TACOMA COMMUNITY REDEVELOPMENT AUTHORITY
Meeting Agenda

January 14, 2021 **Meeting No. 704**
Zoom Virtual Meeting- Call in and link information

7:30 A.M. **ROLL CALL**

CALL TO ORDER

THE FOLLOWING ITEMS ARE PRESENTED FOR BOARD REVIEW AND DISCUSSION:

CONSENT AGENDA

1. TCRA Meeting Minutes for December 30, 2020 Exhibit 1

HOUSING

2. Single Family Rehabilitation (SFR) Program Policies and Procedures – Carrie Wickstrom
Exhibit 2

Board action is required on SFR Program Policies and Procedures, which have been updated to reflect the transition of program management from an external Operating Agency to City of Tacoma staff.

EXECUTIVE SESSION

FOR THE GOOD OF THE ORDER

ADJOURN

MINUTES

Special Meeting - December 30, 2020 Meeting No. 703
Vitural Zoom Meeting Video and Call-information provided

Steve Snider called the meeting to order at 10:01 a.m.

ROLL CALL

TCRA Members Present:	Steve Snider, Ian Northrip, Meredith Neal, Jason Kors, Kimber Starr, Dan Montopoli, and Alex Hogan
TCRA Members Absent:	Lacey Barker, Tera Williams, Karsen Keever, and Terri Scott
TCRA Staff in Attendance:	Karlee Iverson, Will Suarez, Felicia Medlen, Erika Bartlett, Jeff Robinson, and Dierdre Patterson

Guests in Attendance:

THE FOLLOWING ITEMS WERE PRESENTED FOR BOARD REVIEW AND DISCUSSION:

ECONOMIC DEVELOPMENT

1. Deferment of Revolving Loan Fund (RLF) Payments – Will Suarez

Staff requested that the TCRA Board allow current RLF borrowers the option to defer monthly payments on loan principal and interest for an additional six-month period, beginning on January 1, 2021 and ending on June 30, 2021.

MOTION: Meredith Neal motioned to authorize an optional six-month deferment of RLF loans for active borrowers, to be administered by staff and Eisenhower Carlson PLLC. For borrowers that sign up for the deferral, an additional six months will be added to the loan maturity date, allowing borrowers to pay the same amount of interest over the extended loan term. Kimber Starr seconded the motion, which passed unanimously.

ABSENT MEMBERS WERE EXCUSED

MOTION: Jason Kors motioned to excuse Lacey Barker, Tera Williams, Karsen Keever, and Terri Scott. Dan Montopoli seconded the motion, which passed unanimously.

ADJOURN

The meeting adjourned at 10:22 a.m.

Respectfully Submitted,

Dan Montopoli

City of Tacoma

Memorandum

TO: Board of the Tacoma Community Redevelopment Authority (TCRA)

FROM: Carrie Wickstrom, Program Manager

SUBJECT: Single Family Rehabilitation (SFR) Program Updated Policies and Procedures

DATE: January 4, 2021

SUMMARY

The purpose of this memo is to recommend the adoption of the updated Single Family Rehabilitation (SFR) Program Policies and Procedures, dated January 2021.

BACKGROUND

The last documented update to the SFR Program Policies and Procedures was in 2017, while the SFR Program was being administered by a third party. In September 2019, the TCRA approved the transition of the administrative functions of the SFR Program from a third party to City staff.

CURRENT ISSUE

When City staff began implementing the SFR Program, it was determined that the 2017 Policies and Procedures were insufficient for the volume and pace the program was building to. It was also found that the polices did not adequately cover all applicable Community Development Block Grant (CDBG) Program guidelines. Over the last year, City staff has worked to develop a robust and comprehensive set of policies and procedures for the SFR Program in conjunction with the internal development of the Program. The updated policies and procedures directly incorporate CDBG guidelines for program management, versus a reliance on references to other documents not included in the policies and procedures, and allows for effective and efficient operation of the SFR Program as it scales up in volume and pace.

In addition to shifting to administering the Program and updating the general Program policies and procedures, City staff were also faced with administering the program during an unprecedented time. Within six months of City staff taking over administration of the program the COVID-19 Pandemic took hold in full force. During this time construction activities were allowed to resume and given the health and safety related work the program undertakes, it was deemed essential that the program remain active. Following State and Local guidance COVID-19 Policies and Safety Guidelines have been developed and incorporated into the program's operations to ensure the safety of homeowners, contractors, and City staff.

RECOMMENDATION

Staff recommends that the TCRA Board adopt the January 2021 Update to the SFR Program Policies and Procedures by way of the Resolution attached as part of this Staff Memo to become effective upon adoption.

RESOLUTION OF THE BOARD
TACOMA COMMUNITY REDEVELOPMENT AUTHORITY

RESOLVED: that the Board hereby authorizes the adoption of the City of Tacoma's Single Family Rehabilitation Program Policies and Procedures, updated, January 2021.

Dated: January 14, 2021

By: _____

_____
TCRA Officer

CITY OF TACOMA

TACOMA COMMUNITY REDEVELOPMENT AUTHORITY

SINGLE-FAMILY HOMEOWNER REHABILITATION LOAN PROGRAM

OPERATING POLICY AND PROCEDURES

Revised: January 2021

Establishment:

The Tacoma Community Redevelopment Authority was created as a public corporation organized pursuant to the ordinances of the City of Tacoma, as existing or as hereafter amended, and pursuant to the Revised Code of Washington. The purpose of the Authority is to provide an independent means of carrying out and administering federal grants or programs pursuant to the provisions of the Housing and Community Development Act of 1974. It is the Authority's intent to provide increased flexibility and efficiency in administering federal grants and programs, such as the Community Development Block Grant and the HOME Investment Partnerships Grant, and the projects and activities financed from funds derived from such federal programs.

