Marvin or approved equal to be used.

F. Vinyl windows

Vinyl windows shall be constructed of quality vinyl, have multi chambers and welded corners. Certaineed, Milgard, Weathervane or approved equal to be used.

G. Skylights

When skylights are replaced, all skylights shall meet a minimum efficiency rating of the current Washington State Energy Code.

H. Glazing

1. All glass for windows and doors shall not be less than "B" quality.
2. Glass set in wood shall be secured in place with glazing points and face puttied. In doors, bedded in putty and secured with wood stops.

I. Caulking

1. Caulk open joints around all exterior door and window openings and at all other exterior openings where there is a possibility of moisture penetration through expansion and contraction of joints.
2. Gaps larger than ¼" to be filled with backing rod, low expansion foam, or wood, prior to caulking.
3. Where applicable, caulk all exposed edges of steel lintels and stone sills.
4. The contractor shall check all exterior surfaces of the property to become familiar with the extent of the caulking involved. Only a complete and weather-tight job shall be accepted.
5. Color of compound shall be neutral gray and paintable unless specified otherwise.

VII. CARPENTRY MILL WORK TRIM AND FINISH

A. Walls and Ceilings

1. Unless otherwise specified, when wall and ceiling coverings are replaced or repaired, materials shall be "like for like": lath and plaster replaced with lath and plaster, gypsum wall board ("drywall") with gypsum wall board (GWB). Thickness of new material to match existing.
2. All GWB joints shall be taped, outside corners shall have metal corner bead and "L" type channel beads where drywall meets other surfaces. ALL GWB finish work shall be a three-coat system, tape, second and finish coat . All blown texture (knockdown) shall be light or medium finish only - no coarse.
3. Finished surfaces shall be ready for painting or decorating.
4. Surfaces are to be glued, nailed, or screwed per manufacturer's instructions. Use the "double nail" method.

B. Sub floor

Minimum thickness per current IRC, approved grade structural panels.

C. Underlayment

1. Unless otherwise specified, underlayment shall be marine or underlayment grade solid core plywood, 1/4" minimum thickness.
2. No resilient floor covering (such as vinyl) shall be installed over a board or plank floor or sub floor. Meeting edges of the underlayment must be nailed to the same sub floorboard. Joints and nail heads shall be filled with a minimum of Durobond 90 and properly sanded.

D. Floor Covering

1. **General** – When flooring is to be replaced, upon removal of the floor covering, the subfloor shall be inspected for damage, repaired, and leveled prior to installation of new underlayment and flooring. Floor substrate shall be appropriate for the proposed floor covering. Ceramic tile shall have a cementitious board substrate and other coverings shall be of manufacturers specifications of the floor covering.
2. **Floor Tile**
 - a. The proper trowel and mortar are to be used to install new floor tile. Floor tile to be installed to current building codes and manufacturer's specifications.
 - b. Tile shall be porcelain or ceramic. Glass or stone tile allowable upon approval. Brand: Armstrong, Kentilex or equal.
 - c. Thinset adhesive is preferred over organic mastics. Ensure adhesive used is low VOC, designed for this purpose and applied to manufacturer's specifications.
3. **Sheet Flooring**
 - a. Materials approved for use; linoleum, marmoleum, cork, FloorScore certified sheet vinyl.
 - b. Adhesive to be low VOC.
 - c. New sheet flooring shall have a wearing surface of no less than .010 millimeters, meet or exceed FHA requirements, and shall be labeled as such.
4. **Carpet**
 - a. New and Replacement carpet shall be Green Label Plus or similarly certified carpeting, Armstrong, Mohawk, Shaw or approved equal.
 - b. No carpet shall be installed within 3 feet of an exterior entryway or plumbing fixtures.
 - c. All pad and carpet to meet FHA minimum requirements for the use area as applicable (Moderate Wear Area or Heavy Traffic Wear Area).
5. **Wood Flooring - Hardwood**
 - a. Use of recycled/sustainable hardwood wood flooring is encouraged whenever possible.
 - b. Hardwood flooring shall be pre-finished.
 - c. Vapor barrier installed under all hardwood flooring, 15 pound tar paper (min).
6. **Luxury Vinyl Plank (LVP)/Engineered Vinyl Plank (EVP) Flooring**
 - a. Vinyl Plank flooring type shall be pre-finished, glueless ('floating') with a wear layer of 3mm (min) thickness and overall thickness of 10mm(min).
 - b. LVP flooring shall be FloorScore-certified or GreenGuard-certified.
 - c. Underlayment foam shall be "Combo" type (foam w/ vapor barrier layer), 3mm(min) thickness.
 - d. Laminate Vinyl flooring shall be installed to manufacturer's specifications.

