



Clark County Housing Preservation Program

GENERAL CONDITIONS AND PERFORMANCE STANDARDS

CONTRACTOR MANUAL

Department of Community Services

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Part I: GENERAL PROGRAM INFORMATION

I. PROGRAM DEFINITIONS:

ACCEPTANCE: Approval of the work, consisting of written indication that the work has been completed in fulfillment of the contract documents, to the satisfaction of the Owner and in accordance with all applicable local regulations, codes, permits and approved plans. Final approval is only after the Housing Rehabilitation Specialist has inspected and passed all the work completed.

BUILDING OFFICIAL: A designee from a City, County Permit Center, County Health Department, Department of Labor and Industries or other permitting authority.

CONTRACT DOCUMENTS: A set of documents which define the scope of work and sets forth the respective rights and duties of the Contractor and the Owner, consisting of the Contractor's bond and insurance certificate, Invitation to Bid, completed Bid/Contract, this Contractor's Manual, the Award Letter and Notice to Proceed.

CONTRACTOR: A general or specialty contractor currently registered with the State of Washington Department of Labor and Industries pursuant to RCW 18.27 or 19.28, or other person who has been approved for HPP participation by the HPP Staff, and who is bidding for or has been awarded a contract for work.

DAYS: Unless specified otherwise in a given contract, "days" means consecutive calendar days, excluding observed Federal Holidays.

DEPARTMENT OF COMMUNITY SERVICES (DCS): Governing agency of the Housing Preservation Program.

HOUSING PRESERVATION PROGRAM (HPP): A program that provides home repairs, accessibility and weatherization services to low-income, owner-occupied houses (rental units are eligible for accessibility only).

HOUSING REHABILITATION SPECIALIST (HRS): Department of Community Service staff whose responsibilities include housing inspections, specification write-ups, cost estimates and project management.

OWNER or HOMEOWNER: The legal or equitable owner or owner of record of the property to be rehabilitated or repaired under the contract.

QUALIFIED WORKER: A man or woman who: 1) possesses a current and valid certificate of competency, apprentice permit or other license issued by the appropriate agency as required by law; or 2) where the nature of the work does not require certification, permitted, or licensed workers, possesses the requisite skill and training and has the necessary supervision to complete the work to the standard of quality prevailing in the trade.

2. PROGRAM OVERVIEW

The purpose of the Clark County Housing Preservation Program (HPP) is to provide financial assistance to low and moderate-income residents who live within the Woodland City limits and Clark County, Washington, but outside the Vancouver City limits.

The Clark County Housing Preservation Program is designed to maintain the housing stock and provide decent, safe, and sanitary living conditions for eligible applicants, thereby encouraging pride in ownership.

Funding for the Clark County Housing Rehabilitation Program is provided with federal funds through the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) Program under Title I of the Housing and Community Development Act of 1974.

Eligible activities using HPP funds include:

- Costs of meeting rehabilitation standards
- Essential improvements
- Energy-related improvements
- Necessary accessibility improvements
- Repair or replacement of major housing systems
- Repairs and general property improvements of a non-luxury nature

All work funded with HPP funds must be brought to HPP Rehabilitation Standards, included in Part V of this manual. In addition, all repairs must comply with applicable local codes and standards.

3. CONTRACTOR PARTICIPATION

All rehabilitation work contracted through the HPP must be performed by licensed and bonded contractors. All contractors participating in the HPP program must be certified by the State of Washington Department of Commerce as a Renovation, Repair and Painting (RRP) Firm and employ at least one certified RRP Renovator. This requirement may be waived if it can be confirmed that the nature of the Contractor's work never disturbs painted surfaces; for example, excavators.

Participating contractors must be capable of quality work meeting federal, state, and local codes, be able to complete contracted work in a timely and business-like manner, provide satisfactory business, credit and professional references if requested, and be licensed, bonded and insured in the State of Washington. In addition, contractors that have been debarred, suspended, or otherwise disqualified from any federally-assisted construction projects are prohibited from participating in the HPP.

All contractors must be on the HPP approved contractor list and meet all program requirements and have a signed receipt on file for a copy of this manual prior to being awarded any contract through the HPP.

No person who is involved in the implementation of, or serves in a decision or policy-making capacity with the HPP may benefit from the HPP. Such persons are considered to have a conflict of interest.

4. CONTRACTOR DISQUALIFICATION

Contractors who are unable to produce documentation attesting to his firm's business license, bond and liability insurance will be removed from the contractor selection list until such documents are presented to the HPP.

Contractors may be removed from the approved list of the HPP for any of the following reasons:

- Contractor is unable to comply with the terms of a contract
- Contractor has received an excessive number of correction notices
- Contractor fails to make corrections requested in the correction notices issued by the HPP, a Building Inspector, the Department of Labor and Industries, or other body
- Contractor invoices for work are not completed properly
- Contractor is unable or unwilling to relate to homeowner in a civil and businesslike manner
- Contractor or his/her employees harass HPP staff or one of its clients
- Contractor attempts to sell additional services or materials to a client without previous written permission of appropriate HPP Staff and homeowner
- Contractor has committed an illegal act in relation to work with the HPP or its client
- Contractor regularly fails to submit bids by the bid due date without prior notification to the HPP staff

Procedure for removal of a contractor from the approved list is as follows:

1. Contractor will be notified in writing of violation of conditions or continued corrections
2. Contractor will have ten business days to respond in writing to the notice of violation
3. Contractor may be retained, conditionally retained, or removed from the approved list after the ten-day period has ended
4. Within ten business days of the date of the notice of removal from the list of approved contractors, a contractor may appeal such a decision to the Director of DCS

Part II: INSTRUCTIONS FOR BIDDING

I. BID SOLICITATION

Bids for rehabilitation work will be solicited on the Owner's behalf through the HPP bid procedure; both the Owner and the HPP staff must give final approval to the Contractor.

Only licensed, bonded and insured general or specialty contractors who have been pre-qualified by HPP staff are eligible to receive an Invitation to Bid. Contractors may apply for pre-qualification by requesting a Contractor Application Packet from HPP staff. HPP staff will determine the ability of the Contractor to perform rehabilitation work in accordance with HPP requirements. Interested contractors must furnish credit, business, and professional references, and other information that HPP staff may require in order to enable them to assess the qualifications of the Contractor. HPP staff may reject any application where examination of the information submitted by the Contractor, or other evidence, does not satisfy HPP staff that the Contractor is qualified to properly carry out the terms of a HPP contract.

2. BIDDING PROCEDURE

The following requirements apply to pre-qualified contractors responding to the HPP Invitation to Bid:

- a) Bids must be submitted on approved HPP forms with an original signature. If any white out, cross through or other changes appear on the forms, each white out, cross through or change must be initialed by the person signing the bid.
- b) All prices requested on the bid form must be provided. For a bid to be considered responsive, all information called for on the bid form must be entered, including cost allowances for fixtures and materials requested on the form. Incomplete bids will only be accepted if the Contractor is not required to submit bids for any optional items that may or may not be included in the Invitation to Bid.
- c) Contractors must bid the work exactly as shown on the Invitation to Bid. When a bid has been selected and signed by the Owner, the form becomes a construction contract between the Owner and the Contractor.
- d) Any interpretation or change to the Invitation to Bid given by the HPP will be in the form of a written addendum to the Invitation to Bid or contract document and will be available to all bidders. Receipt of the addendum will be by letter or email with sufficient time to review and bid the documents before the time and date set for submitting bids. Neither the HPP nor the Owner is bound by oral information given prior to bid submittal unless that information is also conveyed by the Invitation to Bid or other contract documents.

- e) The HPP encourages the awarding of rehabilitation projects on a competitive basis. The HPP requires that the Owner solicit at least three bids from qualified contractors, except in manager approved situations.
- f) Telephone bids will not be considered. Faxed and emailed bids will only be accepted with prior approval of HPP staff. HPP Staff or the property owner may reject as unresponsive any unsigned or incomplete bid package, may reject any and all bids, and may waive any irregularity in a bid.
- g) Bids are due in the HPP office by 5 pm on the bid due date. Contractors will normally have ten (10) days to return bid, unless otherwise specified by HPP due to scope of work to be bid.
- h) Bids may be withdrawn at any time prior to owner acceptance. Negligence on the part of bidders in preparing their bids confers no right of withdrawal or modification of the bid after such bids are accepted. Once withdrawn, bids may not be resubmitted unless all bids are rejected by the Owner and new bids are solicited.
- i) At any time during the bidding process, contractors are prohibited from directly or indirectly initiating discussion with the Owner for the purpose of influencing him/her to enter or not enter into a specific contract. Contractors are also prohibited from offering to perform work on terms other than those described in their submitted bids, and from offering to undertake work on a project not included in the Invitation to Bid. From the time he/she signs the contract until one year after work has been accepted, the Contractor shall not directly or indirectly solicit or negotiate with the Owner for any new or different work, except with the advance approval of the Owner and HPP staff. A contractor who engages in these prohibited practices may be disqualified from further participation in the HPP.
- j) Award of contract will be made to the responsible bidder whose bid, conforming to the Invitation to Bid, is most advantageous to the Owner, price and other factors considered. Although the Contractor is employed by the Owner, the HPP is responsible for monitoring contracts to ensure compliance with federal, state, local and HPP regulations. The Contractor will honor the bid for a period of thirty (30) days from submission. If accepted by the Owner within that time, it will become a construction contract between the Contractor and the Owner, according to the terms set forth in the Bid and Contract form, contingent on final approval of HPP funding.
- k) The Contractor shall not commence work until he/she receives a written Notice to Proceed, any Notice of Contract Award notwithstanding. If the Notice is not issued within sixty (60) days after the Owner accepts the bid, the contract shall be null and void, and the Contractor's obligation shall be at an end, unless the Contractor reasonably indicates in writing of his/her intentions to remain bound thereby.

3. EXAMINATION OF SITE AND CONTRACT DOCUMENTS

All contractors are required to visit the site of the proposed work and fully acquaint themselves with all conditions which could affect the completion of the work or the cost thereof. Contractors must also examine and be thoroughly familiar with all contract documents. Failure to do so will not relieve the Contractor of responsibility for properly estimating the difficulty or cost of successfully performing the work.

4. BONDS AND INSURANCE

No work may be contracted or subcontracted to any contractor not in full compliance with the bonding and insurance requirements of the Washington Contractor Registration Act.

5. PROJECT COMPLETION

Notice to Proceed will be given in writing by the HPP staff with the approval of the Owner. The work must commence within the time stated and must be completed within the time specified in the Bid/Contract document.

If unforeseeable delays occur, the Contractor must discuss the circumstances with the Owner and HPP staff and may request a change order for extension of the due date.

6. CHANGE ORDERS

When deletions or additions to the scope of work are required, a change order must be negotiated, approved by HPP staff, and signed by the Owner, the Contractor, Program Manager and HRS before work on the changes can begin. When necessary and appropriate, HPP staff may give verbal authorization to proceed; however, the work will not be paid for by the HPP agency until the signed change order is submitted. Change orders shall be submitted on HPP forms.

7. INSPECTIONS AND DISBURSEMENTS

Disbursements are generated by the Contractor according to the billing instructions given in the bid/contract and covered in PART III of this document.

8. LIEN WAIVER/PERFORMANCE BOND

Before payment is released, the Contractor will be required to execute a Waiver of Lien, unless a payment and performance bond has been required and posted. HPP staff will require a lien waiver from all subcontractors. HPP may require a lien waiver from material suppliers.

The HPP will not release any final checks on projects until the Contractor, and possibly his/her subcontractor and suppliers, has signed the Release and Waiver of Lien Rights. This document must be notarized.

PART III: INSPECTION AND DISBURSEMENT PROCEDURE

The Contractor must request an inspection from the appropriate City or County Permit Center, County Public Health Department, or the Department of Labor and Industries for any code-controlled work. Any code violations cited by an Inspector having Local Jurisdiction and Authority must be corrected, and the work re-inspected and approved prior to billing. A copy of permit approval must be submitted with the invoice and a copy of the Affidavit and Waiver of Lien must be notarized and issued to the Owner and the HRP agency prior to or concurrent with submission of the invoice. Incomplete invoices will not be processed.

Receipt of a contractor's invoice will initiate an inspection by HPP Staff, who will inspect on behalf of the Owner for compliance with the Contractor's Manual, work specifications and for the quality of work. The Contractor will be notified of any deficiencies found during the inspection. Deficiencies must be corrected, re-inspected and approved by HPP staff before processing of the invoice can continue. The Contractor may be charged a \$50 fee for every inspection beyond the second, which will be deducted from the amount billed. When the Contractor's invoice is received, a Request for Disbursement and Inspection Approval form will be presented to the Owner. The Approval must be signed and returned to the HPP agency before processing of the invoice can continue.

When the HPP staff has an acceptable invoice, a copy of the Affidavit and Waiver of Lien, a copy of all permits, completion approval, the HPP approval of the work and the Owner's acceptance, the invoice for payment will be submitted for processing and payment. A check can usually be expected within three weeks after submission of the payment request to the disbursing staff by the HRP staff. However, this policy is subject to conditions unforeseen.

Samples of some HPP forms can be found in Appendix B. The forms included are for example only. The actual forms you will be required to use may differ. You should carefully read any form you receive in its entirety.

PART IV: STANDARD CONDITIONS

These provisions are incorporated by reference into all contracts executed through the Housing Preservation Program.

STANDARD CONDITIONS

1. **LABOR/MATERIALS:** The Contractor will furnish all cartage, labor, equipment and materials which may be necessary to the execution of the contract unless directed otherwise by the Invitation to Bid. If removal of existing equipment or materials is required prior to installation of new, that removal shall be a part of the new installation. The materials furnished by the Contractor shall be new and of the best quality (or as specified) and the labor shall be performed by qualified workers in accordance with usual and customary standards and practices of the trade. "Seconds," pattern flawed, damaged, rejected or used material will not be installed.
2. **ASSIGNMENT AND SUBCONTRACTING:** The contract, or any part thereof, shall not be assigned or subcontracted except to subcontractors who are licensed, bonded and insured in the State of Washington, as required by law, and have not been disqualified from participation in the HPP or other HUD-assisted projects. The Contractor will ascertain whether an intended subcontractor is licensed, bonded, insured and eligible before entering into a subcontract.
3. **SUBCONTRACT/QUALIFIED LABOR:** The Contractor remains fully responsible for all work performed under the contract whether or not said work is subcontracted and shall be fully liable to the Owner for the acts and omissions of all subcontractors and their respective agents and employees. The Contractor assures that they, and their subcontractors, will employ only qualified workers for work awarded through the HPP. The Owner reserves the right to order subcontractors or employees removed from the job for reasonable cause.
4. **CHANGE ORDERS:** No work will be performed other than that described in the contract documents unless a written change order has been signed by the Owner and Contractor and approved by the HPP Staff (including program manager). When necessary and appropriate, HPP Staff may give verbal authorization to proceed with the work prior to execution of the change order; however, the work will not be paid for by the HPP until the signed change order is submitted and approved by the Owner and the HPP staff.
5. **WARRANTY OF TITLE:** The Contractor warrants good title to all materials, supplies and equipment installed or made a part of the work and agrees upon completion to deliver the premises, together with all improvements and appurtenances constructed or placed thereon, to the Owner free from any claims, liens, or charges arising from materials or services procured by the Contractor. The Contractor is not, however, precluded from installing metering devices or other utility company equipment, to which title is normally retained by the utility company.

6. **BUILDING CODES:** The Contractor shall comply with all applicable State of Washington and local building and related codes, laws and ordinances in force at the time of award of the contract, and shall obtain, at his/her expense, such permits, certificates and/or licenses as may be required for performance of the work specified.
7. **CONSTRUCTION STANDARDS AND CONTRACTOR'S MANUAL:** All work performed under the contract shall meet or exceed the material and workmanship specifications listed in the HPP General Conditions and Performance Standards Contractors Manual and in any amendments there to in effect at the time the contract is signed, except as waived or modified by a Change Order.
8. **OCCUPANCY OF PREMISES:** It is to be expected that the premises will remain occupied during the work. The Contractor, subcontractors, their employees and the Owner shall in good faith accommodate each other in the performance of the contract. In the event the premises are not occupied during the work, the Contractor shall take reasonable measures to safeguard the property.
9. **USE OF PREMISES:** The Contractor shall have the reasonable use of the property for storage of materials, tools and equipment but will take care to avoid creating hazards. The Owner shall grant the Contractor reasonable use of electricity, water, and restroom facilities in the performance of work. Final payment will not be made until all materials, debris and equipment have been removed from the premises.
10. **OWNER'S INSURANCE:** The Contractor and the HPP have the right to be satisfied that the Owner has in effect liability and casualty insurance sufficient to protect their interests in the project.
11. **DISCOVERED CONDITIONS:** If, in the course of the work, the Contractor discovers hidden conditions which differ substantially from those usually found and expected on similar jobs, and which could materially affect the cost and outcome of the project, they shall immediately cease work and notify the Owner and HPP staff. The Owner and the Contractor may, with the approval of HPP staff, amend the contract as necessary to provide for the discovered condition. A written change order shall be approved by the Contractor, the Owner and the HPP staff before work resumes.
12. **LEAD POLICY:** The following policy concerning certification of firms and individuals is effective for all jobs performed through HPP. The Contractor shall comply with all applicable Federal, State and local laws and ordinances concerning the handling and/or removal of known or presumed lead-based paint. All contractors participating in the HPP must be in full compliance with 40CFR part 745 including certification by either the Washington Department

of Commerce or the EPA as a Renovation, Repair, and Painting (RRP) Firm. Additionally, all Firms must employ at least one RRP certified Renovator on each project where the house was built before 1978.

The HUD Lead Safe Housing Rule at 24 CFR part 35, and the Washington Administrative Code (WAC) 365-230 apply to activities under this program. When there is conflict between these rules and the EPA RRP rule, the more stringent will apply.

Contractors, not the HPP staff, are ultimately responsible for determining when lead-safe work practices must be applied. Under some circumstances, HPP staff will include in the Invitation to Bid a copy of a site-specific Lead Risk Assessment and/or Lead-Based Paint Inspection. Failure to abide by regulations concerning lead-based paint could result in penalties and fines from the State. Additionally, it could result in adverse action by HPP staff, including disqualification.

- 13. ASBESTOS POLICY:** The following policy concerning the removal of asbestos is effective for all jobs performed through the HPP. The Contractor shall comply with all applicable Federal, State and local laws and ordinances concerning the handling and/or removal of asbestos material. Failure to abide by regulations concerning asbestos could result in penalties and fines from the State. Additionally, it could result in adverse action by HPP staff, including disqualification.