Executive Summary:

The Tacoma Community Redevelopment Association (TCRA) is the sub-recipient of the City of Tacoma for its HOME, NSP, CDBG and other funds as applicable. This operating policies and procedures manual is intended to compliment the City of Tacoma policies and procedures manual for the HOME program, CDBG program, and other applicable cross cutting Federal Regulations. If a policy is not addressed in this manual the TCRA will defer and follow the City policies. The operating policies and procedures manual is intended to provide specific policy and procedural guidance for programs carried out by the TCRA on behalf of the City of Tacoma.

TABLE OF CONTENTS

1.1 General Program Information

1.2 Eligibility Requirements

1.3 Homeowner Rehabilitation Loans

1.4 Eligible Programs and Assistance

1.5 Applicable Federal Requirements for Homeowner Rehabilitation

1.6 Loan Procedures

1.7 Contracting For Rehabilitation Work (Procedures)

1.8 Procurement of Services

1.9 Credit Policy

1.10 Reporting, Record Retention and Archiving

Appendix A

Employee Safety and COVID-19 Protocol

Appendix B

Rehabilitation Standards

1.1 GENERAL PROGRAM INFORMATION

Program Background:

The City of Tacoma Single-Family Housing Rehabilitation Program is funded under the Housing and Community Development Act of 1974 (CDBG Program), as amended, the National Affordable Housing Act of 1990 (HOME Program), as amended, and other funding sources as may be developed including federal, state and local loan and grant programs. The Tacoma Community Redevelopment Authority (TCRA) is the sub-recipient that carries out the, Single Family Homeowner Rehabilitation Loan Program on behalf of The City of Tacoma. As a sub-recipient, the TCRA is responsible for and assumes the responsibility of complying with all requirements that would also apply to The City of Tacoma as the recipient of the funding.

Program Description:

The Single Homeowner Rehabilitation Program provides flexible financial assistance to low income homeowners to enable them to improve their housing conditions. Assistance is provided in the form of a loan as described in these guidelines.

Program Goal:

The program goal is to assist low-income homeowners in improving their housing conditions by providing flexible loan terms in conjunction with technical assistance to complete a rehabilitation project to bring their homes up to applicable housing rehabilitation standards, local code, address any health and safety and/or ADA accessibility issues.

Program Objectives:

Preserve existing housing stock available to low income households.
Provide a flexible financing to lower income homeowners to promote decent, safe and affordable housing.
Expand existing financial resources for rehabilitation through public and private cooperation.
Develop a streamlined, cost effective means for improving private property.
Provide safe and healthy homes for the elderly to age in place.
Improve neighborhoods.
Eliminate conditions of slum and blight in the Tacoma community.

Program Marketing and Outreach:

The program will be advertised in the city paper of record periodically, and through other community outlets as needed. Information on the program will be on the City of Tacoma website at: https://www.cityoftacoma.org/government/city_departments/community_and_economic_development/housing_division

The City of Tacoma will advertise make an effort to market to minority and underrepresented communities by making information available through:

The Affordable Housing Consortium
Non-profit housing partners
Local community groups

Fair Housing:

The TCRA is a fair housing lender and does not discriminate against any federal, state or local protected class.

Program Definitions:

Following are definitions of various terms used with respect to rehabilitation activities:

AMI: Area Median Income.

Applicant: Person or person(s) who formally submits an application for the Single Family Rehabilitation Program.

Community Development Block Grant (CDBG): As published in 24 CFR part 570.

Community Economic Development Director: The Department Director over the Housing Division

Contract Program Auditor: An appointed employee of the City of Tacoma responsible for processing, reviewing, underwriting and closing applications for Affordable Housing Loans monitors the Housing Rehabilitation Program and other TCRA loan programs.

Contractor: A licensed, bonded and insured Contractor in the State of Washington that is eligible to perform work and receive federal funding.

Debt to Income Ratios: The first ratio (front end) is determined by dividing the monthly mortgage payment(s) (principal, interest, taxes and insurance(s)) by the household's gross month income. The Second ratio (back end) is determined by dividing the total of monthly mortgage (PITI) and creditor obligations, by the household's total gross monthly income.

Deferred Payment Loan: A loan which does not require monthly payments but which is payable upon the sale of the unit, transfer of title or when the borrower(s) no longer occupies the unit.

Disabled: A person shall be considered disabled when that person receives Social Security or Veteran's Administration disability compensation, disability compensation from other public or private assistance organizations, or an individual who can provide evidence of a physician's certification of disability in accordance with HUD prescribed definitions.

DownHome: TCRA's loan servicing software and database

Dwelling: A housing unit that, at the minimum, consists of a bathroom, a kitchen and a living space.

Elderly: Elderly shall mean anyone who is sixty-two years of age or older.

Environmental Review: A review in compliance with the National Environmental Protection Act (NEPA) codified at 24 CFR Part 58.

Extremely Low Income: Annual income level of 0% to 30% AMI (or as indicated by HUD)

Family/Household: One or more individuals who live together and may or may not be related by blood, marriage or in any other legal capacity. All persons living in the same household or on the same property.

Financial Assistant: An employee of the City of Tacoma is administrative support and responsible for assisting the Contract Program Auditor's, coordinating processing loan payments, and inputting the rehabilitation loans into the TCRA's loan servicing database, DownHome.

Housing Division Manager: The Manager of the Housing Division and serves and the TCRA Administrator.

Housing Program Manager: An employee of The City of Tacoma appointed to administer the Housing Rehabilitation Program, and other TCRA loan programs.

Housing Rehabilitation Team: City staff comprised of a Housing Program Manager, Contract Program Auditor, Program Technician, and the Housing Division Manager.

HUD: The United States Department of Housing and Urban Development.