E. Interior Doors

1. Interior doors, when replaced, shall be solid core to the maximum extent practical. Hollow core doors shall have cardboard or similar spacers to maintain internal stability within the door.
2. Interior doors shall be standard 6'8" in height and shall be a standard 1-3/8" in thickness, unless otherwise specified.
3. Interior doors shall be installed plumb, with 1/8" clearance at head and jamb and 1/8" clearance at floor threshold or rug, whatever the case may be. Mortise new door to receive an appropriate knob (Weiser or equal).
4. All bath and toilet compartment doors will be provided with a lock-in knob.
5. Adjust all hardware so door works properly and leave door clean, smooth, and finished as specified.

F. Kitchen Cabinets/Countertops

1. Kitchen cabinets

- a. Kitchen cabinets by Hampton Bay, Kraftmaid, or equal.
- b. Custom cabinets shall be constructed and finished to meet the above quality and finish.
- c. Steel cabinets shall not be used unless specifically listed in the bid specifications.
- d. Unless stated, pressboard cabinets are unacceptable.

2. Countertops

- a. Counter tops shall be securely bonded to 3/4" plywood high density particle board or equivalent materials.
- b. Top materials shall be Formica or equal. Color and pattern to be specified by owner.
- c. A 4" back splash (min) shall be provided when abutting walls. Backsplash shall be sealed with low VOC silicone rated for use in wet areas to prevent moisture intrusion.
- d. All edging and trim moldings to be in accordance with standard local practice.

G. Stairways

1. **Stairways**, including basement stairs, shall be constructed to meet current IRC requirements.
2. **Base molding**
 - a. Rubber base- Armstrong 4" vinyl base or equal. Color to be selected by owner.
 - b. Wood base- 2-1/2"(min height). Materials: solid wood, formaldehyde-free MDF. Corners shall be mitered. Style selected by owner.
 - c. *MDF base molding is not to be installed in wet areas (i.e. kitchens or bathrooms).

VIII. PAINTING AND DECORATING

A. Lead Based Paint

1. Any painted surface on houses built before 1978 that will be worked on per the scope of work shall be assumed to contain lead-based paint, or a third-party Lead-Based Paint Risk Assessment shall be obtained prior to posting a Request for Proposals that identifies all lead-based paint hazards. Any work on lead-based painted surfaces shall be accomplished by RRP certified firms and RRP certified employees using lead-safe work practices (LSWP)

according to HUD/EPA guidelines. A current copy of firm and employee certifications shall be made available to be kept on file with the HRP. Please note that HUD requirements for work on lead-painted surfaces differ from EPA's RRP requirements.

2. No paint containing more than .05% lead by weight (calculated as lead metal) in the total non-volatile content of the paint or equivalent measure of lead in the dried film of paint already applied, shall be applied to any surface.
3. Any interior surface or accessible exterior surface on which lead-based paint is cracking, scaling, chipping, peeling, or loose is considered an immediate hazard, due to the threat to life and safety posed by lead poisoning. All such defective paint surfaces shall be thoroughly cleaned (washed, sanded, scraped, wire brushed, and otherwise cleaned) to remove all cracking, scaling, peeling, chipping and loose paint. Bare wood shall be primed with a primer approved for use on lead-painted surfaces and repainted with a suitable non-lead paint.
4. Where the paint film integrity of the surface cannot be maintained, the paint shall be completely removed or the surface recovered with a suitable material such as gypsum wall board, plywood, or plaster before any repainting is undertaken.