Contractors, not the HPP staff, are ultimately responsible for determining the existence of asbestos materials and to react in accordance with laws concerning any project contracted. However, as a service to the Contractor and the Owner, HPP staff will note on the worklist specifications the removal or disturbance of any material which may be discovered and which is necessary to complete the repair work. HPP staff will include in the Invitation to Bid a Good Faith Asbestos Survey as required by local codes indicating possible sources of asbestos disruption.

It is the Contractor's responsibility to ensure that the procedures required by the Washington State Department of Labor and Industries for asbestos disruption and handling are followed. A contractor must include in their bid any special costs which may be necessary to comply with Washington State Law. Failure to add these costs into a bid does not relieve a contractor from responsibility for properly estimating the cost of successfully performing the work, or from responsibility of properly handling asbestos material.

If, when examining the site during the bid process, a contractor discovers that it will be necessary to remove or disturb asbestos which is not listed in the scope of work specifications, the proposed changes and costs must be included on a separate addendum along with the bid.

A contractor receiving a Contract Award Notice for a job which includes an “Asbestos Project” must provide both, to the Owner and to the HPP, a copy of the certificate for any employee who will perform work on the project in question prior to receiving the Notice to Proceed. Without a certificate, Notice to Proceed will not be given. A contractor that believes that a determination has been made incorrectly should contact the Department of Labor and Industries and ask for a written determination. The final determination of what constitutes an “Asbestos Project” can only be made by the Department of Labor and Industries.

If asbestos material is discovered during the construction process, which must be removed or disturbed, it is the Contractor’s responsibility to notify HPP staff immediately. This will be treated as a “discovered condition.”

- 14. INDEMNIFICATION:** The Contractor is an independent tradesperson and in no sense an agent of the Owner, HPP staff, or the HPP. The Contractor agrees to indemnify and hold harmless the Owner, and the HPP agency and their employees, agents, and assigns, from all losses, damages, costs, charges, expenses and liabilities arising out of performance of the contract through negligence by the Contractor, subcontractors, or their agents or employees.
- 15. DISPUTE; PARTIES TO CONTRACT:** The Contractor will assume that the Owner is not experienced or knowledgeable concerning construction work and, therefore, will deal with them with utmost integrity. Should a dispute arise concerning the meaning of the contract documents or the performance of the contract, the parties may request HPP staff to assist in a resolution. Contracts executed through the HPP are binding upon the Owner and the Contractor and neither the HPP, DCS, Clark County or any jurisdiction, nor their agents or staff are parties thereto. Any dispute arising between the Owner and Contractor over the contract work must ultimately be resolved by those parties, as the HPP is not responsible for enforcement or performance of the contract, nor for payment to contractors. The Contractor understands that if the Owner is unwilling to authorize payment to the Contractor, the HPP cannot make the payment or be held responsible for payment. However, if a dispute is submitted for binding arbitration, an order by the arbitrator to release funds to the Contractor will be honored by HPP staff.
- 16. INTERPRETATION:** Interpretation of the contract documents shall be guided by the purposes of the program funding the project, as given in the program overview for the program and in the relevant Federal statutes and regulations, and by the practices and customs prevailing in the construction industry.
- 17. NON-DISCRIMINATION AND AFFIRMATIVE ACTION:** Neither the Contractor, Owner, or other persons doing work, performing service, supplying materials or otherwise receiving benefit under the program shall discriminate against any person, whether employee, applicant for employment, contractor, subcontractor, supplier or other person, for reason of

race, color, religion, sex, handicap, family status, national or ethnic origin, or age. The Contractor shall take affirmative action to ensure that job applicants and employees are treated without regard to their race, color, religion, sex, disability, family status, national or ethnic origin, or age. The Contractor, subcontractors, and suppliers shall to the greatest extent feasible give opportunities for training and employment to low-income residents of the project area and award contracts for work in connection with the HPP to business concerns located in or owned by persons residing in the area, as provided in the HUD Act of 1968.

- 18. EXAMINATION OF SITE AND CONTRACT DOCUMENTS:** The Contractor acknowledges that he/she has visited the site where work is to be performed and is fully acquainted with the particular characteristics thereof and with general local conditions which could affect the cost of performing the scheduled work. The Contractor further acknowledges that they have thoroughly examined and are fully familiar with all contract documents. Failure by the Contractor to examine the site or contract documents does not relieve them from the consequences of improperly estimating the difficulty or costs of successfully performing the work. HPP staff and the Owner assume no responsibility for any understandings or representations concerning conditions alleged to have been made by them or by their agents or employees prior to the execution of the contract, unless included in the contract documents.
- 19. SALVAGE:** Unless otherwise indicated in the Invitation to Bid, all salvageable materials, equipment, and fixtures removed for replacement under the contract become the property of the Contractor. However, should a dispute arise between the Owner and the Contractor concerning removed materials, the disputed materials shall be stored on site and the arbitration process started immediately.
- 20. DAMAGE/ANNOYANCE.** The Contractor will promptly repair and restore to their original condition any wall, ceiling or floor surface, or any other structures, fixture, or furnishings on the property damaged by the Contractor in the course of performing contract work. The Contractor shall at all times take precautions to minimize inconveniences to the Owner and avoid annoyance to neighbors and other third parties.
- 21. GUARANTEE:** The Contractor guarantees all work performed under the contract against defects in materials and workmanship for a period of one year after the date of the final acceptance (certification of completion) of the work. Upon notice of the HPP staff or Owner, the Contractor will promptly repair or remedy any defects and will reimburse the Owner for any consequential damages, provided the Owner has, immediately upon discovery, taken necessary and reasonable steps to mitigate such damage. The Contractor will forward any manufacturer's warranty certificate or warranty statements. If incorrect installation of any material results in voiding of the manufacturer's warranty, the Contractor will make necessary corrections and assume the manufacturer's warranty obligations. These guarantees will remain in effect notwithstanding any sale of the property and transfer of title during the guarantee

period. The HPP does not in any way warrant or guarantee the workmanship or materials provided by the Contractor, nor assume any liability should the Contractor, or any of the subcontractors or suppliers, fail to honor their guarantee obligations.

- 22. ATTORNEY'S FEES:** In the event suit must be brought by either party to the contract to force performance of any of the terms thereof, or to recover any payment due thereunder, the prevailing party shall be entitled to recover costs to bring or defend such suit, including reasonable attorney's fees.

Part V: REHABILITATION STANDARDS

Each house assisted with HPP funds must meet all of the following requirements:

- a) HPP Inspection.** A Housing Rehabilitation Specialist will conduct an initial inspection of all HPP projects.
- b) Health and Safety Hazards.** Health and safety hazards receive the highest priority.
- c) Failed or Failing Major Housing Systems.** All major housing systems that have failed or are in danger of failing shall be repaired or replaced, as appropriate.
- d) Weatherization.** Complete weatherization can be provided in addition to the repairs for eligible households, when funding is available.
- d) Lead-Based Paint.** All work that disturbs more than HUD de minimis levels of painted surfaces require lead-safe work practices. Projects that require lead-safe work practices will be clearance tested at the completion of the project. Projects that exceed \$5,000 require interim controls of all lead hazards. Projects that exceed \$25,000 require abatement of all lead hazards.
- e) Material allowances.** Material costs may not exceed the allowances established by the HPP. Allowances will be updated annually and included as part of this manual. (See Appendix A)
- f) Cost limits.** The total HPP cost of a project may not exceed 95% of the assessed value after adding HPP costs to all other existing loans or liens on the structure. The HPP investment must be at least \$2,000, but not more than \$40,000.
- g) Repair and Specifications.** All repairs must comply with the Performance Standard Specifications included in Part VI of this manual.
- h) Local Codes and Standards.** All applicable local codes and standards must be met and documentation of compliance provided. All projects that require permits by local code must have permits.
- i) Owner's Acceptance.** Upon completion, the Owner must provide written acknowledgment that all agreed upon work has been completed and that the work is satisfactory.

PART VI: PERFORMANCE STANDARDS AND SPECIFICATIONS

The specifications on the following pages are incorporated by reference into every rehabilitation contract entered into through the HPP. The standard specifications are grouped by trade and include general and specific requirements for various rehabilitation tasks. Section numbers are cited in the Invitation to Bid.

SECTION 0100 – NOTES

1. SUBSTITUTIONS.

It is not desired of the Owner to exclude any product of quality equal to those specified herein or in the Invitation to Bid. Trade names are generally used only to establish the level of quality desired, but before any substitutes are made, the approval of the Owner and HPP staff must be obtained.

2. MEASUREMENTS.

All measurements and sizes stated or implied in the Invitation to Bid are approximate only, and shall be verified by the Contractor.

3. APPLICABILITY.

In the event of a conflict between these Standard Specifications and the Invitation to Bid, the latter shall govern. Not all tasks for which bids might be solicited can be specified in this manual. Tasks for which methods and materials are not specified will be performed as indicated in the Invitation to Bid and in accordance with the best practices of the trade.

In the event there is a conflict between these Standard Specifications and current construction codes, the latter shall govern.

SECTION 0200 -- SITE WORK

I. DEMOLITION AND DEBRIS

Demolition work shall conform to the requirements of all applicable codes, ordinances and utility company regulations. Existing shrubs and trees to remain shall be protected until demolition is complete and the site is cleared. Areas of grass killed by demolition or by storage of debris and other materials shall be raked clean, leveled and re-seeded, unless otherwise noted in the work list. All debris must be removed prior to final inspection and all areas shall be left in a neat condition.

2. GRADING

A. GRADING OF YARDS: When yards are scheduled to be graded, they will be filled and/or raked smooth to finish grade that ensures proper drainage of the lot. Backfill material shall be clean and free from debris, with no wood scraps. It will be placed according to acceptable practices. Where applicable, the top 4 inches shall be top soil suitable for plant growth.

B. ROUGH GRADING: Contractor shall establish a sub-grade parallel to and approximately 4 inches below the proposed finished grade. Finished grading shall ensure that surface and ground water does not collect either under slabs or at the outside face of basement and foundation walls. All surfaces adjacent to foundation or basement walls shall slope a minimum of 2% (1/4" inch per foot) to ensure adequate surface runoff. In no case shall surface waters be diverted onto adjacent private property.

C. GRADING OF CRAWL SPACES: No wood surface shall be closer than 6 inches to any soil. If a moisture problem is evident in the crawl space, grading shall be done to take surface water to best outfall. All scrap wood and concrete forming materials shall be removed from crawl spaces. When a furnace is installed in a crawl space, grading shall be done according to clearances defined in the current International Mechanical Code. Grading shall be done to take water away from furnace location.

3. SITE DRAINAGE

All local ordinances regulating the disposal of storm water, including type of piping, shall be followed. Grade level drywells shall be enclosed with cedar, concrete or redwood formwork. Drywells shall not be installed in impervious or swampy areas or where drainage or seepage from drywells will flow toward dwelling.

4. CRUSHED ROCK SURFACES

When regarding, remove any large rocks or foreign materials. Where substantial depressions exist, remove existing materials, fill with dense, well-drained soil and grade to obtain a uniform surface. Top with crushed rock in sufficient amount to achieve a total depth of no less than 4 inches. Crushed rock surfaces shall not be installed on grade in excess of 7% (7/8 inch per foot). Borders shall be provided at all perimeter edges to retain rock.

5. LANDSCAPE

A. SHRUBS: When shrubs are to be removed, they shall be removed complete with roots. Any depressions shall be filled with topsoil and the entire area raked smooth and clean.

B. NEW PLANTING: Type and size of new shrubs shall be as indicated in the work list.

C. TREES: When trees are scheduled to be removed, they shall be cut to a point as close to the finish grade as possible. The HPP/Owner may elect to have the stump(s) ground to ground level. All debris shall be removed and the entire area shall be raked and/or broom swept clean.

6. CHEMICAL PEST TREATMENT

All chemical applications, fungicide or insecticide, shall be made by a pesticide applicator holding State of Washington, County, and local jurisdictional licenses. Application of all chemicals shall be subject to local and/or U.S. Department of Agriculture regulations regarding the use of controlled chemicals. Apply all treatment according to National Pest Control standard. Certificate of Application is required to release payment. All termite treatments shall be guaranteed against re-infestation for 5 years, unless specified otherwise on the worklist.

SECTION 0300 -- CONCRETE

I. GENERAL INSTRUCTIONS

A. PATCHING: When patching concrete, apply a bonding agent prior to application of flush patching material. New concrete shall not be placed on extremely wet or frozen ground, and no concrete shall be placed when temperature is less than 40 degrees F. or greater than 90 degrees F., unless it is properly protected and controlled in accordance with recommendations of the American Concrete and the Portland Cement Association.

B. LOAD BEARING: The type of footing, foundation or slab system used shall be determined by load bearing capacity of the soil. Soils of low bearing capacity necessitate provisions for greater load distribution. On fill material, footings shall extend to undisturbed soil unless the fill has sufficiently compacted to insure against excessive differential or overall movement of the structure.

2. WALKWAYS

Sub-grade shall be well drained and uniformly graded 3-1/2 inches below finish grade. New concrete shall be at least 3-1/2 inches thick (4000 psi). Finish surface of new sidewalks shall be approximately parallel with that of adjacent soil; sidewalks shall be constructed so as not to impede drainage of surface water away from the house and off the property. Contraction (control) joints shall be placed 4 to 5 feet apart, but never more than 2-1/2 times in feet the thickness of the slab in inches. Depth of joint shall be 1/4 to 1/5 the thickness of the slab. Width of new concrete sections shall be as indicated in the work list. Wearing surfaces shall be floated with a wood float and receive a light broom finish, except in the case where the Work List calls for match existing finishes. Concrete shall be properly sealed with a curing agent meeting ASTM standard 309 or kept moist for a period of three (3) days to ensure proper curing.

3. FLATWORK

A. DECK SLABS AND PATIOS: New deck slabs and patios shall be a minimum of 3-1/2 inches thick (4000 psi). Slab shall be reinforced as needed for each installation. Provide flashing between the slab and wood construction. Slope the deck slab to drain away from the foundation wall. Wearing surfaces shall be troweled and have non-skid texture. Control joints shall be provided for all flatwork in accordance with industry standards.

B. FLOOR SLABS AT OR BELOW GRADE: Base for slab shall be well-compacted 4 inch sand-gravel sub grade. New slab shall be a minimum of 4 inches thick (4000 psi). When available, slope concrete to floor drains. Surfaces shall be troweled smooth. Basement slabs that are less than 12" below grade need to have ridged insulation 24" wide at the outer edge to meet the R-value for the interior heated living space.

4. FOOTINGS

A. PIER BLOCKS: New pier blocks shall be precast or poured units. Block shall extend a minimum 4 inches above finished floor elevation or 6 inches above earth. They shall have the same or larger top dimensions as the wood posts. Bottom dimension will be a minimum of 12 inches square. Pier blocks shall have steel anchoring pins or recessed pockets.

B. PIER AND POST FOOTINGS (3000 psi): Footings supporting wood piers shall extend from a point at least 12 inches below grade to a point 6 inches above grade or per engineering. They shall have the same or larger top dimension as the piers. Bottom dimensions will vary with the footing design. Pier blocks shall have steel anchoring pins or recessed post pockets. Footings supporting masonry piers shall extend at least 12 inches below grade and have the same top dimensions as the piers or a minimum of 12 inches by 12 inches. Footings for wood posts shall extend from a point at least 12 inches below finished floor elevations to a point at least 4 inches above; footing shall have the same top dimension as the post. When necessary to remove a section of existing floor slab, cut out a 12 inch by 12 inch section using a masonry saw or chisel. Dovetail edges so that the opening at the bottom of the slab is larger than the opening at the top. Remove enough earth to pour new concrete. Footing shall sit on a 4 inch sand gravel base. Provide steel anchoring pin or galvanized brackets. Finish concrete to match adjacent surfaces.

5. WALLS

A. RETAINING WALLS: New walls shall be gravity or cantilever type. They shall be structurally sound and durable. Design walls to resist the lateral pressure exerted by the earth behind the wall, including that material above the top of the wall. Retaining walls shall extend at least 12 inches below grade and have a 6 inch wide layer of gravel, crushed rock or sand between the earth and the wall, extending the full height of the wall. Provide reinforcement as needed and construction joints at 30 foot intervals. Place weep holes 10 feet on center and at the lowest point possible above grade. All weep holes shall be screened. All retaining walls constructed adjacent to the public way shall have the design approved by the local planning/public works department prior to commencement of work. All work shall meet the minimum requirements of the current IRC. Also any retaining walls over 4' tall shall require engineering.

B. FOUNDATION WALLS: New walls shall be no less than 6 inches wide for wood frame single story, 8 inches wide for two story wood framed, masonry or masonry veneer and shall extend below finish grade as required for the particular installation. Footing dimensions shall be determined by the thickness of the wall. Provide reinforcement where needed. Concrete shall be poured continuously and constantly paddled to remove air pockets. Where continuous pouring is not possible, provide construction joints with reinforcement for transfer of stress. All wall openings shall be properly reinforced. Any existing walls, intersecting walls, porch or entrance slabs, or area ways shall be anchored to the new wall. All anchors for sills and plates shall be installed per the current IRC and earthquake design area. The top of the foundation wall shall be carefully finished and leveled for the sill plate. For foundation walls on basement houses or where conditions warrant, the exterior face of the

wall shall have at least one coat of bituminous damp proofing material from footing to finish grade. New 4 inch drain piping shall be placed at the perimeter of the footing, if required by ground conditions, and connected to a storm sewer system or natural outlet. Backfill material shall be an appropriate sand gravel mixture for proper soil drainage, and the top 3 inches be topsoil suitable for plant growth. Replace sod or install new sod.

6. STEPS

New poured steps shall be as wide as the sidewalk or a minimum of 36 inches and at least 6 inches to each side of the entry door. The treads shall be a minimum of 10 inches, the risers a maximum of 7 1/2 inches. Rise and run shall have a variance of no more than 3/8 inch throughout flight. Provide 1/8 inch pitch for drainage. Wearing surfaces shall be troweled and have a non-skid texture. Porch and steps will be poured a minimum of 2 inches below grade.

7. MISCELLANEOUS FORM WORK

New sump pump wells shall have at least 8 cubic feet capacity. Wells in crawl spaces shall have 4 inches of gravel in the bottom. The crawl area shall be trenched to the well and gravel installed where specified. Discharge from a well in a crawl space shall be to a code approved outlet. A sump well in a basement discharging to the sanitary sewer shall be vented as required by Section 409 of the Uniform Plumbing Code.