IDIS: HUD's integrated disbursement information system. All HOME and CDBG loans under the Single-Family Homeowner Rehabilitation Program are setup in IDIS.

Incipient Conditions: An incipient condition exists if, at the time of inspection, it is determined that the physical condition of an element in the structure will deteriorate into an actual violation within five years.

Loan Agreement: A document that is signed by the borrower which outlines the terms and conditions of each loan. The loan agreement is used for non-HOME funded loans.

Low-Income Person/Family: An individual or family who qualifies for the program by having a total gross household income that falls below 80% of the Area median income guidelines as prescribed by HUD.

Low-Interest Loan: A below current market rate loan.

Mortgage/Deed of Trust: Unless some other meaning and intent is apparent from the context, reference to a mortgage also includes a deed of trust and reference to a Deed of Trust includes a mortgage.

Owner: One or more persons who have legal title to a property to be rehabilitated.

Principal Only Loan: A loan that requires repayment of the principal with no interest charges.

Program Technician: An employee of the City of Tacoma responsible for office support of the TRCA's Rehab program and other housing programs.

Property Standards Checklist: A form used to identify deficiencies in a home to be assisted through the rehabilitation programs.

Public Health Risk: A condition that endangers the health or safety of the public.

Repair Cost: The total cost of repairs or improvements incurred by the owner that are eligible in a rehabilitation contract, whether or not financed in part with funds from other sources. This figure will include all eligible hard and soft costs related to the project.

Repair Standards: All rehabilitation work shall be performed in accordance with all state and local building codes and Standards and the TCRA Rehabilitation Standards.

Tacoma Community Redevelopment Authority (TCRA): A public corporation, created by the City of Tacoma

Council, and governed under a Charter and Bylaws approved by the City of Tacoma Mayor and Council.

TCRA Credit Policy: The policy approved by the TCRA Board to govern the underwriting, credit standards, loan servicing and other loan requirements.

Uniform Physical Conditions Standards (UPCS): Federal property standards pursuant to *24 CFR 5.705.*

Very Low Income: Annual income level of 30% to 50% AMI (or as indicated by HUD).

1.2 ELIGIBILITY REQUIREMENTS

Property Eligibility:

To be eligible for a single-family rehabilitation loan the property must:

Be determined in need of rehabilitation as established in the Property Standards Checklist, and TCRA/ City of Tacoma Written Rehabilitation Standards:

Be owner-occupied by all owners of the property, exceptions permitted. See TCRA credit policies;

Be a residential structure containing not more than one primary dwelling unit;

Be located within Tacoma.

The after rehab the value of the home must not exceed the 110% of Median as published by HUD, or as determined by local survey.

Applicant Eligibility:

To be considered for a TCRA Rehabilitation Loan, the applicant homeowner must meet the following criteria;

Be the owner occupant of an all-residential structure as described above. All owners must reside in the property as their primary residence, exceptions as allowed by HUD. All exceptions must be documented;

The household must have a combined gross household income not to exceed the HUD low-income guidelines (80% of Area Median Income)

The Applicant must meet the TCRA credit policy; and

Be in ownership to the property in a form acceptable to HUD.

Fee simple
99-year lease
Co-op
Or other as acceptable to HUD

1.3 HOMEOWNER REHABILITATION LOANS

The Tacoma Community Redevelopment Authority (TCRA) makes available loans for homeowner rehabilitation with loan terms that can accommodate the needs of low-income borrowers. Loans are available at 1% simple interest and deferred up to twenty (20) years. The TCRA credit policy shall provide specific guidance on rate and terms of the loans.

Deferred Loan:
All rehabilitation loans principal and interest payments are deferred for 20 years with 1% simple interest. If the borrower refinances or the property transfers ownership; the rehabilitation loan will mature and required to be paid-in-full to release the TCRA's interest, which is secured through a Deed of Trust and recorded with the Pierce County Auditor's Office.

The loans are not assumable and shall be due upon sale or transfer of the property unless an assumption to a family member is approved by the TCRA Board.

Maximum and Minimum Loan:

The minimum loan amount will be $15,000. The maximum loan amount will be $60,000. Any loan increase shall be established by the project scope of work, contractor bid(s),property photos and approval by the TCRA Administrator prior to any rehabilitation work commencing.

Other:

The Applicant shall use the loan only to pay for the cost of rehabilitation and associated costs as detailed on the work write-up or scope of work submitted by the Housing Program Manager and appropriate third-party loan costs, other soft costs including permits, inspections, survey, engineering, or other such fees that are necessary to complete the rehabilitation project. **NOTE**: that staffing costs and lead paint assessments associated with the project cannot be a part of the homeowner's loan.

The Applicant shall permit City of Tacoma inspections of the property to be rehabilitated for compliance with all state and local building codes, and written rehabilitation standards;

The Applicant shall not award any contract for rehabilitation work to be paid in whole or in part with the proceeds of the loan to any Contractor who, at the time, is not on the approved Contractors list and without the consent of the TCRA;

The Applicant shall allow no member of the TCRA who exercises any function of responsibility in connection with the administration of the Single Family Homeowner Rehabilitation Loan Program to have any interest, direct or indirect, in the proceeds of the loan, or in any contract entered into by the applicant for the performance of work financed, in whole or in part, with the proceeds of the loan;

The Applicant shall not pay any bonus, commission or fee for obtaining approval of the loan application;

The Applicant shall occupy and maintain the housing unit for the term of loan;

The Applicant shall maintain fire, liability, and hazard insurance coverage on the housing unit in an amount that is at least the value of the after rehabilitation appraised value of the property.

The Applicant shall cause the TCRA to be named a co-insured party on the fire, liability, and hazard insurance coverage.