B. Painting and Decorating

1. General

- a. Paint Brands approved for use: Sherwin Williams, Behr, Dutch Boy, Olympic Stain, C & C, Preservative Paint, or equal.
- b. All paints or other coatings shall be delivered in their original containers. All products specified must be applied as per manufacturer's instructions.
- c. Contractor shall request color selections and styling data from owner.
- d. Whether painting the interior or exterior, all areas shall be covered with drop cloths to protect household belongings and landscaping from splattering.

2. Exterior

- a. Exterior Wood Surfaces: Knots and resinous wood shall be sealed with a prepared knot sealer prior to priming. Any nail holes or cracks shall be filled with exterior grade wood filler.
- b. Masonry and wood and metal surfaces shall be free of loose and scaling paint before applications of primers and paints.
- c. Wood Porch Floors and Decks: Apply one coat of primer and at least one coat of floor and deck enamel designed for exterior use.
- d. Concrete masonry units or brick: Concrete masonry units or brick, except foundation walls, shall be painted to provide a water-resistant finish when applicable.
- e. No finish coat shall be applied until prime coat has been inspected. Paint contractor shall be responsible to call for this inspection.

3. Interior

- a. Quality low VOC paint shall be used on interior surfaces.
- b. New Plaster Work: All new plaster work shall receive one coat of wall primer and sealer before painting or wall papering.
- c. Drywall: All new drywall surface shall receive one coat of PVA wall primer before painting or wall papering.

- d. All finish coats in kitchen and bathrooms shall provide a durable and washable finish.
- e. Wallpaper: Wall paper in kitchen and bathrooms shall be waterproof type or shall be waterproof.
- f. No finish coat shall be applied until prime coat has been inspected. Paint contractor shall be responsible to call for this inspection.

IX. PLUMBING FIXTURES AND ACCESSORIES

All new work shall comply with the current IRC and UPC, applicable permit obtained and be inspected and approved by the Municipal Inspector prior to acceptance.

A. Fixtures

1. To the maximum extent practical, all new plumbing fixtures shall comply with water conservation limits as specified in the WaterSense EPA Partnership Program (www.epa.gov/watersense).
2. Bathtub - Porcelain enameled cast iron, porcelain steel or acrylic or fiberglass reinforced plastic.
3. Lavatory - Vitreous china - wall-type or vanity base as specified.
4. Water Closet - Vitreous china (floor fastened).
5. Kitchen Sink - Double bowl cast iron, stainless steel, or porcelain steel sink - 3 hole, 24" x 21". Fittings shall include a mixing faucet with movable spout and a basket-type strainer.
6. Approved listed brands such as Crane, Eljer, Kohler, American Standard, or equal quality. Variations of bathtub and kitchen sink size or type may be called for in the bidder's specifications when necessary.

B. Accessories

1. Grab bar and soap dish at bathtub.
2. Grab bar and toilet paper holder at water closet.
Note: Grab bars shall be positively anchored to studs in the wall.
3. Soap dish at lavatory (may be integral with lavatory).
4. Towel bar (24" x 3/4" square-surface mounted).
5. Mirror and medicine cabinet or equivalent enclosed shelf space (Miami-Carey 13" x 19").
6. In all cases where a shower head is installed, provide a shower rod or a shower door.
7. Above materials shall be heavy chrome plated.

C. Water Heaters-Gas Fired or Electric

1. Replacement water heaters tank and tankless shall have plumbing permits obtained, inspected and approved prior to final acceptance and final payment.
2. Water Heaters to be Energy Star labeled to the maximum extent practical. Refer to Energy Star website (www.energystar.gov/products) for current energy star ratings.
3. Water Heaters: AUI type, glass lined (Rheem or equal) storage capacity shall be not less than 40 gallons for gas fired water heaters and 50 gallons for electric heaters and shall provide hot water in quantities sufficient for the needs of the occupants.
4. Direct fired water heaters shall be listed and labeled by an approved listing agency and installed in accordance with the listing unless otherwise indicated.

5. All water heaters shall be provided with a combination temperature and pressure relief valve. Blow off pipe to terminate at exterior of building or approved locations.
6. All water heaters shall be provided with seismic restraint in accordance with current IRC and UPC.