8. MIX DESIGN

Footings, foundations, etc., shall be 3000 psi minimum. Outside slabs, porches, stairs, driveways, sidewalks and patios shall be 4000 psi or 5.5 sack minimum with 5% + 1.5% air entrainment. Concrete pours should not exceed 3 to 4 inch slump. Calcium chloride is not to be used as a curing accelerator.

SECTION 0400 -- MASONRY

I. GENERAL INSTRUCTIONS

Existing masonry units may be reused if undamaged and cleaned. New masonry units shall be true to size without cracks, chips, or other defects. New masonry units shall match existing as closely as possible. Repair and replace as specified in work write up. Where fresh masonry joins existing, the exposed surface of the set masonry shall be clean and lightly wetted so as to obtain the best possible bond with the new work. Lay masonry units plumb, square and properly anchor by keying units or utilizing manufactured ties. Lay all courses with a full mortar bed and tool all exposed joints. All grouted cells shall be vibrated twice. The color of mortar shall match existing as closely as possible. Where applicable, backparge masonry below grade. Mortar shall be protected from freezing until it has set. Thoroughly clean all exposed new masonry and all repair areas. All new and repaired masonry installed below grade shall be sealed.

2. REPOINTING -- TUCKPOINTING

A. REPLACEMENT: Rake out all old mortar to a depth equal to the width of the joint or 1/2 inch, whichever is greater. All deteriorated and loose mortar shall be removed, regardless of depth. Re-mortaring shall be done as specified under general instructions above. Trowel all mortar joints to a hard, smooth, water tight surface, matching the shape of the original joint. Remove all excess mortar and thoroughly clean all repaired areas.

B. PARGING: Parging is applying a smooth coat of mortar on a foundation wall. The end result shall be a uniform smooth finish completely covering all exposed surfaces. Parging shall also include raking out old mortar to depth 1/2 inch. Deteriorated and loose mortar shall be removed regardless of depth.

3. CHIMNEY REPAIRS

When a chimney is to be repaired, this shall include repointing, replacing damaged or missing masonry and installing a new cap or flue extension. New chimney cap shall be at least 4 inches thick at the outside edge and shall slope away from the flue. New flue extension shall be 5/8 inch fire clay. Joints shall be close fitting and left smooth on the inside. The top of the flue lining shall be at least 4 inches above the top of the chimney.

4. CHIMNEY RELINE

Chimney relines, stainless steel or inflatable form fire clay, shall be done in accordance with all applicable building and fire codes.

5. WALLS

A. RETAINING WALLS: New walls shall be structurally sound and durable. Walls shall be designed to resist the lateral pressure exerted by the earth behind the wall, including the material above the top of the wall. Masonry walls shall be constructed in accordance with the recommendations of the National Concrete Masonry Association. They shall have a 6 inch wide layer of gravel, crushed rock or

sand between the earth and the wall, extending the full height of the wall. Block shall be set in full mortar beds with joints tooled smooth, except where the exposed surface is to be parged. Reinforce block laterally and vertically where needed and fill cavities containing reinforcement with mortar. Place weep holes 10 feet on center, and at the lowest point possible above grade. All weep holes shall be screened. The top course shall contain a bond beam or be capped to provide a finished surface. All retaining walls constructed adjacent to the public way shall have the design approved by the local planning/ public works department prior to commencement of work. Per the current IRC and engineering.

B. BLOCK FOUNDATION WALLS: Shall be a minimum of 8 inches thick and shall have poured in place concrete footings no less than 6 inches thick that extends below finish grade as required by the particular area of installation. Block face shells shall provide a 1-1/2 inch wide mortar bed. The first course shall be set in a full mortar bed. Joints shall not exceed 3/4 inch and shall be tooled smooth, except those on an exterior face being parged. The joints between wall and footing shall be tight and have a cove of elastic caulking compound on the exterior side. Stack bond shall be laterally reinforced every second course. Provide other reinforcement where needed, or specified per the current IRC. Location of control joints shall be determined by the height of the wall. The top course shall be filled or capped with at least 4 inches of solid masonry or wire mesh reinforced concrete, unless the sill plate board rests on both inner and outer face shells. Anchor bolts shall be placed no more than 6 feet on center and extend through sill and cap and two filled courses. Walls shall be bonded, keyed, or anchored to existing and intersecting walls. Porch and entrance slabs and areaways shall be anchored to the wall. All openings in the wall shall be covered with at least one coat of Portland cement parging no less than 3/8 inch thick. Walls shall have at least one coat of bituminous damp proofing material from the footing to finish grade. New 4 inch drain piping shall be placed at the perimeter of the footing if required by ground conditions, and connected to a storm sewer or natural outlet. Backfill material shall be an appropriate sand gravel mixture for proper soil drainage. The top 3 inches shall be topsoil suitable for plant growth. Replace sod or install new sod unless otherwise specified.

SECTION 0500 -- MISCELLANEOUS METAL WORK

1. ORNAMENTAL METAL HANDRAILS, RAILINGS AND COLUMNS: New handrails, railings and columns shall be installed complete with all posts, rails, pickets, base plates, rail supports, etc. Posts shall be 1 inch square heavy gauge steel tubing. Metal shall be wrought iron. Railings shall be single-welded construction, railings welded to posts. Railings shall be securely anchored to porches, steps, retaining walls, etc., and when installed on new concrete, posts shall be embedded in concrete. Railing heights shall be as determined by code. Ornamental metal shall be factory primed or factory finished. Pickets shall be a minimum of 1/2 inch square tubing or solid bar. Scrolls shall be a minimum of 1/8 inch by 1/2 inch flat bar. Rail heights and picket spacing shall be per the current IRC Building Code.

2. SHEET METAL FIRE PROTECTION: All sheet metal shields for fire protection for solid fuel burning devices (wood stoves, trash burners, ranges, furnaces) shall be installed in accordance with the International Mechanical Code.

3. PREFABRICATED CHIMNEYS/VENTS: All prefabricated chimneys, vents, and vent connectors installed for use with any fuel burning appliance shall be installed in accordance with the manufacturer's specifications and the International Mechanical Code.

SECTION 0600 -- CARPENTRY

I. GENERAL INSTRUCTIONS

A. CARPENTRY: All rough and finish carpentry shall be accomplished in such a manner as to provide true, straight, square, plumb, level and rigid assemblies.

B. FRAMING LUMBER: All softwood framing lumber shall be #2 fir or better except for non-bearing partitions. Good quality hemlock (hem/fir) may be used for non-bearing partitions. Framing lumber for girders, beams posts, columns and other structural members shall be of a species and grade which will provide sufficient strength and rigidity to support the design load without exceeding the allowable stresses consistent with good engineering practices, and shall conform to the International Building Code (IBC). All framing lumber shall be identified by the grade mark of a recognized grading association. The moisture content of the lumber shall not exceed 19% at the time of installation. New lumber in contact with masonry shall be pressure treated. All framing members shall be accurately fitted and securely connected to each other in accordance with the IBC.

C. BOARD LUMBER: The grade of board lumber shall be suitable for its intended use. In general, loose knots or knot holes shall not exceed 1/3 of the width of the piece. Splits are unacceptable. Boards with defects may be used if the defects are sawed out. Lumber shall bear the label of a recognized grading association. Moisture content shall not be above 19% at the time of installation.

D. PLYWOOD: Plywood shall be Douglas fir and shall bear the label of a recognized grading association as to grade and type. Type and grade shall be suitable for its intended use as designed and shall be installed in accordance with the IBC.

E. FINISH LUMBER: All finish lumber shall be dressed free of tool marks and other objectionable defects. Lumber for exterior trim and millwork shall be kiln-dried or otherwise seasoned; moisture content shall not be above 19%. All wood for interior wood trim shall be thoroughly kiln-dried to withstand dry artificial heat; it shall not be installed until all plaster is thoroughly dried out. Exterior wood trim and millwork shall be at least #2 or "D" cedar, except that casing for doors and windows may be of clear pine or fir. New wood for interior trim shall match existing as closely as possible in shape, size, and species. If not available, select pine or fir may be used to manufacture trim of the same style and shape.

2. ROUGH CARPENTRY

A. WOOD PORCHES: When a new porch is scheduled to be built complete, it shall include piers, footings, beams, joists, 5/4 x 4 tight knot cedar decking, or other decking material as specified, railings if specified, 3 foot wide steps and a roof if specified. The size of the porch shall be as indicated on the worklist. Treads shall be treated (outdoor wood) unless otherwise specified. Non-skid strips shall be installed when specified. Rise and run shall be according to the IBC.

B. NEW STEPS: When new steps are scheduled to be installed with rise and run the same as existing, they shall include new stair jacks, treads and risers. Treads and risers shall all be even but may exceed requirements of the IBC to maintain limited headroom to a non-living or storage area.

3. FINISH CARPENTRY

A. INSTRUCTIONS FOR WOOD TRIM AND MILLWORK: Exterior wood trim which cannot be repaired by re-nailing shall be replaced. Existing interior trim which is broken, splintered, cracked, chipped, warped or otherwise defective shall be replaced with new material. When drywall is being installed over existing wall finish and cannot be butted up to existing trim, room shall be re-trimmed (including door and window casings). All trim within a room shall be similar.

When practical, new trim and millwork shall be delivered ready to be put in place. Moldings shall be clean cut and sharp. Single lengths of wood shall be used whenever practical. Splicing or piecing of finish work shall be done with mitered joints over a solid backing. Finger jointed material is unacceptable for natural finish wood trim. Tooled materials shall be planed or sanded smooth. The woodwork shall be installed level and plumb, be scribed neatly to the walls and be secured firmly in place. Exposed nails used in fabrication and installation shall be finishing nails, set 1/8 inch deep. The scribing, mitering and jointing shall be secured to prevent separation. External corners shall be mitered. Protect finish woodwork until time of painting.

B. CABINET HARDWARE: Hardware to be replaced shall include various knobs, catches, drawer slides, drawer rollers, etc., necessary when building a cabinet. When scheduled to be installed, all of the above found to be worn, defective or missing shall be replaced. New hardware shall be brass or aluminum finish. All miscellaneous hardware within a room shall be similar in style and finish. Mixing painted with unpainted hardware is unacceptable.

C. REPAIRING KITCHEN CABINETS: All damaged or missing doors, drawers and shelving shall be repaired or replaced as indicated in the worklist. Door shall be properly aligned and shall operate freely. Drawer guides or slides shall be repaired or replaced as scheduled so that drawers slide or roll easily.

E. KITCHEN AND BATH CABINETS: Contractor shall verify in the field all cabinets and countertop dimensions listed in the Invitation to Bid or shown on the drawings. Cabinet style and finish shall be indicated in the Contractor's bid. Should new cabinets adjoin existing acceptable cabinets, the new cabinets shall match existing cabinets as closely as possible. Both wall and base cabinet assemblies shall be custom built on the job or consist of individual units joined into continuous section, and with the exception of drawer cabinets, all units shall be fully enclosed with backs, bottoms and panels, including tops for wall cabinets. Face framed, when used, shall be of necessary thickness to provide rigid construction. Corner and lineal bracing shall be provided where needed to insure rigidity and proper jointing of components. Adjustable shelves shall be supported on ends and every 18 inches front and back. All shelves shall be solid wood, edge banded plywood or wood fiber board type

material. Cabinets shall have all wood frames with face frames constructed of solid hardwood. Drawer and door fronts may be constructed of plywood or fiberboard type material faced with birch, oak, or similar hardwoods. Drawer and door front shall match cabinet fronts. Cabinet backs and sides may be particle board with a plastic or wood veneer covering. Base cabinets designed to rest directly on the floor shall provide a toe space at least 2 inches deep and 3 inches high. All exposed construction joints shall be fitted in a workmanlike manner, nails set and holes filled. Swinging doors shall have a device sufficient to hold doors closed. The device may be spring catch, magnetic catch, self-closing hinges or equivalent. Doors shall be properly aligned and operate freely. Drawers shall have drawer guides with nylon glides and shall slide easily. Cabinet finish shall be clean and free from scratches and other defects. All wood surfaces, inside and out, shall be finished and sealed. Cabinet units shall be installed level, plumb and true to line. They shall be fastened to suitable grounds as per manufacturer's instructions. New upper cabinets shall be attached with 3 inch wood screws into solid backing; nailing cabinets is not acceptable. Use closers, filler strips and finish moldings when needed for sanitary and appearance purposes. Upper cabinets shall be set 18 inches above the countertop and 24 inches at sink. At the range there shall be a 30 inch clearance to the bottom of the upper cabinet and 24 inches to the bottom of the range hood. Cabinets at the refrigerator shall be set to clear existing refrigerator.

F. COUNTERTOPS: Top materials shall be high pressure plastic laminate, at least 1/16 inch thick, securely bonded to the base material. Countertops made on site shall use void free exterior grade plywood or high density particle board for base material. Provide 1-1/2 inch front edges and, unless specified otherwise, 4 inch back splash and end splashes. Color and pattern shall be chosen by the Owner. Should new countertop adjoin existing, the new material shall match existing as closely as possible. If a new sink is not scheduled to be installed, re-installing the existing sink shall be part of the countertop installation.

G. METAL BATHROOM ACCESSORIES: All bath accessories shall be chrome plated unless otherwise specified. All locations shall be checked with owner prior to installation. Bath accessories specified for handicapped must comply with the Washington State Barrier Free Design Manual.

SECTION 0700 -- THERMAL AND MOISTURE PROTECTION

I. INSULATION: Insulation work shall comply with specifications on the Invitation to Bid, Department of Commerce and/or grant source utility specifications. Copies of Department of Commerce Weatherization Specifications can be requested from the HPP staff. Utility specifications may be requested from the utility company. A certificate of insulation shall be posted on site and a copy sent to the HPP agency.

2. SIDING

A. GENERAL INSTRUCTIONS: Remove all damaged sections before repairing existing siding. Sheathing and framing behind siding must be solid. New siding shall match existing as closely as possible. Apply siding with corrosion resistant nails long enough to penetrate into studs, blocking and wood sheathing. Head lap and coursing shall be required to prevent entrance of moisture into walls along with moisture barriers and flashing. Stagger joints in adjacent pieces of horizontal siding. Replace all trim incidental to this repair and caulk all joints, paying particular attention to where siding abuts trim or other material.

B. PORCH SKIRTING: New skirting shall be as specified in the Invitation to Bid. When new skirting is scheduled to be installed, existing skirting is to be removed completely. Install sufficient framing or backing for new skirting. All wood shall be at least 6 inches above grade.

C. VINYL SIDING: Prior to starting work, the Contractor shall examine the exterior of the house, including the fascia and soffit areas, to determine if any additional repairs need to be completed that will affect the proper installation of the siding. If any unforeseen repairs are needed, the Contractor will contact HPP staff and request a change order. New vinyl siding shall also include, unless otherwise specified, the following: window and door wraps, fascia and soffit wraps, belly bands, porch trim and all exposed beams, posts and/or columns. Install all flashing, trim, and siding per the manufactures instructions. New vinyl siding shall have a lifetime manufacturer's warranty. Use aluminum or galvanized steel nails with 5/16 inch to 3/16 inch diameter head and avoid face nailing where possible. All nails should penetrate solid lumber a minimum of 3/4 inch excluding point. When going over 1/2 inch plywood sheathing, use nails with full penetration of the sheathing. The Contractor shall provide manufacturer's warranty information to the Owner upon completion of the work.

3. ROOFING AND SHEATHING

A. GENERAL INSTRUCTIONS: Prior to starting work, the Contractor shall examine the roof to determine that all repairs affecting roofing have been completed as scheduled. When new metal chimney, vent stack, roof vent, etc. are scheduled to be installed, the Contractor shall cooperate with other contractors in installing flashing and counter flashing. This contractor shall also install new flashing in place of all damaged, deteriorated or missing flashing incidental to the repair or new installation. New flashing shall be installed in all valleys. The Contractor shall seal all roof openings and exposed roof edges, chimneys, porch roofs, dormers, skylights and vents, with plastic asphalt cement

as needed to insure water tight joints. Roofing shall be applied in accordance with the recommendations of the manufacturer. Once it has been started, the roof application shall not be delayed, except when absolutely necessary due to inclement weather. Each layer of roofing felt shall have been surfaced or glazed by the end of the working day. Should inclement weather arise it is the responsibility of the Contractor to provide adequate protection of the structure and its contents.

When a new roof is installed, roof vents shall be installed to provide adequate ventilation in all attic areas in accordance with current Department of Commerce specifications and the IRC. If the insulation contractor is installing ventilation, the roofing contractor will be notified in the Invitation to Bid.

New roofing installation shall conform to the requirements for the Underwriter's Laboratories, Inc. (UL) Class C label or better; a copy of the guaranteed fire classification shall be provided to the Owner. New roofing material shall have a minimum 25 year manufacturer's guarantee and be specified for a high wind area.

When existing roofing is brittle, badly cupped, or rotted, new material shall not be placed over existing.

The quality of materials and workmanship for repairs shall meet the same standards as new installation. The Contractor shall make repairs or replacements needed to roofing, flashing, drip edges, cant strips, gravel stops, etc. to provide a water proof installation. When removing damaged sections of existing roofing, replace asphalt saturated felt. Color, size and texture and type of new roofing material shall match existing as closely as possible.

B. ASPHALT OR FIBERGLASS ROOFING: For repair, since new shingles shall match existing in type, repair procedure may vary from that for reroofing with new seal downs. Therefore, install new shingles as per manufacturer's recommendation to provide a watertight Class C label roof.

For new installations, when going over existing roofing, exposed edges shall be cut back to the edge of the eaves and new metal drip edge installed. New roof shingles shall provide at least double coverage at all points, including both eaves and rake edges. All new roof installations shall have metal drip edges. If the gable end has no overhang, additional wood trim pieces shall be installed so roofing projects at least 1-1/2 inches beyond the face of the siding. Metal drip edge shall not be installed over new roofing material. New roof underlay shall be one layer #15 asphalt saturated felt and shall be double thickness from the eaves to a point not less than 24 inches beyond the inside face of the exterior wall. Seal double underlay lap to a point 24 inches beyond the inside face of the exterior wall with a continuous layer of plastic asphalt cement. Roof valleys shall be flashed with corrosion resistant sheet metal. New shingles shall be seal down asphalt or fiberglass 3-tab, with a 25 year manufacturer's warranty. Minimum exposure shall be 5 inches; minimum head lap shall be 2 inches. Exposure shall be not less than that required for UL Class C label. The starter course of shingles and rake shingles shall project

over eaves and rake edges approximately 1 inch. Nails shall be corrosion resistant roofing nails and shall be long enough to penetrate sheathing or roof boards. Nailing pattern shall conform to the high wind pattern per manufacturer's instructions. Color of roofing shall be owner's choice of standard readily available.