The Applicant shall keep property taxes current for the term of the loan,

The Applicant shall not discriminate upon the basis of sex, gender, age, race, creed, color, class, national origin, disability, familial status, ancestry or other protected classes in the awarding of the construction contracts; Follow all Federal, State, and Local laws and requirements related to discrimination.

The Applicant shall utilize funds within 90 days of loan closing unless granted a written time extension by the TCRA.

Default:

In the event that the Applicant fails to adhere to the conditions and restrictions contained within the Written Agreement between the Applicant and the TCRA. The TCRA reserves the right to terminate the individual's participation in the program and/or demand full repayment of the loan.

Annual Monitoring of Residency Requirements: Occupancy will be verified and reviewed by the following methods:

Proof of occupancy in the form of a current utility bill (optional)
Verification of address on Assessor's website.
Verification of required homeowners and other required insurance policies.

1.4 ELIGIBLE PROGRAM COSTS AND ACTIVITES

Below are general eligible program costs and are outline the specific eligible materials and construction standards for the program.

The following table shows samples of the maintenance activities and rehabilitation activities the Program will consider. See HUD Notice CPD-16-02 for additional information.

Feature or System	Rehabilitation Activities
Site	• **ADA accessibility only** – Construction of walkways, driveways or parking areas, or replacement thereof **Disturbing more than 1 cubic foot of dirt requires TRIBAL LETTERS**
Roof	• Complete replacement of roof with new composition shingles, rolled roofing, or membrane
Windows and Doors	• Replacement of windows (more than one) • Replacement of exterior doors (health and safety only)
Interior Walls and Ceilings	• Installation of new drywall or paneling (only for deteriorated section)
Flooring	• Installation of new subfloor • Installation of laminate floor and/or carpet replacement
Accessibility	• Rebuilding stair or constructing new stair • Installation of new access ramp
Kitchen	• Complete or substantial kitchen rehabilitation

Feature or System	Rehabilitation Activities
HVAC	• Installation of new in-kind furnace or heat distribution system • Installation of central air conditioning – DHP only
Electrical/Lighting	• Replacing or moving electrical panels • Re-wire to replace knob and tube wiring • Install new electrical outlets
Plumbing / Mechanical	• Remove and replace existing plumbing • New water or sewer connection • Replace existing water heater **Disturbing more than 1 cubic foot of dirt requires TRIBAL LETTERS**
Bathroom / Laundry	• Complete or substantial rehabilitation of bathroom and laundry room / area
Security	• Repair or replace existing fence • Install child-proof safety latches and locks • Replace door locks / deadbolts • Replace existing window screen
Pest Infestation	• Removal of pests and repair of any damage caused by the infestation
Life Safety	• Any and all ADA Accessibly needs or requirements

Hard Costs:

a) Energy Conservation Measures and Improvements:

A rehabilitation loan may provide for specific energy conservation measures such as storm windows, caulking and weather stripping, attic and wall insulation, energy efficient equipment such as, water heaters and HVAC units.

b) Building Requirements

Costs to ensure the property has been brought up to state and local building codes and TCRA / City of Tacoma's Written Rehabilitation Standards *(see Exhibit D).*

c) General Property Improvements of Incipient Violations:

General modest non-luxury improvements or corrections of incipient code violations; an incipient code violation is defined as a condition that is likely to occur within five years. See rehabilitation standards Appendix A. Note that under a CDBG funded rehabilitation loan the only appliances that can be replaced are the stove and refrigerator.

d) Property Clean-up:

Some sites may contain garbage, trash or solid waste as defined by the Tacoma Pierce City of Tacoma Health Department, state or City of Tacoma code, or other laws and regulation. The proper disposal of these items is an eligible cost of property rehabilitation and shall be charged to the loan provided by the TCRA.

It is the intent of this program to provide safe, decent and affordable housing that is consistent with community standards regarding general property condition. Borrowers must agree to clean their property

up (remove solid waste or other items) prior to loan commitment.

e) Essential Improvements:

Funds for repair are replacement of systems failures and/or systems with less than a five-year remaining life.

f) Lead Paint Hazard Reduction:

Funds for safe work, interim controls, or abatement to remediate any lead hazards.

g) On-Site Improvements and On-Site Utility Connections:

Site improvements that are needed to maintain the safety of the home. On site utility connections including sewer, septic, water lines and electric.

h) Accessibility for persons with disabilities:

Repairs needed to make the home accessible for a person with a documentable disability.

Soft Costs:

a) Building Permits and Related Fees:

A rehabilitation loan may provide funds to cover the cost of building permits, electrical, plumbing and mechanical and related permit fees that are required to carry out the work. However, as the Agreement for Rehabilitation Work requires the Contractor to pay for permits, this cost would be included in the Contractor's bid and contract amount.

b) Architectural Services:

In some unusual cases, an applicant may employ a private architect to prepare plans and drawings for the rehabilitation of his/her property. The loan may include an amount to cover the reasonable cost of the architectural services for the foregoing rehabilitation work to be financed by the rehabilitation loan.

c) Storage of Household Items:

On occasion it may be required to move certain household items in order that rehabilitation work may be completed by the Contractor. In these circumstances, the homeowner shall choose a storage facility (this may include portable storage units placed on-site) and arrange loading and delivery both to and from the storage area. The loan will cover only the expense of renting the storage facility during the construction period. Neither the TCRA nor The City of Tacoma shall have any liability for the storage of any household items. The cost of the storage of household items shall be a part of the loan provided to the borrower.

d) Closing and other loan soft costs:

A rehabilitation loan may include funds to cover costs and charges related to processing the loan application and to obtain security for the loan. This may include appraisal, title and recording, credit reports, and tax service fees.

e) Related soft costs:

Third party soft costs including:

1. Pest/Termite inspections
2. Hazard insurance (CDBG only)
3. Sewer line failure
4. Lead based paint risk assessment and clearance inspections. (Lead paint assessments and clearance testing are not charged to the borrower's loan)
5. Other professional services need for the project.