X. ELECTRICAL FIXTURES AND APPLIANCES

A. General

In all cases, light fixtures, switches, convenience outlets, etc., shall be UL approved. The quality in keeping with the General Standard of construction involved, if not otherwise specified and approved.

B. Service Panels

1. Screw-in type fuse panels shall be replaced with circuit breaker type service panels.
2. New panels shall be 100A min. Panels upgraded to 200A on a case-by-case basis.
3. Service panels to be grounded to current codes.

C. Smoke Detectors and Carbon Monoxide Detectors.

1. Smoke detectors and Carbon Monoxide Detectors with audible alarms shall be installed where missing and as required by current IRC, using First Alert, Kidde, or approved equal.
2. Smoke Detectors shall be hard wired as required by the current IRC. Hard wiring is not required if it is necessary to remove wall or ceiling finishes to supply building power to the smoke alarms.
3. Smoke detectors shall be interconnected to the maximum extent practical. Interconnection can be achieved either through hard wiring each of the units or through a wireless connection with at least one smoke detector hard wired.
4. Installation of dual sensor Smoke detectors (ionization and photoelectric) is encouraged.
5. Carbon Monoxide detectors shall be installed to meet current IRC.
6. Carbon Monoxide Detectors are required regardless of presence of combustion appliances.
7. Combination smoke detector and carbon monoxide detectors are allowable where practical.

D. Light Fixtures

New or replaced light fixtures shall be High Efficacy Luminaires, whose lamps or other light source have a minimum efficiency of;

1. 60 lumens per watt for lamps over 40 watts,
2. 50 lumens per watt for lamps over 15 watts to 40 watts,
3. 40 lumens per watt for lamps 15 watts or less.

E. Ground Fault Circuit Interrupter (GFCI) Receptacles

Ground Fault Circuit Interrupter (GFCI) outlets shall be installed where required by current NEC:

1. Kitchen receptacles within 6' of the sink
2. Bathroom receptacles
3. Laundry room receptacles
4. Exterior receptacles (exterior outlets also require installation of a weather protective cover)
5. Receptacles located in the crawlspace.

F. Arc Fault Circuit Interrupter

UL approved combination type Arc Fault Circuit Interrupter breakers or receptacles shall be installed where required by current NEC and when:

1. New circuit and wiring is installed.
2. Existing circuits are modified or extended.

G. Appliances

When appliances are specified to be replaced, the new appliances shall be Energy Star labeled, as applicable. The following models are suggested as minimum standards. All are to be installed in compliance with current IRC, IMC, NEC, IFGC and to manufacturer specifications.

1. **Stove**- Frigidaire, Magic Chef, General Electric, Westinghouse
2. **Range hood** - Whirlpool, Kenmore, Broan. Range hoods shall be variable speed w/light, 200 CFM (min) and be vented to the outdoors.
3. **Refrigerator** - Frigidaire, Magic Chef, General Electric, Westinghouse.
4. **Dishwasher** - General Electric, Whirlpool, Maytag. Dishwashers to have several wash cycle options.
5. **Garbage Disposal** - General Electric, In-Sink-Erator, Kitchen Aid. ½ HP (min) continuous feed, sound insulated.
6. **Bath Fans** - Panasonic Whisper Green or equal, 80 CFM (min) vented to the exterior of the building envelope.
7. **Washing Machines** – When a washing machine is to be replaced with HRP funding, the new washing machine shall be Energy Star labeled; General Electric, Kenmore, Whirlpool or equal.
8. **Clothes Dryers** - General Electric, Whirlpool, Kenmore or equal, vented to the outdoors with metal ductwork.
9. All appliance warranties shall be properly recorded with the manufacturer and evidence of same delivered to the owner at contract completion. Any rebates shall go to the homeowner.