C. TORCH DOWN ROOFING MATERIAL: Torch down roofing material shall not be installed over existing roofing. Remove existing roofing to wood deck or sheathing. Repair sheathing as needed or specified. Install metal starter edge on all edges. Install torch down roofing as per manufacturer's specifications. Supply the Owner with a copy of manufacturer's warranty. Apply a full coat of reflective top coat if specified.

E. BUILT-UP ROOFING: For repair, remove existing gravel and broom clean roof area. Cut and repair all blisters with hot asphalt. Reinforce low spots. Apply one ply of 40# asphalt-saturated felt. Minimum end lap shall be 4 inches; minimum side lap shall be 8 inches. Cover felt with two mopping of asphalt. Average mopping coats shall be 25# asphalt. Replace gravel stops at exposed edges of built-up roofing where needed. All stops shall be properly secured and lapped sections shall be sealed with plastic roofing cement. Mop all edges thoroughly.

Where roof drains occur in built-up roofing, the roofing for a distance of approximately 18 inches in all directions from the drain shall be pitched towards the drain. Pitch shall be uniform. Contractor shall repair roof drains to working order.

For new installations, remove old roofing down to sheathing. Nail base sheet according to manufacturer's specifications. Base sheet to be 40# felt or equivalent nailed to decking. Then embed 3 layers of 15# felt, mopping between layers with 25# asphalt. Flood coat surface with 30# asphalt and embed gravel or crushed rock. Gravel or crushed rock shall be included with all new roof installations.

F. ASPHALT ROLL ROOFING: New roofing shall be mineral surface asphalt roll roofing, with a minimum weight of 90# per square. Coverage and underlay shall be the same as for asphalt shingle roofing described above. End lap shall be 19 inches minimum for a 3 foot wide roll. Starter strip and edges of roofing shall project over eaves or rake edge approximately 1 inch. Nails shall be corrosion-resistant roofing nails and shall be long enough to penetrate sheathing or roof boards. Roll roofing used for low slope applications shall be selvage type or other product specified by the manufacturer for low slope installations. Color of roofing shall be owner's choice.

G. METAL ROOFING: New metal roofing shall be installed in accordance with the manufacturer's recommendations. Maximum eaves overhang shall be 2 inches and roofing shall lap away from prevailing winds. Full length sheets are to be used when possible. All roofing materials shall carry a minimum 30 year manufacturer's warranty.

For new installations with a 4:12 pitch or greater, end lap of roofing panels shall be a minimum of 6 inches; for roofs pitched under 4:12, end lap of the roofing panels shall be a minimum of 12 inches. All metal roofing installations shall include ridge vents and/or gable vents unless otherwise specified.

All new metal roof installations shall include valley flashing, gable and eaves trim, foam ridge and eaves closure, plumbing vent flashing and eaves and sidewall flashing. Roofing panels shall be fastened to the base with metal screws with rubber washers; nailing is not acceptable.

Color of roofing shall be owner's choice of available colors, however, galvanized and aluminum roofing will not be allowed.

H. CAULKING: All loose, cracked, rotted and broken caulking shall be removed. Apply new caulking at all roof openings and exposed roof edges. New caulking shall be plastic asphalt cement. Clean immediately all brick, concrete or woodwork soiled during caulking.

I. ROOF FLASHING: When roofing or roof flashing is installed, new flashing shall be galvanized sheet metal, .024 inch thick. Piping passing through the roof shall be flashed with one piece metal flashing and cover or two piece flange and sleeve flashing. Nails shall be corrosion-resistant nails and be long enough to penetrate sheathing. All openings through the roof shall be flashed regardless of whether they were flashed previously.

J. ROOF SHEATHING: The repair of portions of existing sheathing shall result in the sheathing for that entire area being on the same plane, so that when new roofing material is applied, the finish surface is even. The quality of materials and workmanship shall meet the same standards as new installation described below.

New sheathing shall be exterior grade 1/2 inch plywood; 3/8 inch exterior grade plywood may be used over skip sheathing unless specified otherwise. Plywood sheets shall be installed in a staggered pattern. If sheet edges do not meet on skip sheathing, H-clips shall be used between each rafter run. Nails or staples shall be galvanized.

K. NAILING INSTRUCTIONS: For new roof installations over sheathing and felt only, fasteners shall be galvanized steel stainless steel, aluminum or copper roofing nails, minimum 12 gage shank with a minimum 3/8-inch diameter head, ASTM F 1667, of a length to penetrate through the roofing materials and a minimum of 3/4 inch into the roof sheathing. Stapling of shingles is not acceptable. Nailing pattern shall conform to the high wind pattern per manufacturer's instructions and the current IRC.

When reroofing over existing roofing, nailing of shingles is the only acceptable means of anchoring the new roof, unless another method is designated by the manufacturer.

4. GUTTERS AND DOWNSPOUTS

A. GALVANIZED METAL GUTTERS AND DOWNSPOUTS: Galvanized metal shall have corrosion preventative coating on inside surfaces. Gutters and downspouts may be baked enamel finish. Minimum thickness of metal shall be 26 gauge. Only seamless gutters shall be installed. No joints will be allowed except at corners and where downspouts attach.

New gutters shall be 5 inch OG (“K type”), or fascia type. Gutters shall be attached with aprons and hangers or combination hangers every 24 inches on center. No exposed strap hangers shall be used. Metal gutter installed over fascia boards on a house with no roof overhang shall be attached to spacer blocks 24 inches on center on wood framing to get gutter at least 3-1/2 inches away from siding and shall be properly flashed. Gutters shall be installed with proper pitch to downspouts so that no water overflow can get back into framing members.

New downspouts shall be 2 inch by 3 inch corrugated rectangular or 3 inch corrugated round. Downspouts shall be attached to gutters and be securely fastened with strap or cast hangers at top and bottom. Provide at least one additional hanger for every 6 feet of downspout. Downspouts shall be provided with extension pieces (elbows) located not more than 6 inches above the splash block and pointed in the direction of flow. Splash blocks shall be installed with all new gutter installations unless otherwise specified.

B. ALUMINUM GUTTERS AND DOWNSPOUTS: New gutters shall be 5 inch OG (“K type”) or fascia. Aluminum shall be baked enamel finish with corrosion preventative coating on inside surfaced. Minimum thickness of gutters shall be 0.027 inch; minimum thickness of downspouts shall be 0.019 inch. Only seamless gutters shall be used. No joints will be allowed except at corners and where downspouts attach. Installation shall be the same as for galvanized gutters and downspouts.

C. CLEANING AND TIGHTENING GUTTERS AND DOWNSPOUTS: When cleaning and tightening of gutter and downspouts is scheduled, all joints shall be made watertight. All gutters and downspouts shall be securely connected and firmly supported and fastened.

D. SPLASH BLOCKS: New splash blocks shall be either fiberglass or cast concrete and be installed in such a manner as to direct water away from the building.

SECTION 0800 -- DOORS AND WINDOWS

I. GENERAL INSTRUCTIONS

Whenever window assemblies, sashes or doors are being replaced, frames, headers and sills shall be repaired to provide a true, straight, square, plumb, level and rigid enclosure for the new installation. Flashing shall be replaced as needed. All openings between wood, masonry, and metal shall be caulked. Should the openings be deeper than 1/4 inch, they shall be first packed with a backing (flexible polyurethane, polyethylene, polyvinyl chloride, cured polysulfide, sponge rubber, neoprene or butyl rod) manufactured for this purpose to within 1/4 inch of the face surface and then caulked. All new sash or doors shall fit tightly in their frames and shall operate smoothly and easily. Contractor shall repair all trim incidental to the operation of the sash or doors.

When windows are to be glazed, new glass shall be Grade B or better, unless otherwise specified.

When storm doors are to be reglazed, sheet plastic ("Plexiglas") may be used in place of tempered safety glass.

All hardware within a room shall be similar in style and finish. 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. These fastenings shall harmonize with the hardware as to material and finish. The finish hardware shall be securely fitted on properly prepared surfaces in conformity with the hardware manufacturer's instructions and templates. Carpentry cuts for the finish hardware shall be carefully and accurately made. Screws shall be turned to a firm grip but not to the point of distorting the hardware and in no case shall the screws be hammered into place. New doorknobs shall be positioned at the height of the existing doorknobs in each building and the other hardware shall be uniformly positioned.

2. EXTERIOR DOORS

A. SPECIAL INSTRUCTIONS: All exterior doors, except service doors for unheated garages and other outbuildings, shall be fully weather-stripped. Hinges for an exterior door swinging out shall have a setscrew in the barrel to prevent the removal of the pin when the door is closed. Hinges shall be brass, stainless steel or galvanized under plating to prevent rusting. All doors between a carport or garage and the house shall be solid core type, or equivalent, and have self-closing hardware. Door shall be fire rated in accordance with IBC.

B. GARAGE DOOR HARDWARE: On attached garages and for security purposes, a new latch lock shall engage both sides of door when closed. Door shall key outside, but shall lock and unlock from both inside and outside. Outside lock handle shall be chrome plated.

C. HARDWARE, WEATHER-STRIPPING, THRESHOLDS, JAMBS, AND STOPS FOR EXTERIOR DOORS:

New entrance lockset shall be polished brass or brushed aluminum finish. Cylindrical lock shall key outside with turn or push button on the inside; new locks shall be keyed alike and shall have dead pin. Contractor shall furnish two keys with new hardware. Double cylinder deadbolts are not allowed. New escutcheon plates shall be installed to cover unsightly marks when replacing existing hardware. Floor, base or hinge door stops shall be installed for all exterior doors.

D. WEATHER-STRIP: Package shall include new weather-strip and door sweep installed to stop all air infiltration around entire perimeter of door. New weather-stripping shall be cushion bronze, interlocking aluminum, or compression-type vinyl. It shall be installed continuous around door casing to prevent infiltration of dust, water, and wind. New threshold shall be metal, water return type, with integral weather-stripping and shall fit watertight with door. Caulk at exterior edge. New jambs and stops shall be clear fir, pine, or mahogany. Thresholds shall be fully supported.

E. WOOD EXTERIOR DOORS: Type of new door shall be mahogany, solid core. Door shall be installed with new entrance lockset hardware, deadbolt lock, self-closing hardware where required and weather-strip package. Door shall be hung with three brass or brushed aluminum finish 4-inch butt hinges. When door is to be painted, it may be paint grade. All exterior wood doors shall be sealed upon installation. This shall include sealing the interior, exterior and all edges of the door, including the top and bottom. Finish shall be of owner's choice.

F. WOOD PRE-HUNG EXTERIOR DOORS: New pre-hung door package shall include solid core wood door, jamb, casing, stops, trim, weather-stripping, threshold, all hardware and deadbolt locks. Opening shall be trimmed. Unless specified differently, door will be mahogany. Follow instruction for wood exterior doors. Thresholds shall be fully supported.

G. STEEL OR FIBERGLASS PRE-HUNG EXTERIOR DOOR PACKAGE: New pre-hung door package shall include steel-clad or fiberglass door with wood or polyurethane core, wood jamb, casing, stops, trim, weather-stripping and aluminum threshold, all hardware, and deadbolt lock. Opening shall be trimmed. Door shall be hung with three brass or brushed aluminum finished 4-inch butt hinges. Thresholds shall be fully supported.

H. ALUMINUM STORM DOORS: When a storm door is scheduled to be repaired, locking hardware, safety door check, and closure shall be repaired, or replaced if needed. Door shall operate smoothly and fit weather tight in frame. New storm doors shall be anodized aluminum or steel with baked enamel finish. All meeting rails shall be interlocking and weather tight. Door shall have self-storing glass sash and insect screens. Replacement inserts shall fit tightly in existing tracks. All sashes shall be easily removed for maintenance and reglazing or repair. Glass shall be tempered safety glass and comply with IBC Standards. Screening shall be 18 x 16 anodized aluminum or fiberglass screen cloth. No metal to metal contact is permitted at the junction of the door and frame. Door shall be weather-stripped at bottom rail or an aluminum threshold with integral weather-stripping shall be

provided. Door shall lock with a turn button on the inside, but need not be keyed. All storm doors shall have safety door checks and closers. Frame shall fit weather tight in existing masonry or wood frame. Caulk at frame. The bead shall be at least 3/8 inch in surface. After installation, aluminum shall be thoroughly cleaned with plain water or a petroleum product such as white gasoline, kerosene or distillate. No abrasive cleaning agents shall be used. Storm door unit shall meet Architectural Aluminum Manufacturers Association (AAMA) performance standards.

I. GLAZING INDOOR WALLS: When either the sliding or fixed panel of a door is scheduled to be reglazed, new glass shall be at least 3/16 inch tempered safety glass.

3. INTERIOR DOORS

A. HARDWARE, JAMBS AND STOPS FOR INTERIOR DOORS: New passage set hardware shall be polished brass or brushed aluminum finish. Doors to bathrooms or toilet rooms shall have privacy lock, push button or turn button on the inside. Escutcheon plates shall be installed to cover unsightly marks when replacing existing hardware.

New jambs and stops shall be clear fir or pine, or mahogany. Finger jointed material is unacceptable at stain grade locations. Moisture content shall not be above 19%.

B. WOOD INTERIOR DOORS: Type of new door shall be as scheduled. Replacement panel doors shall match existing as closely as possible. Louvered doors shall be ventilating type. Door shall be installed with new passage set hardware and shall be hung with two brass or brushed aluminum finish 3 1/2 inch butt hinges. When door is to be natural finish, it shall be stain grade wood or it may be pre-finished. When door is to be painted, it may finger jointed jambs. Finish shall be of owner's choice.

C. WOOD PRE-HUNG INTERIOR DOORS: New pre-hung door package shall include wood door, jamb, casing, stops, trim and all hardware. Type of door shall be as scheduled. Opening shall be trimmed. Finger jointed material is unacceptable at stain grade locations. Finish shall be of owner's choice.

D. BI-FOLD, SLIDING AND MISCELLANEOUS DOOR HARDWARE: When scheduled to be repaired or replaced, finger pulls, knobs, push plates, door tracks, door stops, etc., found to be worn, defective or missing shall be installed new. New hardware shall be polished brass or brushed aluminum finish. All hardware within a room shall be similar in style and finish. Mixing painted with unpainted hardware is unacceptable.

E. WOOD BI-FOLD DOORS: Type of new doors shall be as scheduled. Door shall be installed with new hardware. When two pairs of doors are being installed, a door aligner shall be provided where the center panels meet. Package shall include wood bi-fold doors, jambs, casing, stops, trim and all hardware. Finish shall be of owner's choice.

4. WINDOWS

A. SPECIAL INSTRUCTIONS: A new window assembly shall include sash, jamb, casing, mullions, frame, sill, stool, apron and all trim as appropriate to the particular type. Finger jointed material is unacceptable when wood is to be natural finish. Window assemblies shall be installed with all operating hardware and all sashes shall fit tightly in frames. All opening windows shall have screens. All sashes shall be weather stripped. All sashes shall operate smoothly and easily. The sash shall be class 40 if the home is electrically heated.

Replacement sash shall match existing as closely as possible. Install new sash as per manufacturer's recommendations, complete with new operating hardware. Open able sash shall have some means of being secured. Sash shall fit tightly in frame to prevent infiltration of dust, water and wind. New sash shall operate smoothly and easily.

New windows shall meet all requirements regarding light, ventilation, and egress per the current IRC.

B. CHECKING, FITTING AND FREEING WINDOWS: A sash that is painted shut shall be freed and the sash and its operating hardware shall be readjusted for smooth and easy operation. Sash locks that are not scheduled to be replaced shall be repaired and realigned as needed to firmly secure windows. When existing weights or counter-balances for double-hung windows are found to be inoperative and cannot be easily repaired, new "quickie" or "jiffy" type spring window controls shall be installed. Spring shall be fastened securely.

C. HARDWARE: All window hardware within a room shall be uniform in style and finish. New hardware shall not be painted. Locking window hardware shall be cast metal type; stamped metal type shall not be used. When locking hardware is scheduled to be replaced, finger lifts and pulls shall also be replaced. New hardware shall be polished brass or brushed aluminum finish.

D. STOPS, STOOLS AND APRONS: New wood trim shall be clear fir, hemlock, or mahogany. Finger jointed material is unacceptable when wood is to be natural finish.

E. WOOD WINDOW SASH: One-over-one type: New sash shall have spring or tension counter-balances. "Quickie" or "jiffy" spring window controls are acceptable only when the existing operating mechanism is unusable in the new installation. Window lifts and locking hardware shall be polished brass or brushed aluminum finish.

F. VINYL REPLACEMENT WINDOWS AND VINYL STORM WINDOWS: New replacement windows and storm windows shall be constructed of PVC vinyl. All meeting rails shall be interlocking and weather tight. Unit for double-hung storm window shall consist of self-storing insect screen and two storms. Sash and screens shall be easily removed from the inside for maintenance and reglazing or repair. Storm doors and screens for all other types of windows shall be compatible with their operation so that they can be removed with a minimum of effort. Replacement inserts shall fit

tightly in existing tracks. All operating windows shall have insect screens; wherever possible, self-storing units shall be installed. Glass shall comply with current IRC. Replacement screening shall match existing. New screening shall be anodized aluminum or fiberglass screen cloth. Weep holes in the sill shall be provided at the factory. Frame shall fit weather tight in existing masonry or wood frame. Caulk at frame with sealant, if needed. The bead shall be at least 3/8 inch across surface.

SECTION 0900 -- FINISHES

I. PLASTER

A. PLASTERING: When patching plaster, all broken or damaged plaster shall be cut out to straight lines with clean, sharp edges. New lath and reinforcing strips shall be installed if needed. Use plaster bond material for proper adhesion of new plaster to existing. The areas to be patched shall be filled with base material and then given a finish coat of the same material as adjoining plaster. Patched areas shall match the adjacent work in finish and texture and be free of bulges. Joining shall be flush and smooth so that the joints between the existing and the new plaster are undetectable. Cracks shall be V-jointed and bonded with fiberglass tape and joint compound, in the same manner as a drywall joint.

Prior to application of new plaster, all bulging, loose or otherwise defective plaster shall be removed. New expanded metal lath, plaster stops, grounds, corner and casing beads and corner reinforcement shall be installed as needed. Support and fasten lathe to provide true lines and surfaces for new plaster. Use flat reinforcing strips where existing and new plaster surfaces butt together. Install reinforcing at all points where surfaces change or where cracking is likely to occur. All metal shall be galvanized or coated with rust inhibiting paint. New applications shall be three coat wet plaster over metal lath, two coat wet plaster over gypsum "rock lath" or two coat veneer plaster system. Apply plaster with minimum thickness as established by industry standards for the type of bases being used.