f) Refinancing:

Eligible only if part of the rehab project and reduces housing expense to the homeowner.

g) Temporary Voluntary/Optional Relocation:
If the construction work presents a danger or health hazard to the borrower(s) as determined by program staff then the borrower can be reimbursed for temporary voluntary relocation costs. These costs must be reasonable as determined by program staff and can be paid back to the borrower from the loan proceeds on a reimbursable basis only. Hazardous construction can include but is not limited to lead paint abatement, or demolition of the unit. The temporary relocation will be voluntary and not required unless state and local laws require temporary relocation. Please refer to the City of Tacoma policies on optional relocation.

h) Legal:

Legal or Attorney costs that are incurred in order to clear title to the property, or other legal consultation as needed.

i) Staff and Overhead:

Project staffing costs related to loan processing, underwriting, closing, inspections, cost estimating, developing specifications, and other staff costs directly related to carrying out the project. **NOTE:** These costs are <u>not</u> charged to the borrower's loan.

j) Ineligible Costs:

The repair, purchase or installation of recreational items such as barbecues, bathhouses, greenhouses, swimming pools, saunas, television antennae, tennis courts;

The repair, purchase or installation of luxury items such as burglar alarms, burglar protection bars, dumbwaiters, kennels, murals, flower boxes, awnings, patios and storage sheds/workshops;

The repair, purchase, or installation of other items deemed ineligible by the Housing Housing Program Manager or designated representative.

Payment of delinquent property taxes; and Other costs not specified as eligible and not within the written rehabilitation standards.

1.5 APPLICABLE FEDERAL REQUIREMENTS FOR HOMEOWNER REHABILITATION

The TCRA will comply with all applicable federal cross cutting regulations including but not limited to the following:

Fair Housing:

The rehabilitation loan program will comply with all Fair Housing Requirements including but not limited to:

Title VI of the Civil Rights act of 1964
The Fair Housing Act
Age Discrimination Act

Lead Based Paint:

All units in a project must comply with the lead regulations at outlined in Title X of the 1992 Housing and Community Development Act 24 CFR Part 35) Notification: All owners must be provided with the EPA lead hazard pamphlet, a disclosure about the potential lead hazards and the results any lead hazard evaluation or risk assessment. All projects must comply with the RRP requirements.

Debarred Contractors:

No Contractors, sub-Contractor, or other party (consultant) to the project will be receive a contract award if they are on the on the list of state or federally debarred or suspended Contractors. A list of approved Contractors will be maintained by the Pierce County Community Development Corporation (PCCDC) and will be available through a Memorandum of Understand between the TCRA and PCCDC. The TCRA shall keep copies of the Contractor's license, bond and insurance information. The Federal Debarment and System Award Management Search (SAMS) Registration list for each Contractor should be checked prior to contracting with the Contractor and it must include all sub-Contractors involved in the project.

Conflict of Interest:

No Contractor shall receive a contract award if they are related by blood or marriage to any employee of the Housing Division, the Homeowner, or if they are in a business partnership with an employee or homeowner. The City of Tacoma, TCRA and federal conflict of interest provisions apply.

Environmental Review:

Homeowner rehabilitation loans will fit into the NEPA Categorically Excluded subject to 58.5 level review. The TCRA will follow the Housing Division policies for Environmental reviews.

SECTION 3:

The TCRA will follow the City of Tacoma's Section 3 plan. The TCRA will follow all City of Tacoma Policies.

1.6 LOAN PROCEDURES:

Referral and Waitlist:

A waitlist of eligible applicants will be established for the homeowner rehabilitation loan program. Applicants will be put on the loan on a first come first serve basis. At the approval of the Housing Program Manager the applicant can be moved up on the list if the following conditions exist:

The repairs needed pose a public health risk (i.e. sewer line failure):
The repairs needed pose a health risk to the owner and occupants of the home (i.e. furnace, water, electrical, structural failures, etc.);
The repairs are needed to allow the owner accessibility (i.e. ramps, bath modifications);
The repairs are needed to prevent the imminent deterioration of the home. (i.e. roof leaking in multiple locations).

Loan Application Process:

A City of Tacoma staff member will contact the applicant to discuss the loan program. All loan applicants will follow the procedure outlined below:

Complete and sign a rehabilitation loan application and all relevant disclosures. If possible the City of Tacoma staff employee should meet with the applicant to complete the loan application. If the borrower is not available to meet, then the City of Tacoma staff member should mail and/or email the application to the borrower to complete.
Complete and sign household information form listing all household members and income. Adult member claiming no income must sign an affidavit of no income.
Provide all necessary documents to verify income and assets for all household members 18 and over.
Provide Homeowners Insurance information.
Provide other documentation as needed.

Initial Review, Income Certification, and Loan Processing:

Once the applicant has provided the signed loan application and all relevant documents the Housing Staff Team shall determine if the applicant is eligible based on the HUD requirements. The Contract Program Auditor or the Program Technician shall complete and sign an Income Determination Certification Form. Income determinations will be based on the annual HUD Income Limits for Pierce County. Once the initial review is complete and the income is certified as eligible the Contract Program Auditor and/or Program Technician to:

Order Credit Report;
Check the Pierce County Assessor-Treasurer website and print and property tax information;
Review for any missing documentation;
Order preliminary title in the estimated amount of the loan;
Mail the borrower an introduction letter, which shall include any requests for additional documentation.