XI. HEATING

A. Heating-Gas Furnace Installation

1. Replacement gas furnaces shall have mechanical permits obtained, inspected and approved prior to final acceptance.
2. Be Energy Star labeled with a 95% AFUE (min) rating. Brands- Lennox, Tappan, Warner, Trane or equal quality.
3. Mechanical Contractors shall be responsible for any new gas line or electrical wiring required for this installation.
4. Heating systems shall be designed, installed and balanced or adjusted to provide for the distribution of heat to all habitable rooms and other spaces (including bathrooms) in accordance with the calculated heat loss of the spaces to be heated.
5. Whenever new work, such as heat runs, cold air returns, chimney pipes, etc., are exposed in any habitable room or bathroom, the heating contractor shall be responsible for the boxing in of such work and finishing same in a manner appropriate to the area involved.

B. Ductwork Located in Unconditioned and Semi-conditioned Spaces

1. All existing ductwork shall be inspected. Damaged ducts are to be repaired or replaced with new ductwork.
2. All joints are to be inspected to assure they are mechanically fastened as required by the mechanical code.
3. All existing ducts shall be insulated to R-8(2-1/2") if the existing insulation is less than R-4(1-1/2") insulation.

C. Heating - Space and Wall Heaters

1. Room and wall heaters: Gas-fired heaters shall be listed by AGA.
2. Electrical forced air wall heaters, where specified, shall be UL approved.

XII. WEATHERIZATION

A. General

When weatherization is specified, a prescriptive method of weatherization and air sealing shall be used.

B. Mechanical Ventilation

1. Provide a whole house mechanical ventilation system in compliance with the IRC and Washington State Energy Code.

C. Air Sealing

1. All accessible exterior joints around windows and door frames, openings between walls and foundation, between walls and roof and wall panels; openings at penetrations of utility services through walls, floors and roofs; and all other openings in the building envelope shall be sealed, gasketed or weather-stripped to prevent air leakage.
2. All exterior doors or doors serving as access to an enclosed and conditioned space shall be weather-stripped to prevent leakage around their perimeter when in a closed position.

D. Insulation

1. Batt Insulation

- a. Fiberglass or similar material, either 15" or 23" widths, for exterior and interior walls when specified. Insulation of attic space shall, in all cases, be R-49 minimum thickness, R-15 minimum for exterior walls and R-30 minimum for floors. Where wall cavities allow R-21 batts, the minimum standard is R-21.
- b. If water pipes are located in an unconditioned space(attic or crawlspace), water pipe insulation shall be included with insulating that space.

2. Blown Insulation

- a. Exterior Walls- Access each wall cavity and probe to locate fire stops or other obstructions which may necessitate additional entry holes to assure maximum pressurization practical for that cavity. Fill all wall cavities with loose fill cellulose in conformance with current ASTM standards.
- b. Attic- Loose cellulose blown in to achieve 'R' value of R-49. Coverage should be as level as possible. Install soffit baffles as needed. Note: maintain clearance from combustible materials in accordance with NFPA Requirements
- c. Vaulted Ceilings - when vaulted roof cavities are exposed during rehabilitation, the cavity shall be insulated to R-49 or maximum practical.

XIII. VENTILATION

A. **Crawl spaces**

Crawlspaces shall have ventilation with as much ventilation area and cross venting as possible. Dead corners shall be eliminated as much as possible

B. **Attic**

Attics shall have a minimum of two louvered gable vents, sufficient number of roof jacks or ridge venting.

C. **Roof Replacement**

All projects involving a complete re-roof shall require that attic ventilation be provided in compliance with current Municipal Code.

D. **Vent Protection**

All vents shall be protected with ¼" galvanized screen.

XIV. PEST CONTROL

When required, only a licensed and insured professional exterminator will be used to treat for powder post beetles, termites, rodents or other pests. Upon completion of items called for, the exterminator will furnish a certificate of completion.

XV. CONSTRUCTION WASTE MANAGEMENT

A. Project site shall be left 'broom clean' daily.

B. All debris generated from project to be removed from site and recycled to the maximum extent practicable before bringing to landfill:

1. Recycle all cardboard.
2. Recycle all wood.
3. Recycle all drywall.
4. Recycle all metals.
5. Recycle all concrete, brick and asphalt.
6. Recycle all appliances that will be replaced.

XVI. FINAL INSPECTION

In addition to the regular required inspections and progress inspections, permits necessary for the project shall pass final inspection. A final inspection is required by the Home Rehabilitation Program prior to release of funds and completion of the contract.