B. EXTERIOR STUCCO PLASTER: Remove all damaged stucco. Repair metal lath or wire fabric. Over wood frame construction, apply new three coat finish and over masonry surfaces apply new two coat finish. Scratch coat shall be uniformly roughed to provide a sound base for brown or top coats. Top coats shall match existing in texture and finish. Do not apply stucco plaster when the temperature is above 90 degrees F or below 40 degrees F, or when the temperature is not expected to remain above 40 degrees F until initial set. Stucco plaster shall be kept damp until initial set.

2. DRYWALL

Drywall installed over framing members shall be 1/2 inch on walls and 5/8 inch on ceilings, except that for installations requiring a one hour fire rating it shall be 5/8 inch Type X. Drywall installed over existing surfaces shall be no less than 3/8 inch on walls and 1/2 inch on ceilings.

New drywall shall be tapered gypsum wallboard. When going over existing surfaces, first remove all damaged material and fur walls or ceilings so that the finished product is properly aligned. Edges and ends of wallboard shall occur on framing members, except those edges and ends that are perpendicular to the framing members. To minimize end joints, use wallboard of maximum lengths. Wallboard shall be first applied to ceilings, then to walls. When both sides of partitions are to receive wallboard, stagger joints on opposite sides. Protect all vertical exterior corners with corrosion resistant metal corner bead. When butting up to existing trim, cut drywall carefully and use casing beads for all exposed edges. Where surfaces are to be painted or wallpapered, joints shall be taped and both joints and nail depressions shall have three coats of joint cement applied as per manufacturer's

recommendations. All edges shall be feathered. Finish surfaces shall be sanded smooth and left straight and well aligned. Texture spray finish is not to be used on ceilings unless specified otherwise. When used, texture spray shall be medium texture, hard finish only--no coarse, polystyrene or other soft finish will be allowed. Before application, prime ceilings with a vinyl primer or equivalent. Any existing surfaces to receive texture spray must also be properly prepared for complete adhesion and non-burn through. Application shall be as per manufacturer's recommendations. No finishing or drywall shall be done unless inside temperature is at least 55 degrees F. This temperature shall be maintained during and up to completion of finishing, including drying. Moisture resistant drywall or concrete wallboard shall be used in areas subject to moisture and in bathrooms, except on ceilings.

3. CERAMIC TILE

When repairing existing tile, first remove all cracked, loose, chipped or otherwise defective tile. Then repair setting bed or wallboard to provide a level surface for installation of new tile. When repairing floor tile, wash adjacent areas with a solution to remove all 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 does not match existing, replace complete rows or areas. Carry rows and areas into corners.

New tile shall be installed in the following manner. Base surface shall be smooth and plumb or level. Prior to application of adhesive, surface to receive tile shall be sealed with a water resistant sealer compatible with the adhesive to be used. Sealer shall provide a firm and durable bond to the base material. Tile adhesive may be used as the sealer when designed for this purpose, but must be applied in a separate coat. Apply adhesive to entire surface to be tiled with a notched spreader blade. New wall tile shall be standard grade, glazed ceramic tile. New floor tile shall be glazed ceramic mosaic or ceramic tile as indicated in worklist. Color of tile shall be owner's choice. All tile installations shall be properly trimmed using caps, bases, etc. Tile shall be set by "floating method." Allow at least 24 hours for evaporation of volatiles from adhesive prior to grouting. Joints shall be thoroughly saturated and washed out with clean water before grouting. All tile joints shall be filled with pointing grout. Joints between tub and tile and joints between tile and any dissimilar material shall also be grouted and caulked with a silicone sealant. Force grout into joints taking care that no open joints are left. Joints shall then be sponged and tooled. New tile and any surrounding surfaces soiled during the repair work shall be cleaned immediately. All exposed tile edges shall be bull-nose tile. (See Material Allowances, Appendix A)

4. TUB/SHOWER SURROUND

Type of materials shall be as specified. All tub wraps shall be a minimum of 6 feet above finished floor unless specified otherwise. All tub wraps shall include a flush mount soap and grab. All tub wrap installation to include new water resistant drywall or concrete wallboard unless otherwise specified. Owner's choice of color and design from standard available products.

5. FLOOR AND FLOOR COVERING

A. HARDWOOD FLOORING: When repairing or replacing hardwood flooring, all defective hardwood flooring shall be taken up from the subfloor, using care not to rip or break the tongues from the flooring strips of pieces that are intended for reuse. Flooring shall be shimmed where necessary and be properly secured at points of bearing. The entire floor, both existing and repaired, shall then be inspected for protruding nails, and nails found to have popped out shall be countersunk. Sand, lacquer, and refinish as needed. Replacement flooring shall match existing as closely as possible.

B. ASPHALT TILE, VINYL COMPOSITION TILE (VCT) AND SHEET VINYL:

Replacement tile shall match existing in type, size, pattern and texture. New tiles shall be residential grade. Asphalt tile shall be 1/8 inch thick; VCT shall be 1/8 inch thick. Tiles shall be 9 inch by 9 inch or 12 inch by 12 inch. Colors and patterns shall be homogeneous throughout the full thickness of tiles. Color and pattern shall be owner's choice. Self-adhesive tiles will not be allowed.

New sheet vinyl shall have a wearing surface no less than 0.010 (10 Mils). Color shall be owner's choice. It shall be installed full size with a minimum of seams. Seams will not be allowed in doorways or other high traffic areas. When installed in areas of high moisture, bathrooms and utility rooms, it shall be seamless. All floor coverings shall meet or exceed FHA requirements and must be labeled as such. All sheet vinyl floor covering shall be installed according to manufacturer's recommendations.

Baseboards shall be replaced to match existing. Where no baseboards exist, vinyl top-set base shall be included with the floor installation.

C. CONCRETE PREP: All surfaces to receive resilient flooring shall be clean, dry and level. All cracks, depressions and voids shall be filled or repaired. Concrete floors shall not vary from a level surface more than 1/8 inch in 10 feet in any direction. Where leveling is required, leveling latex for concrete shall be used. Prime concrete slabs on grade or below grade with a cut back before applying adhesive. For all installations, use an adhesive recommended by the resilient flooring manufacturer and apply per instructions. All flooring shall extend under the base shoe molding. Resilient flooring shall be laid with tight joints at all points of contact. Tile stops shall be installed at all exposed edges and changes of material, and stair treads shall have edges as described below. New rubber or vinyl cove base shall be considered a part of a new floor covering unless the Owner wishes to reuse existing wood base.

D. WOOD PREP: New underlayment shall be underlayment grade plywood, or suitable materials approved by sheet vinyl manufacturer, developed for use under resilient flooring. Masonite or tempered hardboard will not be allowed. Underlayment shall be 3/8 inch except that 1/4 inch underlayment may be used over plywood subflooring or T&G boards not more 3 inches wide. Nail or screw all underlayment per the current IRC. In all cases, floors receiving new underlayment shall be smooth and free from any uneven joints, bulges and depressions. When resilient flooring is to be installed directly over subflooring, subflooring shall be a combination subfloor/underlayment plywood

(void free). Types and grades shall be the same as for plywood underlayment. Thickness shall be determined by span and spacing of floor joints.

E. CARPET OR TILE STOP: New divider edge shall be aluminum, approximately 1 inch wide. It shall be attached with countersunk aluminum screws.

F. STAIR EDGING: New stair tread nosing shall be aluminum, rubber, or vinyl. Nosing shall be installed on each tread and landing. Install per manufacturer's recommendations.

G. COVE BASE: New base shall be minimum 2-1/2 inch rubber or vinyl cove base unless matching existing base of a different height or otherwise specified. Use preformed inside and outside corner pieces and an adhesive recommended by the manufacturer. Base shall be neatly installed and be firmly cemented to walls and floor. Joints where bathroom floors meet walls shall be watertight. All corner pieces shall be neatly cut and tight fitting; wrap around corners will not be allowed. Use adhesive recommended by the manufacturer on all cove base. Color shall match new or be compatible with existing resilient flooring. Pre-finished wood base will be allowed and specified for certain applications.

H. CARPETING AND PADDING: New carpeting and padding shall, as a minimum, conform to those specifications contained in HUD UM-44C. Type, color and pattern of carpeting shall be owner's choice. Bonded urethane padding shall conform to HUD UM-47. Carpet shall be installed according to the best standards of the trade. The Contractor shall provide a certificate to the Owner stating the carpet installed is FHA approved or meets the minimum standards required for FHA approval. When carpet is installed in a specific room, all closets shall be considered as part of the room.

SECTION 1000 -- VENTING

I. EXHAUST FANS AND DUCTED RANGE HOODS

Ventilation equipment shall bear the label of approval of a nationally recognized testing agency, and a Home Ventilation Institute or manufacturer's label showing capacity. Duct work shall be ridged metal and designed for the shortest practical run to the exterior. Installation of duct work shall comply with IBC specifications. Discharge openings through roofs and walls shall be protected against entrance of rain, snow and wind. Exhaust fan units shall be installed complete with louvers and back draft dampers which will automatically close to prevent a reverse flow of air when the fan is not in operation. Duct ends shall be sealed and mechanically fastened. When replacing an existing fan, existing ductwork and related accessories may be reused if they are in good condition and appear to have a remaining life equal to that of the fan. Existing ductwork shall be inspected for obstructions and continuity. Ductless range hoods shall not be installed.

A. BATH AND LAUNDRY ROOM FANS: When a bathroom fan is installed, it shall be installed complete with switch (of specified type), ductwork and all accessories unless specified otherwise. Fan motor shall be moisture proof and UL listed. Fan shall be wall switched; switch shall be separate from light switch. Fan shall be rated for insulation cover. Size of fan will be specified in the Invitation to Bid. Bath and laundry room fans are to be a minimum of 50 cfm. Grill shall be anodized aluminum or plastic. Undercut door if necessary for air movement.

B. WHOLE HOUSE FAN: When a Whole House exhaust fan is to be installed, it shall be installed complete with switch, ductwork, and all accessories. Fan motor shall be UL listed. Fan shall be wall switched and have 24 hour timer capabilities, or be hard wired for continuous operation. Switch shall be separate from light switch. Fan shall provide a minimum of 15 air changes per hour, meet the ASHRAE 62.2-2004 requirements and have a sone rating of 1.5 or less. Grill shall be anodized aluminum or plastic.

C. KITCHEN HOOD FAN: Range hood shall be installed complete with ductwork and all accessories. Unit shall be a minimum of 100 cfm, include a recessed light and removable, washable grease filter. Color shall be owner's choice.

All venting and ducting practices and materials must meet IBC specifications.

SECTION 1100 -- PLUMBING

I. GENERAL INSTRUCTIONS

All materials, piping, fittings, fixtures, etc., shall conform to the latest American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), Commercial Standards (CS) and Federal Specifications (FS) standards. All equipment and materials used shall be new and clearly marked to permit identification of manufacturer, model and type. Installation and materials of fixtures specified for persons who are disabled must comply with the Washington State Barrier Free Design Manual.

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 retested until proven satisfactory.

All replacement sewer, water or gas systems shall be installed complete and, if necessary, final connections shall be made to the sewer main, gas meter, or water meter.

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. All service and supply lines installed in a location where freezing may occur shall be insulated with closed cell foam insulation, or wrapped with fiberglass batt insulation without vapor barrier. If pipe insulation is to be done by the insulation contractor, notice will be given in the Invitation to Bid.

All excavation and backfill necessary for the installation of new underground piping shall be 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 building foundation.

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

All drilling, cutting, and patching necessary for a 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.

Fixtures and equipment furnished by others which require plumbing connections to waste, water, vent or gas piping shall be connected by the Contractor.

All work shall be done without damage to structural members.

Sleevings shall be provided where required and upon completion of rough in work, sleeves shall be made sound and fire tight.

Penetration of stud and masonry walls, floors, and ceilings shall be fire stopped.

All joints and connections in the plumbing and drainage systems shall be gas and water tight for the pressures required by the test of the system, with the exception of those portions of piping which are installed for the purpose of leading ground or seepage water to the underground storm drains.

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

Existing plumbing systems, or portions thereof, including building sewers (side sewers), to remain in use shall operate free of fouling and clogging, and shall not have cross-connections which may cause contamination of the water supply by back-siphon age.

Gas lines shall be blown clean with compressed air, and all valves and filters shall be checked.

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

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

2. WATER, SEWER, FUEL AND VENT PIPING

A. GENERAL INSTRUCTIONS: New piping at the exterior of a building shall be at least 18 inches below grade. Piping shall run parallel to the building construction and be neat and workmanlike. Piping shall be concealed in walls, below the floor, above the ceiling or in furred spaces. Piping shall be properly supported and be pitched to drain. Water and gas piping shall be run level without pockets and as straight as possible. New hot and cold water supply lines shall be at least 6 inches apart where parallel. Expansion and contraction shall be provided for by swing joints. New soil, waste, vent and drainage piping shall be run at a uniform grade of at least 1/4 inch per foot (2 percent grade). Lines under slabs shall have as short a run as possible and the run shall be as straight as possible. Copper lines shall be wrapped with plastic tape where they come in contact with any metal other than brass or lead. All connections between copper or brass and steel piping shall be made with dielectric couplings. All metallic piping shall be bonded together. Screwed pipe joints shall have threads cut the full thickness with new, clean dies. The joints shall be carefully reamed and pipe joint compound shall be applied smoothly to the male threads and to the threads left exposed after fabrication.

B. REPLUMBING HOUSE TO CODE: This is an instruction to the Contractor and means that all water distribution piping, soil, waste and vent piping shall be installed new. Only the installation or repair of individual plumbing fixtures shall be listed in the work specifications.

C. WATER SERVICE: New water service shall be of sufficient size to permit a continuous and ample flow of water to all fixtures at all times. Frictional losses due to piping, meter, valves, fittings and faucets shall be considered when piping size is being determined. The water service pipe shall be installed in such a manner and shall possess the necessary strength and durability to prevent leakage under all likely adverse conditions, such as corrosion or strains due to temperature changes, settlement, vibrations and superimposed loads. The Contractor shall be responsible for providing the meter and all necessary piping to complete the installation and to coordinate installation of the meter with the appropriate Water Department.

D. GATE VALVES: The water piping on the discharging side of the water meter shall have a full way gate valve with bleeder screw. Gate valves shall be readily accessible, whether located in the basement, crawl space or within the living space itself.

E. WATER SUPPLY (DISTRIBUTION) PIPING: New distribution service lines shall be hard temper type M copper tubing or galvanized steel. New branch service lines shall be no less than 1/2 inch. Rodent proof penetrations shall be made through floors.

F. HOSE BIBBS: Hose bibs shall be located according to work specifications to provide an outside source of water. Hose bibs shall be frost proof type or have separate accessible stop and waste valve or readily accessible inside shut off.

G. BUILDING SEWER (AND/OR SEPTIC): All sanitary plumbing outlets shall be connected to combined or sanitary sewer systems when they are available. A new building sewer shall be constructed of cast iron, vitrified clay, concrete or plastic. The sewer shall be constructed with watertight joints, be on a grade not less than 1/8 inch per foot, be laid on a firm bed, and be at a depth not less than 18 inches below grade. No tees or 90 degree ells shall be used. Cleanouts shall be installed as required by the IBC Standards, or the UPC, whichever prevails. All abandoned septic tanks shall have sewage pumped and be filled with gravel or sand and be properly decommissioned in accordance with Clark County Health Department standards by an approved contractor.

H. SEPTIC SYSTEM INSTALLATION: New septic systems shall be installed in compliance with approved design and inspected by Clark County Public Health Department and approved by a County Health Official.

I. SOIL AND WASTE PIPING (INCLUDES DRAINS AND STACKS): Soil and waste piping and fittings shall be extra heavy or service weight cast iron, galvanized steel pipe, copper pipe or hard temper type K,L,M, or DWV copper tubing, or plastic approved under City and/or County codes. Soil

stacks shall rest solidly at the base on masonry piers or heavy iron posts and be supported at intervals of no more 10 feet by stout wall hangers or brackets or on beams at each floor. No new soil or waste pipe shall be installed or permitted outside a building or be in any place where it may be subjected to freezing temperatures, unless adequate provisions are made to protect it from frost.

J. FLOOR DRAINS: No floor drains shall be installed in any location or manner which will interfere with proper functioning. The drain shall connect to the sanitary drainage system with an approved trap having a minimum 3 inch depth of seal. Drain shall have a backwater valve if the drain is below the elevation of the curb or property line. A primer may also be required.

K. SUMP PUMPS: New sump pumps shall be submersible type. When connected to the sanitary system, the discharge line piping shall have an accessible backwater valve and gate valve. The connection from the discharge line to any horizontal sanitary drainage piping shall be made from the top through a Y-branch fitting. All installations shall be done in accordance with the IRC, and the UPC standards.

L. ROUTING DRAINS AND BUILDING OR SIDE SEWER: Drains scheduled to be routed shall be cleaned with a power driven rotary clean-out apparatus similar to the root-roooter device. Cleaning area drains shall include either replacing or recaulking the drainage strainers. Building sewers and side sewers scheduled to be routed shall be cleaned all the way to the main sewer connection(s). Drains, when routed, shall be free of all miscellaneous debris so as to allow the free and unobstructed flow of liquids and solids.

M. 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 under code. Vent piping shall extend at least 6 inches above finish roof surfaces. Revent 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 inch in diameter. Revent shall tie into soil stack or waste stack at a point at least 6 inches above the last fixture connected to the stack. No new vent piping shall be installed on the exterior of the building. All new vents shall be concealed in the wall. New piping passing through the roof shall be flashed with a not lighter than 26 gauge galvanized metal flashing assembly or plastic flashing. Flashing shall be set in waterproof mastic compound and be caulked around the vent. Flat roof flashing shall be the commercial type with a horizontal leg equal all around the base.

N. FUEL PIPING: New fuel piping shall comply with all requirements per the State of Washington, Clark County local regulations and the International Fuel Gas Code.

3. PLUMBING FIXTURES

A. GENERAL INSTRUCTIONS: New plumbing fixtures shall be standard builder's models unless otherwise specified. Unless otherwise indicated, color of new fixtures shall match existing or be white.

Fixtures shall be installed complete and ready to use. Appropriate grounds and supports shall be provided for each fixture and equipment item. Arrangements shall be made with other trades for the installation of built in items, blocking or necessary supports. Coordinate installation of plumbing fixtures with floor contractor.

All new exposed trim, fittings and pipe in finished spaces shall be chrome plated brass or be covered with chrome plated brass sleeves.