Underwriting:

The Contract Program Auditor or the Program Technician should review the application and supporting documentation to verify that the applicant meets the TCRA credit policy. The Contract Program Auditor or Program Technician should complete the underwriting worksheet and place it in the project file. The underwriting review shall include:

Review credit report to determine credit worthiness;
Determination of Loan to Value;

Determination of Debt to Income ratio;
Determination of net liquid and non-liquid asset; and
Review other relevant factors per TCRA credit policy

If the applicant does not meet policy and an exception may be warranted based on other contributing factors, the Rehabilitation Housing Team should discuss the application with the Housing Program Manager

Environmental Review (ER):

The Contract Program Auditor and/or Program Technician shall complete the ER prior to loan closing and prior to any work starting to ensure the NEPA Categorically Excluded subject to 58.5 level review is complete. The Program Technician will promptly assist the Contract Program Auditor with any information needed to complete the ER. It is anticipated that most projects will convert to exempt. However, if a project cannot convert to exempt no loan will be closed and no work will occur prior to the completion of a Request for Release of funds process. No work shall proceed until the environmental review is complete. Once the environmental review is complete, the Contract Program Auditor or the Program Technician will submit the review to the appropriate City of Tacoma staff for review and signature.

Washington State Department of Architecture and Historical Preservation (DAHP):

The contract and Program Auditor and/or Program Tech will verify through DAHP if the home has registered historical significance and/or protection under the Revised Code of Washington (RCW) or the Washington Administrative Code (WAC).

Loan Estimate:

Once a loan amount has been determined, the borrower shall be presented with a loan estimate to conform to Consumer Financial Protection Bureau standards.

Once it is determined that the borrower is eligible based on HUD guidelines, all loan documentation is collected, the scope work and cost estimates have been completed, and construction bids have been received, reviewed and accepted. The loan amount should consider a 10% to 20% construction contingency. If the loan is under $15,000, the Contract Program Auditor or Program Technician shall refer the applicant to the Rebuilding Together South Sound minor home repair program for assistance. If the loan is estimate is over $60,000 the Housing Program Manager will obtain approval from the TCRA Administrator and/or Housing Division Manager.

Denials and Withdrawals:

If the Housing Program Manager determines the borrower does not qualify for the loan, then a denial and termination of credit letter shall be sent to the borrower within 30 days of the denial decision date. The borrower will have 30 days to appeal the denial of their application. The letter shall clearly indicate the reason for denial of the application.

Loan Closing:

The following actions shall be completed in preparation for loan closing:

Establish a date certain for loan settlement and the pre-construction conference that allows time for document processing. That date should be no later than 30 days after loan approval;

Confirm Environment Review has been completed and signed City of Tacoma staff;

Confirm loan amount is sufficient to cover rehabilitation contract and soft costs;

Check to confirm the Contractor, Subcontractor, and other parties to the project are not on debarment list.

Under the direction of the Contract Program Auditor or the Program Technician will prepare the loan docs for borrowers signature.

Loan documents include the following:

Promissory Note;
Deed of Trust;
Loan Agreement;
Notice of Right to Cancel;
Closing Disclosure (mailed to the 3 days prior to closing)
Contract between Homeowner and Contractor;
Notice to Proceed;
Lead disclosure - If applicable; and
Debarment Form.

Note: All documents will be in a form prepared by the TCRA Attorney. The template documents will be saved the appropriate electronic file directory.

The Housing Rehab Team will meet with the borrower(s) to conduct a pre-construction conference. The Housing Program Manager will draft and review the scope of the work with the borrower and complete the pre-construction conference form. The Contract Program Auditor will review the loan documents and rehabilitation contract with the borrower and answer any questions the borrower(s) may have.

Closing Costs:

The closing costs for a rehabilitation loan may include the following:

Title Report;
Recording fees;
Legal fees;
Reports such as biological assessments;
Tax service fee;
Credit Reports; and
Other as deemed necessary.

All costs (except lead assessments and clearance testing) will be covered by the loan funds. If the borrower cancels the loan all expenses should be written off as administrative costs depending on the fund source. *No loan origination or application fees are allowed in accordance with HUD guidelines.*

Loan setup in DownHome and IDIS:

Once the loan is signed and the 3-day rescission period is over the Contract Program Auditor with the assistance of the Financial Assistant will take the following actions:

Complete a closing order for the deed of trust and forward to the title company for recording. ***The Deed of Trust shall be recorded on the first business day after the recession period expires***;

Complete an IDIS setup form and forward to the Housing Program Manager for setup on IDIS within three (3) days of closing and loan recording
Complete DownHome setup
Submit to the TCRA Accountant within five (5) days of closing; and
Organize file and include file checklists

Loan Increases:

Should a loan increase be needed a Promissory Note modification, modification of Deed of Trust a loan modification should be prepared. The Note modification should be signed by the borrower and the TCRA. The modification of Deed of Trust should be forwarded to the title company for recording. Please refer to TCRA Credit policy on approval of loan increases.

Close Out and Audit:

Within 30 days of completion of the project, the final disbursement of payment, and all funds being expended the Contract Program Auditor shall prepare a final note modification and Truth in Lending (TIL) disclosure. The TIL will itemize all funds disbursed from the borrower's loan with the TCRA. The final note modification will identify the final loan amount (final amount spent out of the loan). The Contract Program Auditor will complete the final loan close and forward to the TCRA Accountant and the Housing Program Manager will complete the final data entry in IDIS.

Project files and checklists

The final project file should include the project file checklists in Appendix C. The Contract Program Auditor or the Program Technician will go through the checklist and confirm that all required documentation is included. Once the file has been audited the project file will be filed with all of the TCRA loans for loan servicing.

Monitoring:

The final project file will be subject to review by the Housing Program Manager or other Contract Program Auditors. The TCRA will be monitored periodically by the City of Tacoma, State Auditor's Office and HUD.

1.7 PROCUREMENT OF SERVICES:

The services of lead risk assessments and testing that may be necessary on Homeowner Rehabilitation projects. In all cases, the TCRA shall follow the Housing Division's procurement standards

For regular services, it may be necessary to do a request for qualifications on an annual basis.