B. WATER HEATER: Package shall include a new glass lined, quick recovery water heater, size as specified. Heater shall be equipped with a shut off valve on the incoming waterline, a pressure/temperature relief valve, (150 and 210 degree rating) with a discharge tube to the outside of the dwelling or to 24 to 6 inches of a garage or basement floor having drainage. Heater shall be installed with wiring, or fuel piping, draft diverter and vent, as appropriate to type. Heater shall have a 5 year warranty on the tank, and shall be UL listed or American Gas Association certified. When new water heaters are to be relocated, they shall be installed to provide the shortest run possible from the new water heater to all fixtures. Tank will be an energy efficient type requiring no further insulation wrap. **Temperature will be set at 120 degrees.**

Flue pipe for gas water heaters shall be at least 28 gauge galvanized sheet metal. It shall have a minimum slope of 1/2 inch per foot with no horizontal lengths of pipe exceeding 75 % of the height of the chimney or vent. Flue or vent connections shall have a diameter not less than the vent outlet on the heater. The flue pipe shall extend beyond the fire clay lining, but no flue pipe shall be vented into a chimney which is used for a fireplace or has a wood stove or wood furnace connected. Flue pipe can be vented into Class B vent.

C. KITCHEN SINK: Package shall include new porcelain enameled or heavy duty stainless steel countertop sink, swing faucet with spray attachment and hose, removable cup strainers, fixture stops, supply lines, and waste with trap. Sink shall have ledge unless space restrictions require otherwise. Entire unit shall be connected to service and waste lines. It shall be the responsibility of the plumbing contractor to cut the hole for the sink.

D. LAVATORY: Wall mounted package shall include new porcelain enameled steel or cast iron lavatory, faucets with trip waste, fixture stops and supplies, trap, and wall hanger and legs.

E. VANITY: Package shall include new vanity base, countertop with back splash, porcelain enameled steel lavatory, center set faucets with trip waste, fixture stops and supplies, and trap. Lavatory may be one piece basin or countertop. Quality of vanity sink base and countertop shall equal that of new kitchen cabinets and countertops. New vanity base to be a minimum 24 inch width unless specified otherwise.

F. TOILET: Package shall include new vitreous china bowl (siphon jet action type) with close coupled tank and cover, plastic seat, new flange, wax ring, bolts, caps, fixture stop, supply lines, float-less valve and trip lever. Plastic tanks are not acceptable. When installing or re-installing a toilet, they shall be caulked around their base with silicone caulk.

G. BATHTUBS: Package shall include new porcelain enameled steel bathtub, pop-up waste and overflow with trap, concealed shower divider with trim and fittings. Tub will be recess type 5 feet by 30 inches, unless otherwise specified.

H. SHOWER STALL: Package shall include new fiberglass base, size as specified, with trap, vent and concealed faucet and shower leg with all trim and fittings. Shower stall wrap shall either be plastic laminate, or three piece rigid molded fiberglass unit over new water resistant drywall or concrete wallboard. (Type of wrap will be specified in worklist.) Free standing shower stall and shower stalls designed for corner installation will not be allowed unless specified.

SECTION 1200 -- ELECTRICAL

I. GENERAL INSTRUCTIONS

All materials and equipment used shall conform to the latest UL, ANSI and FS standards, as well as to all other applicable standards. All materials and equipment used shall be clearly marked to permit identification of manufacturer, model and type.

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 retested until proven satisfactory.

All new materials shall be in good condition. Each type of material shall be of the same quality throughout the project.

All finished parts of the equipment and equipment for the work of this section shall be protected against damage from whatever cause during the progress of the work and until final completion. All electrical materials and equipment in storage and during construction shall be covered in such a manner that no finished surfaces will be damaged or marred.

All wiring, fixtures, switches, receptacles, etc., shall be installed with all accessories.

Fixtures, equipment and materials furnished by others which require electrical wiring, connection, or related electrical work shall be connected by the electrical contractor.

The Contractor shall in no case install permanent electrical equipment that may be damaged by the rough in for heating, ventilation, or plumbing equipment.

The Contractor shall do all drilling, cutting and patching required for the installation of the work under this section. All patching shall be of the same materials, workmanship and finish as the original work and shall match all surrounding work, painting excluded.

All electrical equipment and exposed wiring not in use shall be disconnected and removed.

The Contractor shall keep all parts of the building and site free from accumulation of rubbish and waste materials caused by work under this section and shall remove such accumulation from the site. All parts of the electrical apparatus and equipment shall be thoroughly cleaned of cement, plaster and other foreign materials and be left smooth and clean.

When a new service is installed it shall be the electrical contractor's responsibility to insure that all obstructions to the service drop are removed.

The electrical contractor is responsible for disconnect and reconnect fees from the utility.

A. WIRING: All conductors shall be plainly marked or tagged as follows: 1) Underwriter's Laboratories, Inc. label; 2) Size, kind and insulation of the wire 3) Name of the manufacturing company and the trade name of the wire; Month and year when manufactured (date shall not exceed 8 months prior to the date of delivery to the site, except for feeders).

Hot water heater circuit shall be #10 copper AWG., 30 amp circuit.

Range circuit shall be #6 copper AWG, 50 amp circuit.

Branch circuit wiring for 20 amp circuits shall be #12 copper AWG and all other branch circuit wiring shall be no smaller than 15 amp circuits and #14 copper AWG.

Unless otherwise required by code, all new wiring shall be sheathed cable. New 15 and 20 amp circuits shall be 2 wire with ground.

Outlet boxes shall be UL and or ANSI listed and approved for the type of application being used, (Residential or Commercial). All boxes shall be of the proper size for the number of wires or conduits passing through or terminating in the box. Approved factory made knockout seals shall be used in all boxes where knockouts are not intact. All outlet boxes shall be accurately placed and securely fastened to the structure independently of the conductor. The plastic rings shall be set flush with the surface of the ceiling or wall. The hangers for the light outlets shall have adjustable studs. Surface mounted boxes and "Wire Mold" are acceptable only if areas for new circuits are not accessible in any manner without doing severe damage to walls and ceilings.

When work is completed, the wiring and connections shall be tested for continuity, short circuit, proper grounding, GFCI function, and approved by the authority having jurisdiction.

B. REWIRE HOUSE TO CODE: New electrical service and all branch circuit wiring, fixtures, switches, receptacles, cover plates, etc., shall be installed new according to the National Electric Code. Only minimums will be required, and only special additional work such as wiring to detached garages, additional fixtures, special devices, etc., shall be listed in the Invitation to Bid.

C. GARAGE CIRCUIT: New circuit to the garage shall be an independent branch circuit of 20 amp capacity. Circuit shall include new conductor, a keyless (switched) fixture for each parking space and at least one GFCI protected receptacle. Service shall be installed complete with all wiring and accessories.

D. FURNACE CIRCUIT: New circuit shall be an independent branch circuit. Contractor shall wire the circuit to a junction box located at the heating unit, with the proper amp circuit for the unit per the manufacturer.

E. LAUNDRY CIRCUIT: New circuit shall be an independent branch circuit of 20 amp capacity. Receptacle for the washing machine shall be a 20 amp, 120 volt, duplex grounding type, mounted on the wall behind or adjacent to the laundry area. When installed new, the wall receptacle shall not be higher than 48 inches above the floor.

F. SMALL APPLIANCE CIRCUITS: New circuits shall be 20 amp capacities with two duplex grounding type outlets. When two new circuits are to be installed, a minimum of four grounded receptacles shall be provided and wired to these circuits. When these circuits also serve a pantry, dinette, breakfast room and dining area, the receptacles for these areas shall be equally divided between the extended circuits. All new kitchen circuits/outlets shall be GFCI protected in accordance with the National Electric Code.

G. SPLITTING CIRCUITS: Splitting circuits shall include providing dedicated circuits for the following: 1 small appliances (kitchen), 2 washing machine, 3 freezer, 4 furnace, 5 dishwasher, 6 microwave oven, 7 garbage disposal.

H. DRYER CIRCUIT: New circuit shall be a dedicated branch circuit of 30 amp capacity (#10 AWG). Receptacle shall not be higher than 48 inches from the floor.

I. REPLACING WIRING: When existing wiring is to be replaced, all exposed wiring (wiring not concealed behind finished surfaces) shall be removed back to the panel box. Then new sheathed cable shall be installed for all branch circuit wiring in the basement, attic and crawl space. Installation shall be complete, including all wiring and accessories.

2. ELECTRICAL SERVICE

Size of new service shall be as indicated in the Invitation to Bid. Service package shall include: new service entrance, meter base, new panel box, ground, and new service mast or service knob with support. Service shall be underground where required. Contact the utility company prior to installing service equipment to verify location of new service drop. All existing panels and subpanels shall be taken out of service. Contractor is responsible for disconnect and reconnect fees.

Panel installed with new service shall be main breaker panel with room for at least 20 circuits (main breaker and panel shall be consistent with the size of the service entrance). Panel box shall be flush or surface mounted as required. Panel shall be installed in a convenient and protected location.

Service equipment shall not be located in stairwells, bathrooms, clothes closets, attics, above plumbing fixtures or above laundry and kitchen appliances. Sufficient clearance and accessibility shall be provided when installed in basement near laundry trays, oil tanks or other permanent obstructions. Prior approval will be required if panel is to be located on the exterior of the building; this panel shall be weatherproof type.

After installation, each lighting panel shall be tested with mains disconnected from the feeder, the branch connected, and wall switches closed and the fixtures permanently connected but without lamps. Each individual power circuit shall be tested at the panel with the power equipment connected for proper operation. All circuits in the panel shall be clearly identified.

A. FIXTURES AND WIRING DEVICES: When an item is installed, a new fixture, switch or receptacle shall be installed complete with all wiring accessories.

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

When an item is to be relocated, it shall be removed completely, (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 the specified location.

An item to be removed shall be removed completely, or when existing wiring or box cannot be removed a blank cover plate shall be installed.

B. CONVENIENCE RECEPTACLES: Outlets to be relocated, installed new or replaced shall be complete with new cover plates. When all switches and receptacles in a room are new they shall be off white or ivory. New convenience receptacles shall be flush duplex grounded type, and shall be grounded. Surface mounted boxes and "Wire Mold" are acceptable only if areas for the new circuit are not accessible in any other manner without doing severe damage to walls or ceilings. Replacement receptacles for the kitchen (except refrigerator) and bathroom shall be GFCI protected duplex outlets; all others shall be flush duplex type. New receptacles shall not be located in a baseboard or floor.

C. GFCI: Required for all switches or outlets in bathrooms and kitchens within six (6) feet of a water supply, and other areas as listed in the International Residential and National Electrical codes.

D. SWITCHES: When relocating or installing new switches they shall be installed complete with new cover plates. New switches shall be toggle type switches either single pole, 3-way or 4-way as specified.

E. LIGHTING FIXTURES: Each lighting fixture shall be furnished with a lamp bulb or bulbs of appropriate type and wattage, and be energy efficient. New lighting fixtures shall bear either a UL or ETL label. Unless otherwise specified lighting fixtures shall be as follows: New exterior fixtures shall be wet location type; style shall be owner's choice. New keyless and pull chain fixtures shall be porcelain. All pull chain fixtures shall have a single convenience outlet. Ceiling or wall mount fixtures for the living room, dining room, bathroom, hall, kitchen and bathroom shall be owner's choice, unless otherwise specified. Fixtures in basement, second floor and attic stairways shall be located directly over the stairway section at the head or foot of the stairs. Any fixture specifically called for on the Invitation to

Bid shall not be included in the retail allowance per fixture, but shall be provided by the Contractor as part of the contract.

F. SMOKE DETECTORS: Only smoke detectors approved by a nationally recognized testing agency are approved for this program. Detectors must meet Department of Commerce Weatherization Specifications for smoke detectors. All smoke detectors shall be hard wired with a battery back-up and inter-tied. All smoke detectors must be installed in accordance with National Electric Code and applicable local requirements.

3. ELECTRIC BASEBOARD HEATING

Existing sections of baseboard shall be cleaned and tested for proper operation.

New baseboard shall be able to maintain a temperature of 70 degrees F at a point three feet above the floor in all habitable rooms when the outside temperature is -10 degrees F, without overloading or scorching walls. New heaters shall be medium density type, limited to 250 watts per foot of baseboard. Where possible, install on outside walls and under windows. Each room or air circulation area shall have only one thermostat. Bathroom heaters can be manual switch operation. Thermostats shall be baseboard mounted unless otherwise specified.

In bathrooms, baseboard heaters shall not be within reach of the bathtub. Wall or ceiling type heaters are acceptable substitutes.

SECTION 1300 -- HEATING

I. GENERAL INSTRUCTIONS: (Please review Department of Commerce Specifications and consult with HPP staff concerning required Energy Efficiency Ratings (EER) for program-installed heating systems and installation methods.)

All materials, equipment, piping, fittings, fixtures, etc., shall conform to the latest ANSI, ASTM, ASME and FS standards. All equipment used shall be new and clearly marked to permit identification of manufacturer, model and type.

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 retested until proven satisfactory.

Except as modified herein, the construction and installation of all equipment, accessories and instruments shall comply with the published standards, requirements and recommendations of the National Fire Protection Association and National Board of Fire Underwriters.

All equipment and items installed under this section shall operate safely and without leakage, undue wear, noise vibration or corrosion.

All drilling, patching and cutting necessary for the proper installation of work under this section shall be done by the Contractor. All patching shall be of the same materials, quality of workmanship and finished as the original work and shall accurately match all surrounding work (painting excluded).

Equipment and materials furnished by others which require connection to the heating system, shall be connected by the Contractor.

All piping, ductwork and equipment shall be installed without critical damage to structural members.

The Contractor shall provide sleeving as required and upon completion of rough in work, sleeves shall be made sound and fire tight. Metal chimneys shall not be installed as exposed piping in habitable areas, closets, or stairways. They shall be enclosed with fireproof material to provide a minimum of 2 inch air space and meet local code requirements.

The Contractor shall install chrome plated escutcheons where exposed piping passes through floors, walls and ceilings.

All heating and ventilation equipment and fuel storage tanks not required to remain shall be removed by the Contractor.

The entire new and existing installation shall be left neat, clean and in usable condition.

2. HEATING EQUIPMENT AND REPAIRS

A. FORCED AIR SYSTEMS: New installations shall be complete and shall include new furnace, ductwork and registers. Provide hot air supplies and cold air returns throughout the house. Duct insulation shall meet current IBC specifications.

B. HEATING UNITS: New heating units shall be installed complete with new disconnect switch, electrical circuit, flue pipe and all controls, wiring, accessories, thermostat, and valves. Thoroughly clean the oil tank, fittings, and lines. Chimney cleaning shall be performed by a licensed chimney sweep when applicable. Viability of fuel storage tank to be determined by contractor.

Note that the electrical contractor will wire a separate circuit (if one does not already exist) from the panel box to a junction box located near the heating unit. It is the heating contractor's responsibility to coordinate installation of the circuit unless otherwise specified.

New units shall have ratings sufficient to ensure proper heating of all habitable rooms within the living unit they intend to serve. Such determinations shall be made in accordance with the best practices of the National Warm Air Heating and Air Conditioning Association, the "Guide" of the American Society of Heating. This shall include heat loss calculations if required by local authorities. Furnace shall be able to maintain a room temperature of 70 degrees at a point three feet above the floor in all habitable rooms, when outside temperature is 0 degrees F. Heating system shall be designed, installed, balanced and adjusted to provide for the distribution of heat to all habitable rooms and other spaces in accordance with the calculated heat loss of the spaces to be heated. No heating unit shall be more than 15% oversized for its particular installation. New units must have an efficiency rating of 81% or greater.

All work performed in the installation of heating equipment shall be in accordance with the manufacturer's recommendations. Mechanical equipment shall be so installed and located that inspection, routine maintenance or repair is possible without removing items of permanent construction. Listed furnaces shall be installed in accordance with their listings. Unlisted warm air furnaces shall be installed with a minimum clearance of 6 inches between the top bonnet plenum (or between the top of an extended plenum or duct within 3 feet of such furnace) and combustible material. All approved gas or oil burners shall bear the manufacturer's identification marks, the burner trade name and the model number or size installed.

C. HEATING UNIT CONTROLS: When heating unit controls are to be replaced or repaired, the Contractor shall examine all controls for that particular unit, including the thermostat, and repair and replace those controls found to be defective. Operating and limit or safety devices shall be AGA approved or UL listed. If specified install a programmable thermostat.

D. CLEANING AND ADJUSTING HEATING SYSTEMS: After servicing, the mechanical contractor shall leave a certificate on the furnace indicating his/her name, the work or repairs completed, and the date.

When heating units are cleaned and adjusted, the Contractor shall thoroughly clean and adjust the system for proper operation. When necessary or specified replace thermostat. On forced air systems, this shall include cleaning the blower motor and fan assembly, installing new air filters and replacing blower motor drive belts and testing of combustion regulators. On oil fired systems, this shall include cleaning the oil tank (removing condensation and sediment), fittings and lines and replacing fuel filters and testing of combustion regulators. On all fossil fuel heating appliances, the heat exchangers, vent connectors and vents shall be inspected for damage or deterioration. Vent connectors and vents shall be cleaned. Ductwork shall be cleaned only when specified on the Invitation to Bid. When specified, clean and vacuum at all accessible openings. Special attention shall be paid to duct runs with floor registers.

E. DUCTWORK AND REGISTERS: Sheet metal shall be not lighter than 28 gauge galvanized sheet metal or 26 gauge when exposed in the garage. The sheet metal work shall be accurately formed, be fitted snugly, have exposed edges folded at least 1/2 inch and leave no sharp corners exposed and be sealed with mastic or UL listed tape. Fiberglass duct which is UL listed and meets NFPA standards is also acceptable. New flex duct is allowed if it has at least R-8 rated insulation and meets UL, NFPA and ASTM standards. All ductwork shall be properly supported with hangers or floor rest channels. Special care shall be taken in supporting flex duct to avoid any sagging or kinks. No new duct work shall be installed in finished rooms, including closets.

Balance dampers shall be installed and/or ductwork shall be sized to control the flow of air to all supply registers. Dampers shall be labeled, indicating the rooms served and the system shall be balanced.

New supply outlets may be installed in floors and walls. When installed in the floor, outlets shall be no closer than 6 inches to any wall. Supply outlets installed in outside walls shall be located in front of windows. Basements need not have a separate supply outlet unless specified. All supply registers shall be equipped with shut off dampers. Return air inlets shall be located in walls or floors, as is appropriate to their size and function.

Supply and return ducts in unheated space shall be insulated to a minimum R-19. Insulation level and installation shall comply with current Department of Commerce or utility company specifications. These specifications shall be included in the Invitation to Bid. Where ducts are used for cooling, insulation shall be covered with a sealed joint vapor barrier. All forced air heating ducts shall be sealed according to Department of Commerce's current duct sealing procedures using acceptable materials.

F. OIL TANKS: Where specified, disconnect existing oil tank, remove and/or cap (underground tank) fill and vent pipes, flush and fill with sand. New tanks shall be installed complete. Tank shall be at

least 275 gallon capacity. Install all tanks on concrete slabs and strap down. Buried tanks shall have two coats of asphalt emulsion or other rust inhibitive coating. Tubing for supply and circulation shall be copper. Fill and vent lines shall be wrought iron with double swing joints to accommodate any settlement of the tank. Backfill hole with soft dirt or sand. Top 3 inches shall be topsoil suitable for plant growth. Replace sod or install new sod.

SECTION 1400 -- PAINTING

I. GENERAL INSTRUCTIONS:

The quality of paints and related materials shall equal or exceed those first grade and related materials manufactured by:

Olympic Stain	Boysen	Kelly Moore	Fuller-O'Brian
Dutch Boy	Benjamin Moore	Glidden-Spred	PPG Industries
United	Pabco	Sherwin-Williams	Columbia
Dupont			

Paint shall be understood to include not only paints but also primers, enamels, sealers, stains and other coatings, plus all paint accessory materials.

The addition of thinners, quick drying additives, or other adulterants of any kind shall not be permitted, except as specifically recommended by the manufacturer.

The use of splatter-dash technique for appearance purposes on interior surfaces shall be limited to "orange peel" or other fine-medium texture only. Texture shall not be applied to any trim, woodwork or metalwork.

Exterior and interior paints, primers, enamels and related materials shall contain no more than six one hundredths of one percent lead by weight (calculated as lead metal) in the total nonvolatile content of the paint or the equivalent measure of lead in the dried film of paint already applied.

Certain finish coats are formulated to serve as primers and may be so used when applied in accordance with manufacturer's recommendations.

Paint shall not be applied until surfaces are thoroughly dry, excepting certain masonry paints formulated for application to wet surfaces. Contractor shall assume responsibility for such conditions and shall make good any work executed prematurely. Any work which is damaged by the Contractor or his/her employees, or for any reason is unacceptable, shall be repaired or redone to match surrounding areas. All touch up painting shall match surrounding areas. No exterior painting shall be done unless the temperature is between 50 degrees F and 100 degrees F and is expected to remain above freezing (32 degrees F) for at least 24 hours.

Inserts for storm windows shall be removed prior to painting. Contractor shall reinstall them when painting is complete. Items or surfaces for which colors or finishes are not selected shall be painted or finished to match the adjacent background or adjacent finish colors or stains. Such items shall include, but not limited to, roof vents (color of roof), covers, housings, brackets, piping, duct work, drain pipes, conduit, access panels, unfinished or prime coated hardware, grills, registers, louvers, cabinets,

electrical panels and similar items. New and previously unpainted hardware accessories and electrical equipment are not to be painted. Switches and their cover plates shall not be painted. Painter shall remove these items as necessary, reinstalling them when his/her work is completed. Square foot coverage per gallon shall be as recommended by the manufacturer.

Paint shall have easy brushing properties. Paint shall be kept well stirred during and be screened free from skim, lumps and foreign matter. No paint, nor the residue thereof, shall be used after it is caked or hardened. Paint shall be worked into all corners, voids and joints. All surfaces other than those of metal items shall receive two coats of paint and all coats shall be thoroughly dry prior to application of next. Initial primer coat may be counted as one coat of the two required coats of paint, provided adequate hiding has been obtained. Shade primer coat to a tint slightly different from finished coat(s).

Additional coats may be required if the finish does not provide acceptable coverage or hiding. Finished work shall be uniform, free of runs and sags, smooth, free from brush marks and of uniform color. Where paint adjoins other materials or where different colors meet, the edges of the paint shall be sharp and clean. Upon completion, the entire area shall be cleaned and left in a neat condition, including removal of all overspray.

All paint shall carry a minimum manufacturer's durability warranty of 10 years, and the Contractor will fully guarantee the job for one year. At least 1/2 gallon of each color used shall be left with the Owner, with label attached. Colors of all paint are the Owners choice, subject to the Secretary of the Interior's guidelines in the case of historic buildings.

2. EXTERIOR PAINTING

A. GENERAL INSTRUCTIONS: All surfaces to be painted shall have all loose, blistered, scaling, alligatored and crazed coatings removed and shall be thoroughly cleaned to receive new paint. Paint may be applied by any of the following: brush, roller, air compressor, or airless sprayer, unless otherwise specified in the Invitation to Bid. When exterior paint is applied to correct a lead base paint problem, it shall be the Contractor's responsibility to ensure that the old paint that has been removed from the exterior of the house is removed from the premises.

B. PREPARATION: Secure loose material and reset nails as needed. Caulk at all joints where caulking has deteriorated and missing. Remove all miscellaneous nails, hooks, screws, tacks. Remaining holes, those no larger than a dime, shall be filled with linseed oil putty or caulking compound, depending on the surface material. All patches shall be sanded smooth. All vents in the surfaces to be painted shall be swept clean and have paint plugged squares removed. All windows, doors and other openings shall be re-caulked. All dried out or otherwise deteriorated glazing compound or linseed oil putty, including points for sash shall be replaced. If any area to be painted shows signs of mildew, those areas shall be cleaned sanded and sealed before painting. Exterior preparation work must be inspected by HPP Staff prior to application of primer. After notification by the Contractor, preparation work will be inspected in a timely manner.

C. WOOD TRIM, MILLWORK AND SIDING: Sand all new millwork prior to application of primer or stain. Reset all loose nails and putty all nail holes and minor cracks in wood with putty after spot priming these areas with exterior oil base primer. Scuff sand all trim to remove gloss and provide tooth for adhesion of new paint. Prime all knots and resinous wood with a prepared knot sealer or aluminum paint (which is not considered a primer coat). Apply one coat of exterior oil base primer to all new and bare wood surfaces. Then apply two coats of exterior, non-chalking, oil base or latex paint to all wood surfaces. Doors and sash and their trim shall be gloss finish.

When painting porches, do not paint natural finish ceiling surfaces unless specified in the Invitation to Bid. First prepare these surfaces to be refinished. Then apply at least two coats of spar varnish or polyurethane varnish formulated for exterior use.

Likewise, do not paint natural finish wood shingles, shakes, or rough sawn siding unless painting of this siding is specified. Instead, apply two coats of oil or pigmented oil stain. When necessary, stain new sections of siding to match existing.

D. WOOD DOORS: Wood doors are to be natural finished unless otherwise specified. Prepare door for new finish. All door edges are to be eased. Edges, including the top and bottom, shall receive the same finish as the faces. Natural finish for new doors shall be one coat of stain (owner's choice of color) and at least two coats of clear sealer formulated for exterior use. Paint for new doors and existing doors shall be one coat of exterior oil base primer and one coat of exterior oil base paint.

E. WOOD STEPS AND DECKS: Caulk all joints between wood surfaces and walls. Reset all loose nails. Apply at least two coats of oil base exterior floor or deck enamel in accordance with manufacturer's recommendations.

F. CONCRETE AND MASONRY SURFACES: Whether specifically scheduled or not, if exterior foundation walls are badly stained or splattered with paint during painting, they shall be painted to be in harmony with the siding.

Apply at least two coats of resin-emulsion paint, solvent rubber paint or floor and deck enamel to horizontal surfaces. If oil base paint is used, neutralize surface before painting. Walls shall receive at least two coats of polyvinyl acetate emulsion paint. Surfaces which have been waterproofed shall be treated as per manufacturer's instructions prior to painting.

G. GUTTERS AND DOWNSPOUTS: Gutters and downspouts shall match trim color on house if being repainted.

3. INTERIOR PAINT

A. GENERAL INSTRUCTIONS: All surfaces to be painted shall have all loose, blistered, scaling, alligatored and crazed coating removed and shall be thoroughly cleaned to receive new paint.

When painting wallpapered surfaces the wall paper must be tight and edges or joints feathered where necessary. Secure loose material and reset nails. Remove all miscellaneous nails, hooks, screws, tacks from walls and wood work. Patch all holes with spackle or oil base putty depending on the surface material. All patches shall be smoothly done and all rough edges sanded smooth. Seal all irremovable grease spots or stains with shellac so that they do not bleed through new paint. Kill stain or seal all varnished wood surfaces before painting so that desired coverage is obtained. If any area to be painted shows signs of mildew, those areas shall be cleaned, sanded and sealed before painting is done.

Painting by room shall include walls, ceiling, doors, windows (including those surfaces exposed by opening), trim, cabinet work, miscellaneous shelving, shall be painted and/or refinished as specified. A closet is considered a part of the room in which it is located, as well as closet rods and shelves and bracing and drawers. Natural finished items are not to be painted unless specified. Interior of cabinets will not be included unless specified.

B. DRYWALL OR PLASTER WALLS AND CEILINGS: Hairline cracks and scraper dents shall be spackled and sanded. Open cracks shall be raked out and damaged plaster shall be removed. Apply new plaster in coats thin enough to prevent shrinkage. All repair work, when completed, shall match existing surfaces, present a neat appearance and be free of hairline cracks and bulges. All surfaces shall be washed or sanded prior to painting. Previously painted surfaces shall receive at least two coats of interior latex or oil base paint. New plaster or drywall shall receive a first coat of interior primer and at least two additional coats of paint. Paint for kitchens, bathrooms and utility rooms shall be semi-gloss enamel. Surfaces shall be painted with a roller and/or brush except that certain types of texture finish ceilings cannot be satisfactorily painted with roller or brush. These surfaces only may be spray painted.

C. WOOD WINDOWS AND DOORS: All door edges shall be eased. If new wood is open grain type, fill or seal surface to prevent grain rising. Apply one coat of suitable oil base primer to all new and bare wood surfaces. Then apply at least two coats of interior semi-gloss enamel (oil base or latex) to all surfaces. Edges - top sides and bottom shall be painted the same as the door faces. Color shall match adjacent wall surfaces. Painting shall be done with brush only.

For natural finish, all door edges shall be eased. Apply one coat of penetrating sealer to all trimmed door edges. All interior doors, if not pre-finished, shall receive at least two coats of spar varnish or polyurethane varnish. Edges - top, bottom and sides shall be finished the same as door faces. Varnish shall be applied with brush only.

D. WOOD TRIM, MILLWORK, PANELING, CABINET WORK AND SHELVING: It is not intended that cabinet work and other wood surfaces scheduled for refinishing or painting be completely stripped down to bare wood. Rather, it is intended that scratches and other surface blemishes be treated so as to make them unnoticeable. Gloss shall be removed from all enamel surfaces to be painted. Stain or prime and finish as necessary. If interior of cabinets are to be refinished, it will be scheduled separately.

For painting, sand all new millwork prior to application of primer. Reset loose nails. All nail holes shall be filled and sanded prior to painting. If new wood is open grain type, fill or seal surfaces to prevent grain rising. Apply one coat of a suitable primer to all new and bare wood surfaces. Then apply at least two coats of interior semi-gloss enamel (oil base) to all surfaces. Color shall match adjacent wall surfaces, unless scheduled otherwise. Painting shall be with brush only.

For natural finish, sandpaper new millwork prior to application of finish. All wood to be refinished shall be first prepared as necessary to receive new finishes. Loose nails shall be reset and all holes shall be filled with linseed oil putty. If new wood is open grain type, surfaces shall be filled or sealed to prevent grain rising. New or bare wood shall be stained to match existing as closely as possible. All natural finish wood shall receive at least two coats of varnish, shellac, lacquer or polyurethane coating as appropriate to its intended use. Application shall be with brush only.

SECTION 9000 -- LEAD BASED PAINT

4. LEAD BASED PAINT

NOTICE: All work on houses built before 1978 must be in accordance with 24 CFR part 35 and 40 CFR part 745. Contractors participating in the HPP are ultimately responsible for full compliance with Federal, State and Local regulations regarding lead based paint control, abatement, disposal and worker protection.

A. REMOVAL:

The following methods shall **not** be used to remove paint that is, or may be, lead-based paint § 35.140:

- (a) Open flame burning or torching.
- (b) Machine sanding or grinding without a high-efficiency particulate air (HEPA) local exhaust control.
- (c) Abrasive blasting or sandblasting without HEPA local exhaust control.
- (d) Heat guns operating above 1100 degrees Fahrenheit or charring the paint.
- (e) Dry sanding or dry scraping, except dry scraping in conjunction with heat guns or within 1.0 ft. (0.30 m.) of electrical outlets, or when treating defective paint spots totaling no more than 2 sq. ft. in any one interior room or space, or totaling no more than 20 sq. ft. on exterior surfaces.
- (f) Paint stripping in a poorly ventilated space using a volatile stripper that is a hazardous substance in accordance with regulations of the Consumer Product Safety Commission at 16 CFR 1500.3, and/or a hazardous chemical in accordance with the Occupational Safety and Health Administration regulations at 29 CFR 1910.1200 or 1926.59, as applicable to the work.

B- LEAD SAFE WORK PRACTICES § 35.1350: When an activity disturbs painted surfaces above the HUD de minimis level, lead safe work practices will be used by a trained lead worker. See the U.S. Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead Based Paint Hazard in Housing for specifics on lead safe work practices.

- (a) Prohibited methods. Methods of paint removal listed in §35.140 shall not be used.
- (b) Occupant protection and worksite preparation. Occupants and their belongings shall be protected, and the worksite prepared, in accordance with §35.1345. A person performing this work shall be trained on hazards and either be supervised or have completed successfully one of the specified courses, in accordance with §35.1330(a)(4).
- (c) Specialized cleaning. After hazard reduction activities have been completed, the worksite shall be cleaned using cleaning methods, products, and devices that are successful in cleaning up dust-lead hazards, such as a HEPA vacuum or other method of equivalent efficacy, and lead-specific detergents or equivalent.
- (d) De minimis levels. Safe work practices are not required when maintenance or hazard reduction activities do not disturb painted surfaces that total more than:

- (1) 20 square feet on exterior surfaces;
- (2) 2 square feet in any one interior room or space; or
- (3) 10 percent of the total surface area on an interior or exterior type of component with a small surface area. Examples include window sills, baseboards, and trim.

C. ABATEMENT §35.1325: Lead based paint abatement will only be conducted by certified lead abatement contractors and workers. Abatement shall be performed in accordance with methods and standards established either by a State or Indian tribe under a program authorized by EPA, or by EPA at 40 CFR 745.227(e), and shall be completed by achieving clearance in accordance with §35.1340. Abatement of an intact, factory-applied prime coating on metal surfaces is not required unless the surface is a friction surface.

D. INTERIM CONTROLS §35.1330: Interim controls of lead-based paint hazards identified in a risk assessment shall be conducted in accordance with the provisions of §35.1330. Interim control measures include paint stabilization of deteriorated paint, treatments for friction and impact surfaces where levels of lead dust are above the levels specified in §35.1320, dust control, and lead-contaminated soil control. As provided by §35.155, interim controls may be performed in combination with, or be replaced by, abatement methods.

- (a) General requirements.
 - (1) Only those interim control methods identified as acceptable methods in a current risk assessment report shall be used to control identified hazards, except that, if only paint stabilization is required in accordance with subparts F, H, K or M of 24 CFR part 35, it shall not be necessary to have conducted a risk assessment.
 - (2) Occupants of dwelling units where interim controls are being performed shall be protected during the course of the work in accordance with §35.1345.
 - (3) Clearance testing shall be performed at the conclusion of interim control activities in accordance with §35.1340.
 - (4) A person performing interim controls must be trained in accordance with the hazard communication standard for the construction industry issued by the Occupational Safety and Health Administration of the U.S. Department of Labor at 29 CFR 1926.59, and either be supervised by an individual certified as a lead-based paint abatement supervisor or have completed successfully one of the following lead-safe work practices courses, except that this supervision or lead-safe work practices training requirement does not apply to work that disturbs painted surfaces less than the de minimis limits of §35.1350(d):
 - (i) A lead-based paint abatement supervisor course accredited in accordance with 40 CFR 745.225;
 - (ii) A lead-based paint abatement worker course accredited in accordance with 40 CFR 745.225; or

(iii) Another course approved by HUD for this purpose after consultation with the EPA. A current list of approved courses is available on the Internet at <http://www.hud.gov/offices/lead>, or by mail or fax from the HUD Office of Healthy Homes and Lead Hazard Control at (202) 755-1785, extension 104. Persons with hearing or speech impediments may access the above via TTY by calling the toll-free Federal Information Relay Service at (800) 877-8339.

(iv) "The Remodeler's and Renovator's Lead-Based Paint Training Program" prepared by HUD and the National Association of the Remodeling Industry; or

(v) Another course approved by HUD for this purpose after consultation with EPA.

(b) Paint stabilization.

(1) Interim control treatments used to stabilize deteriorated lead-based paint shall be performed in accordance with the requirements of this section. Interim control treatments of intact, factory applied prime coatings on metal surfaces are not required. Finish coatings on such surfaces shall be treated by interim controls if those coatings contain lead-based paint.

(2) Any physical defect in the substrate of a painted surface or component that is causing deterioration of the surface or component shall be repaired before treating the surface or component. Examples of defective substrate conditions include dry-rot, rust, moisture-related defects, crumbling plaster, and missing siding or other components that are not securely fastened.

(3) Before applying new paint, all loose paint and other loose material shall be removed from the surface to be treated. Acceptable methods for preparing the surface to be treated include wet scraping, wet sanding, and power sanding performed in conjunction with a HEPA filtered local exhaust attachment operated according to the manufacturer's instructions.

(4) Dry sanding or dry scraping is permitted only in accordance with §35.140(e) (i.e., for electrical safety reasons or for specified minor amounts of work).

(5) Paint stabilization shall include the application of a new protective coating or paint. The surface substrate shall be dry and protected from future moisture damage before applying a new protective coating or paint. All protective coatings and paints shall be applied in accordance with the manufacturer's recommendations.

(6) Paint stabilization shall incorporate the use of safe work practices in accordance with §35.1350.

(c) Friction and impact surfaces.