1.8 CONTRACTING FOR REHABILITATION WORK (Procedures)

Contractor list and approval:

The TCRA shall utilize the Pierce County Community Development Corporation (PCCDC) list of all general and sub-Contractors, including minority, female, and Section 3 general Contractors, who have expressed an interest in bidding on homeowner rehabilitation loans and who can provide the following as contained on the Contractor Application forms:

Adequate active liability insurance;
The name of company bank;
The names of his/her usual subcontractors
The names of his/her principal suppliers;
The names and addresses of at least two (2) residential repair or construction jobs recently performed by the Contractor;
Contractor's licenses;
Section 3 certification, if applicable;

The PCCDC will maintain a file on each Contractor.
All Contractors must meet the following requirements.

Registered with Pierce Community Development Corporation (PCCDC) Contractor List
Licensing: Must be a licensed Contractor in the State of Washington.
Bond: Must have a bond meeting the state of Washington requirements.
Insurance: Carry a minimum of $1,000,000 in liability insurance.
Claims: No outstanding claims.
Performance: Acceptable past performance.
Credit: Have the ability to obtain credit, and available credit that may be needed for larger construction projects.
SAM Registration:

NOTE: A strong effort shall be made to actively recruit low-income, minority, female and Section 3 Contractors in compliance with established City of Tacoma policies.

Initial Inspection(s):

Upon referral from the Contract Program Auditor, the Housing Program Manager shall perform an inspection of the property with the homeowner and identify deficiencies in the home and discuss other potential rehabilitation work with the homeowner. If the project is HOME funded the Housing Program Manager will work with the homeowner to ensure that the on completion the home will meet existing local City of Tacoma code, City of Tacoma property and rehabilitation standards, UPCS (once HUD issues guidance) and ensure that all work specified is eligible. All homes regardless of funding shall meet health and safety standards, lead paint and accessibility standards.

Inspection Checklist:

The Housing Program Manager will use the Inspection checklist (Appendix D) to document the condition of the home on initial inspection and at completion. Any deficiencies will be noted and described in detail on the inspection checklist. If the project is HOME funded all failed items must be addressed in the scope of work. The inspection checklist will detail any local code, health and safety, accessibility, UPCS (once HUD issues guidance), lead paint and major systems deficiencies and other requirements for the property to meet the written rehab standards. In addition, if HOME funded the inspection checklist must document all major systems with less than five years remaining life. All major systems with less than five years remaining life must be addressed as part of the rehabilitation loan if HOME funded. In all cases regardless of funding source health and safety violations shall be corrected.

Lead Based Paint:

Prior to initiating the scope of work the Contract Program Auditor will determine the age of the home and complete

the lead paint checklist. If the home was built prior to 1978 the Contract Program Auditor will follow policies as outlined in Exhibit A. The owner(s) will be provided the lead pamphlet and advised if the results of any lead testing conducted on the house. In all cases the work must follow Washington State RRP standards.

Scope of Work and Job Specifications:

The Housing Program Manager will complete a written scope of work and in accordance with the written rehabilitation standards as outlined in Appendix B. All work must be identified in the written specification. Once the written scope of work and job specification is complete the Program Manager shall review with the homeowner(s) and have the homeowner initial all work to be completed.

Cost Estimating:

The Contractor and the Housing Program Manager shall prepare, based on the project work specifications, an estimate of the cost of the project being considered.

The standard shall be the Contractor and Housing Program Manager Means Residential Repair and Remodeling Costs (RS MEANS) current edition or similar cost estimating programs in developing a cost estimate for rehabilitation projects and developing cost estimates for all Change Orders.

Cost estimates shall include material, labor, tax, transportation, and set-up, tear down, disposal, delivery, applicable permits, overhead and profit and any other items needed for the completion of the job by the Contractor.

Cost Estimates shall be documented, signed and dated by the Housing Program Manager. The estimate shall account for the potential of unseen incipient problems that may occur during the construction work and include an amount as necessary for those unknown items.

The estimate shall be prepared based on current materials and labor pricing as known to the program at the time of its creation based on the Housing Program Manager RS Means guidance, or other guidance.

The cost estimate shall provide a range of pricing for the project as a whole.

The cost estimate shall be presented to the homeowner prior to Contractor bidding and selection.

Bidding Procedures:

At the homeowner's option, all Contractors who are currently on the general Contractors List will be invited to bid on the project. Homeowner's have the option of invite any qualified Contractor to submit a bid. Bid packages with the written scope of work will be provided via email.

If one Contractor successfully bids on more than one job at a time, they will be expected to prove that they have the capacity to complete the work without exceeding the time allotted.

Invitation to Bid:

A staff member of the Housing Rehab Team, acting on the request of the homeowner, shall invite all Contractors on the approved list, and any other Contractor of the homeowners choosing willing to bid on the project (provided they are willing to complete the Contractor application and be put on the list). The invitation will be emailed to all Contractors on the general Contractor list, and any Contractor not on the list identified by the homeowner.

Walk Thru:

The Housing Program Manager and/or Contract Program Auditor shall meet the Contractors and homeowner at the subject property at an appointed date and time conduct a walk-thru and review the Statement of Work / Specifications prepared by the Housing Program Manager. The Housing Program Manager will go over the job specification with the Contractors and assist in the Contractor's inspection of the property and to facilitate obtaining a bid.

Bid Review and Price Analysis:

Upon receipt of the proposal from the bidding Contractor(s) the Housing Program Manager, acting on the request of the homeowner, shall review the bids for completeness and accuracy making special note to assure that the specifications and rehabilitation standards have been adhered to and that the monetary figures are correctly added and appropriate to the work to be performed. Although not required, three bids should be received. The Housing Program Manager will prepare a price analysis that compares all bids received to the costs estimate.