(1) Friction surfaces are required to be treated only if:

(i) Lead dust levels on the nearest horizontal surface underneath the friction surface (e.g., the window sill, window trough, or floor) are equal to or greater than the standards specified in §35.1320(b);

- (ii) There is evidence that the paint surface is subject to abrasion; and
 - (iii) Lead-based paint is known or presumed to be present on the friction surface.
- (2) Impact surfaces are required to be treated only if:
 - (i) Paint on an impact surface is damaged or otherwise deteriorated;
 - (ii) The damaged paint is caused by impact from a related building component (such as a door knob that knocks into a wall, or a door that knocks against its door frame); and
 - (iii) Lead-based paint is known or presumed to be present on the impact surface.
- (3) Examples of building components that may contain friction or impact surfaces include the following:
 - (i) Window systems;
 - (ii) Doors;
 - (iii) Stair treads and risers;
 - (iv) Baseboards;
 - (v) Drawers and cabinets; and
 - (vi) Porches, decks, interior floors, and any other painted surfaces that are abraded, rubbed, or impacted.
- (4) Interim control treatments for friction surfaces shall eliminate friction points or treat the friction surface so that paint is not subject to abrasion. Examples of acceptable treatments include rehangng and/or planing doors so that the door does not rub against the door frame, and installing window channel guides that reduce or eliminate abrasion of painted surfaces. Paint on stair treads and floors shall be protected with a durable cover or coating that will prevent abrasion of the painted surfaces. Examples of acceptable materials include carpeting, tile, and sheet flooring.
- (5) Interim control treatments for impact surfaces shall protect the paint from impact. Examples of acceptable treatments include treatments that eliminate impact with the paint surface, such as a door stop to prevent a door from striking a wall or baseboard.
- (6) Interim control for impact or friction surfaces does not include covering such a surface with a coating or other treatment, such as painting over the surface, which does not protect lead-based paint from impact or abrasion.

(d) Chewable surfaces.

- (1) Chewable surfaces are required to be treated only if there is evidence of teeth marks, indicating that a child of less than six years of age has chewed on the painted surface and lead-based paint is known or presumed to be present on the surface.
- (2) Interim control treatments for chewable surfaces shall make the lead-based paint inaccessible for chewing by children of less than 6 years of age. Examples include enclosures or coatings that cannot be penetrated by the teeth of such children.

(e) Dust-lead hazard control.

(1) Interim control treatments used to control dust-lead hazards shall be performed in accordance with the requirements of this section. Additional information on dust removal is found in the HUD Guidelines, particularly Chapter 11 (see §35.1310).

(2) Dust control shall involve a thorough cleaning of all horizontal surfaces, such as interior window sills, window troughs, floors, and stairs, but excluding ceilings. All horizontal surfaces, such as floors, stairs, window sills and window troughs, that are rough, pitted, or porous shall be covered with a smooth, cleanable covering or coating, such as metal coil stock, plastic, polyurethane, or linoleum.

(3) Surfaces covered by a rug or carpeting shall be cleaned as follows:

(i) The floor surface under a rug or carpeting shall be cleaned where feasible, including upon removal of the rug or carpeting, with a HEPA vacuum or other method of equivalent efficacy.

(ii) An unattached rug or an attached carpet that is to be removed, and padding associated with such rug or carpet, located in an area of the dwelling unit with dust-lead hazards on the floor, shall be thoroughly vacuumed with a HEPA vacuum or other method of equivalent efficacy. Protective measures shall be used to prevent the spread of dust during removal of a rug, carpet or padding from the dwelling. For example, it shall be misted to reduce dust generation during removal. The item(s) being removed shall be wrapped or otherwise sealed before removal from the worksite.

(iii) An attached carpet located in an area of the dwelling unit with dust-lead hazards on the floor shall be thoroughly vacuumed with a HEPA vacuum or other method of equivalent efficacy if it is not to be removed.

(f) Soil-lead hazards.

(1) Interim control treatments used to control soil-lead hazards shall be performed in accordance with this section.

(2) Soil with a lead concentration equal to or greater than 5,000 µg/g of lead shall be abated in accordance with 40 CFR 745.227(e).

(3) Acceptable interim control methods for soil lead are impermanent surface coverings and land use controls.

(i) Impermanent surface coverings may be used to treat lead-contaminated soil if applied in accordance with the following requirements. Examples of acceptable impermanent coverings include gravel, bark, sod, and artificial turf.

(A) Impermanent surface coverings selected shall be designed to withstand the reasonably-expected traffic. For example, if the area to be treated is heavily traveled, neither grass or sod shall be used.

(B) When loose impermanent surface coverings such as bark or gravel are used, they shall be applied in a thickness not less than six inches deep.

(C) The impermanent surface covering material shall not contain more than 400 µg/g of lead.

(D) Adequate controls to prevent erosion shall be used in conjunction with impermanent surface coverings.

(ii) Land use controls may be used to reduce exposure to soil-lead hazards only if they effectively control access to areas with soil-lead hazards. Examples of land use controls include: fencing, warning signs, and landscaping.

(A) Land use controls shall be implemented only if residents have reasonable alternatives to using the area to be controlled.

(B) If land use controls are used for a soil area that is subject to erosion, measures shall be taken to contain the soil and control dispersion of lead.

D. STANDARD TREATMENTS §35.1335: Standard treatments shall be conducted in accordance with this section.

(a) Paint stabilization. All deteriorated paint on exterior and interior surfaces located on the residential property shall be stabilized in accordance with §35.1330(a)(b), or abated in accordance with §35.1325.

(b) Smooth and cleanable horizontal surfaces. All horizontal surfaces, such as uncarpeted floors, stairs, interior window sills and window troughs, that are rough, pitted, or porous, shall be covered with a smooth, cleanable covering or coating, such as metal coil stock, plastic, polyurethane, or linoleum.

(c) Correcting dust-generating conditions. Conditions causing friction or impact of painted surfaces shall be corrected in accordance with §35.1330(c)(4)–(6).

(d) Bare residential soil. Bare soil shall be treated in accordance with the requirements of §35.1330, unless it is found not to be a soil-lead hazard in accordance with §35.1320(b).

(e) Safe work practices. All standard treatments described in paragraphs (a) through (d) of this section shall incorporate the use of safe work practices in accordance with §35.1350.

(f) Clearance. A clearance examination shall be performed in accordance with §35.1340 at the conclusion of any lead hazard reduction activities.

(g) Qualifications. An individual performing standard treatments must meet the training and/or supervision requirements of §35.1330(a)(4).

D. CLEARANCE §35.1340:

Clearance examinations required under subparts B, C, D, F through M, and R, of 24 CFR part 35 shall be performed in accordance with the provisions of this section.

(a) Clearance following abatement. Clearance examinations performed following abatement of lead-based paint or lead-based paint hazards shall be performed in accordance with 40 CFR 745.227(e) and paragraphs (c)–(f) of this section. Such clearances shall be performed by a person certified to perform risk assessments or lead-based paint inspections.

(b) Clearance following activities other than abatement. Clearance examinations performed following interim controls, paint stabilization, standard treatments, ongoing lead-based paint maintenance, or rehabilitation shall be performed in accordance with the requirements of this paragraph (b) and paragraphs (c) through (g) of this section. Clearance is not required if the work being cleared does not disturb painted surfaces of a total area more than that set forth in §35.1350(d).

(1) Qualified personnel. Clearance examinations shall be performed by:

(i) A certified risk assessor;

(ii) A certified lead-based paint inspector;

(iii) A person who has successfully completed a training course for sampling technicians (or a discipline of similar purpose and title) that is developed or accepted by EPA or a State or tribal program authorized by EPA pursuant to 40 CFR part 745, subpart Q, and that is given by a training provider accredited by EPA or a State or Indian Tribe for training in lead-based paint inspection or risk assessment, provided a certified risk assessor or a certified lead-based paint inspector approves the work of the sampling technician and signs the report of the clearance examination; or

(iv) A technician licensed or certified by EPA or a State or Indian Tribe to perform clearance examinations without the approval of a certified risk assessor or certified lead-based paint inspector, provided that a clearance examination by such a licensed or certified technician shall be performed only for a single-family property or individual dwelling units and associated common areas in a multi-unit property, and provided further that a clearance examination by such a licensed or certified sampling technician shall not be performed using random sampling of dwelling units or common areas in multifamily properties, except that a clearance examination performed by such a licensed or certified sampling technician is acceptable for any residential property if the clearance examination is approved and the report signed by a certified risk assessor or a certified lead-based paint inspector.

(2) Required activities.

(i) Clearance examinations shall include a visual assessment, dust sampling, submission of samples for analysis for lead in dust, interpretation of sampling results, and preparation of a report. Soil sampling is not required. Clearance examinations shall be performed in dwelling units, common areas, and exterior areas in accordance with this section and the steps set forth at 40 CFR 745.227(e)(8). If clearance is being performed after lead-based paint hazard reduction, paint stabilization, maintenance, or rehabilitation that affected exterior surfaces but did not disturb interior painted surfaces or involve elimination of an interior dust-lead hazard, interior clearance is not required if window, door, ventilation, and other openings are sealed during the exterior work. If clearance

is being performed for more than 10 dwelling units of similar construction and maintenance, as in a multifamily property, random sampling for the purpose of clearance may be conducted in accordance with 40 CFR 745.227(e)(9).

(ii) The visual assessment shall be performed to determine if deteriorated paint surfaces and/or visible amounts of dust, debris, paint chips or other residue are still present. Both exterior and interior painted surfaces shall be examined for the presence of deteriorated paint. If deteriorated paint or visible dust, debris or residue are present in areas subject to dust sampling, they must be eliminated prior to the continuation of the clearance examination, except elimination of deteriorated paint is not required if it has been determined, through paint testing or a lead-based paint inspection, that the deteriorated paint is not lead-based paint. If exterior painted surfaces have been disturbed by the hazard reduction, maintenance or rehabilitation activity, the visual assessment shall include an assessment of the ground and any outdoor living areas close to the affected exterior painted surfaces. Visible dust or debris in living areas shall be cleaned up and visible paint chips on the ground shall be removed.

(iii) Dust samples shall be wipe samples and shall be taken on floors and, where practicable, interior window sills and window troughs. Dust samples shall be collected and analyzed in accordance with §35.1315 of this part.

(iv) Clearance reports shall be prepared in accordance with paragraph (c) of 24 CFR part 35.1430.

(c) Clearance report. When clearance is required, the designated party shall ensure that a clearance report is prepared that provides documentation of the hazard reduction or maintenance activity as well as the clearance examination. When abatement is performed, the report shall be an abatement report in accordance with 40 CFR 745.227(e)(10). When another hazard reduction or maintenance activity requiring a clearance report is performed, the report shall include all requirements of 24 CFR part 35.1430 (C) (1-3).

(d) Standards. The clearance standards in §35.1320(b)(2) shall apply. If test results equal or exceed the standards, the dwelling unit, worksite, or common area represented by the sample fails the clearance examination.

(e) Clearance failure. All surfaces represented by a failed clearance sample shall be recleaned or treated by hazard reduction, and retested, until the applicable clearance level in §35.1320(b)(2) is met.

(f) Independence. Clearance examinations shall be performed by persons or entities independent of those performing hazard reduction or maintenance activities, unless the designated party uses qualified in-house employees to conduct clearance. An in-house employee

shall not conduct both a hazard reduction or maintenance activity and its clearance examination.

(g) Worksite clearance. Clearance of only the worksite is permitted after work covered by §§35.930, 35.1330, 35.1335, or 35.1355, when containment is used to ensure that dust and debris generated by the work is kept within the worksite. Otherwise, clearance must be of the entire dwelling unit, common area, or outbuilding, as applicable. When clearance is of an interior worksite that is not an entire dwelling unit, common area, or outbuilding, dust samples shall be taken for paragraph (b) of this section as follows:

(1) Sample, from each of at least four rooms, hallways, stairwells, or common areas within the dust containment area:

(i) The floor (one sample); and

(ii) Windows (one interior sill sample and one trough sample, if present); and

(2) Sample the floor in a room, hallway, stairwell, or common area connected to the dust containment area, within five feet outside the area (one sample).

E. OCCUPANT PROTECTION AND WORKSITE PREPARATION §35.1345: This section establishes procedures for protecting dwelling unit occupants and the environment from contamination from lead-contaminated or lead-containing materials during hazard reduction activities.

(a) Occupant protection.

(1) Occupants shall not be permitted to enter the worksite during hazard reduction activities (unless they are employed in the conduct of these activities at the worksite), until after hazard reduction work has been completed and clearance, if required, has been achieved.

(2) Occupants shall be temporarily relocated before and during hazard reduction activities to a suitable, decent, safe, and similarly accessible dwelling unit that does not have lead-based paint hazards, except if:

(i) Treatment will not disturb lead-based paint, dust-lead hazards or soil-lead hazards;

(ii) Only the exterior of the dwelling unit is treated, and windows, doors, ventilation intakes and other openings in or near the worksite are sealed during hazard control work and cleaned afterward, and entry free of dust-lead hazards, soil-lead hazards, and debris is provided;

(iii) Treatment of the interior will be completed within one period of 8-daytime hours, the worksite is contained so as to prevent the release of leaded dust and debris into other areas, and treatment does not create other safety, health or environmental hazards (e.g., exposed live electrical wiring, release of toxic fumes, or on-site disposal of hazardous waste); or

(iv) Treatment of the interior will be completed within 5 calendar days, the worksite is contained so as to prevent the release of leaded dust and debris into

other areas, treatment does not create other safety, health or environmental hazards; and, at the end of work on each day, the worksite and the area within at least 10 feet of the containment area is cleaned to remove any visible dust or debris, and occupants have safe access to sleeping areas, and bathroom and kitchen facilities.

(3) The dwelling unit and the worksite shall be secured against unauthorized entry, and occupants' belongings protected from contamination by dust-lead hazards and debris during hazard reduction activities. Occupants' belongings in the containment area shall be relocated to a safe and secure area outside the containment area, or covered with an impermeable covering with all seams and edges taped or otherwise sealed.

(b) Worksite preparation.

(1) The worksite shall be prepared to prevent the release of leaded dust, and contain lead-based paint chips and other debris from hazard reduction activities within the worksite until they can be safely removed. Practices that minimize the spread of leaded dust, paint chips, soil and debris shall be used during worksite preparation.

(2) A warning sign shall be posted at each entry to a room where hazard reduction activities are conducted when occupants are present; or at each main and secondary entryway to a building from which occupants have been relocated; or, for an exterior hazard reduction activity, where it is easily read 20 feet from the edge of the hazard reduction activity worksite. Each warning sign shall be as described in 29 CFR 1926.62(m), except that it shall be posted irrespective of employees' lead exposure and, to the extent practicable, provided in the occupants' primary language.

E. LEAD BASED PAINT HAZARDS:

(a) Lead Based Paint is defined.

- (1) 1.0 mg/cm²
- (2) 5,000 µg/g (0.5%)

(b) Leaded Dust Levels for Risk Assessments (by wipe sampling).

- (1) 40 µg/ft² - floors (carpeted and uncarpeted)
- (2) 250 µg/ft² - interior window stools

(c) Dust Levels for Lead Hazard Screen Only.

- (1) 25 µg/ft² - floors
- (2) 125 µg/ft² - window sills

(d) Lead Dust Clearance Levels (by wipe sampling).

- (1) 40 µg/ft² - floors (includes carpeted and uncarpeted floors)
- (2) 250 µg/ft² - interior window sills
- (3) 400 µg/ft² - window troughs

(e) Bare Residential Soil.

- (1) 5,000 $\mu\text{g/g}$ - paving or removal criteria
- (2) 1,200 $\mu\text{g/g}$ - building perimeter and yard
- (3) 400 $\mu\text{g/g}$ (Washington 250 $\mu\text{g/g}$) - play areas and high-contact areas for children. See WAC 365-230-200(8)(g,h)

(f) Airborne Lead Particulate.

- (1) 30 $\mu\text{g}/\text{m}^3$ - OSHA action level (8-hour, time-weighted average).
- (2) 50 $\mu\text{g}/\text{m}^3$ - OSHA permissible exposure limit (8-hour, time-weighted average).

(g) Elevated Blood Lead Level.

- (1) 20 $\mu\text{g}/\text{dL}$ (or 15-19 $\mu\text{g}/\text{dL}$ in two consecutive samples taken several months apart) - CDC environmental intervention level for individual child
- (2) 10 $\mu\text{g}/\text{dL}$ – CDC Level of Concern

(h) Waste

- (1) 5 ppm (parts per million) by TCLP test

(i) Drinking Water

- 1) 15 ppb (parts per billion)

SECTION 1500 -- PEST CONTROL & DEBRIS

1. PROGRAM STANDARDS

All dwellings shall be free from severe infestation of rats, mice, vermin, or termite damage. Pest inspections shall be performed when pest or rodent damage is evident. Dwellings shall be free from heavy accumulation of garbage or debris inside or out.

2. REPAIR STANDARDS

The HPP and Owner shall approve any pest or debris removal proposals.

3. NEW INSTALLATION / REPLACEMENT STANDARDS

Pest inspections and treatments shall be subject to owner and rehab department's approval. Inspections and treatment allowances shall be set in the work list bid specifications.

APPENDIX A

SUMMARY OF MATERIAL ALLOWANCES

Sheet Vinyl Floor Covering_____	\$20.00 per square yard
Carpet and Pad_____	\$26.50 per square yard
Vinyl Composition Tile (VCT)_____	\$3.00 per square foot
Kitchen Cabinets_____	\$260.00 per running foot
Kitchen Countertops- Laminate_____	\$30.00 per lineal foot
Kitchen Countertops- Solid Surface_____	\$155.00 per lineal ft. installed
Kitchen Sink_____	\$200.00 each
Kitchen faucet_____	\$180.00 each
Garbage Disposal_____	\$200.00 each
Range Hood_____	\$150.00 each
Range Hood w/ Microwave_____	\$350.00 each
Dishwasher- Energy Star_____	\$400.00 each
	•Consortium for Energy Efficiency (CEE) Tier 2
	•Minimum energy factor of 0.68 or greater
	•Maximum annual energy use of 325 kilowatt-hours or less
Stove_____	\$550.00 each
Drop-in Cooktop_____	\$325.00 each
Clothes Washer- Energy Star_____	\$700.00 each
	•CEE Tier 2 or higher
	•Minimum energy factor of 2.0 or greater
	•Water factor 6.0 or less
Clothes Dryer_____	\$550.00 each
	•Minimum 7.0 cubic feet capacity
	•Sensor dry system
	•Five temperature settings
Light Fixtures_____	\$50.00 each
Bath Tub_____	\$350.00 each
Toilet_____	\$200.00 each
Bathroom Sink Faucet_____	\$80.00 each
Tub/Shower Faucet_____	\$200.00 each
Tub/Shower Faucet w/Slide Bar_____	\$300.00 each
Vanity w/sink & counter combo_____	\$320.00 each
Pedestal Sink_____	\$300.00 each
Medicine Cabinet_____	\$100.00 each
Interior Door_____	\$120.00 each
Exterior Door_____	\$240.00 each

APPENDIX B

SAMPLE FORMS

Date of last update: ____July 19, 2013____