All Change Orders shall have a price analysis of the cost reasonableness of the Change Order completed prior to the Change Order approval.

The price analysis form will identify bids all received and compare to the cost estimate. If the selected bid varies more than 10% of the cost estimate the Housing Program Manager should document in writing as to why the bid was allowed.

Acceptable bid:

An acceptable bid is one that is received on time and upon review is accurate and pricing is reasonable based on the cost estimate, and other bids received. If the bid is more than 10% of the cost estimate a justification from the Housing Program Manager should be documented. The homeowner shall have at their option the choice of any of the Contractors who have provided a reasonable and acceptable bid on the project. In the event no acceptable bids are received, the homeowner shall be advised to reject all bids and the owner shall select another list of Contractors and repeat the bidding process.

Award of Construction Contract:

The Housing Program Manager shall meet with the homeowner and discuss the bids provided. The homeowner shall be provided copies of all bids and shall review the written bids prior to selection. The Homeowner will accept the Contractor and inform the Housing Program Manager or the Contract Program Auditor. The Housing staff will also notify all Contractors that bid on the project the results of the bid opening.

Issuance of Proceed Order:

At the time the award is made Contract Program Auditor or the Housing Program Manager shall remind the homeowner and the successful Contractor that the undertaking of the work is subject to issuance by the owner of a Notice to Proceed Order within the number of days stated in the general conditions of the Agreement for Rehabilitation Work. Upon award of the job, the Contract and Program Auditor, on a request of the homeowner shall notify all unsuccessful bidders.

Award within 30 days of Cutoff Date:

In order for the bid and proposal to be binding, the award shall be made within a period of 30 days from the cutoff date established by the homeowner for the receipt of the bid and proposal; unless a later date is agreed upon in writing.

Contract Award:

The owner and Contractor executing the contract documents shall accomplish the award of the construction contract.

Permitting:

The contractor will identify if City of Tacoma, Health Department, L&I permits, or other permits as applicable will be required. Those permit requirements will be included in the scope of work. The Contractor will be responsible for pulling any applicable permits and providing the Housing Rehabilitation Team and the homeowner with copies of all applicable permits. Copies of all applicable permits will be included in the project file.

If a specific license is required to do the work identified in the scope of work (i.e. Electrical, Plumbing, lead abatement, etc.) the Contractor shall provide written evidence that either; a) the Contractor is licensed to do the work, or b) the Contractor has hired a licensed sub-Contractor to do the work.

Preconstruction Conference:

The Housing Program Manager and/or Contract Program Auditor will conduct a preconstruction conference with the Homeowner and Contractor prior to the start of the contract and issuance of the notice to proceed. This will include going over the memo of understanding, and the scope of work with the contactor and homeowner. The housing team should describe the roles and responsibilities of each party in the execution of the contract. The Contractor shall provide at the time of the preconstruction conference a schedule of work that identifies that the project will begin within 10 days of the contract start date and be completed within 60 days from the start date of the contract. The pre-construction conference should occur with the loan closing but is not required to. The Contractor will be responsible for supplying a list of all Subcontractor s prior to contract signing.

Written Contracts:

All repair and rehabilitation work shall be undertaken only through a written contract between the Contractor and the homeowner recipient of the loan. The contract will be on a form approved by the TCRA and prepared by the Contractor. No construction work will occur without a signed rehabilitation contract between the owner and Contractor.

The construction contract shall consist of the following documents:

1. The Agreement for Rehabilitation Work
2. Specifications and Drawings (if required)
3. Pre-Construction Conference Form
4. Contractor's Bid and Proposal

The Contract shall document the terms and conditions of the work to be undertaken. It will be signed by the Contractor and by the homeowner following loan signing. Included with this contract agreement will be a bid and proposal by the Contractor as well as the specifications for the work to be performed.

Progress Inspections and Contractor Payment:

Upon completion of work or percentage of work as outlined in the construction contract the Contractor may make a payment request by providing program staff with an invoice for payment. The Contractor needs to submit the invoice in a manner that allows sufficient time for proper inspections. After reviewing the invoice for accuracy, a member of the Rehabilitation Housing Team shall request a statement of payment to be prepared by the Contractor. The Housing Program Manager will inspect all work being billed prior to authorization of payment to the Contractor. The Homeowner must sign the statement of payment due confirming that work was completed. The Contract Program Auditor and Housing Program Manager will also sign the statement of payment due. The Rehabilitation Housing Team shall maintain a written progress inspection log on a form approved by the City of Tacoma's Housing Division/TCRA of each progress inspection made on the property. All work completed must be noted in the progress inspection log. The homeowner should also sign the progress inspection form/log in addition to the Rehabilitation Housing Team. The amount of progress inspections will be determined at the preconstruction conference will be based on the size and nature of the work being performed.

Change Orders:

Any change in the scope of work including; a change to the project design, work specification, an alteration, addition, or deletion to the approved scope of work, draw schedule, or extension of contract deadlines, must be documented and approved as a Change Order before the work is initiated. The Change Order must be submitted by the Contractor and be reviewed and approved by all parties. A Change Order then becomes a binding part of the construction contract. A Change Order must be signed by the homeowner the Contractor and the Contract and Program Auditor / Housing Program Manager if the Change Order is over $500 in value, it shall be he Housing Program Manager. Any additional work or alteration to the scope of work in the Change Order must be specified in writing in accordance with written rehabilitation standards and include a cost estimate and price analysis in accordance with the policies outlined in this chapter. Change Orders will be evaluated for their impact on the project cost, schedule, and scope of work before they are approved by the TCRA.

Final Inspection:

A final inspection shall document that all work specified in the job specification, including any Change Orders, was completed in a workmanlike manner consistent with industry standards and the rehabilitation standards. If the inspection reveals that additional work is required a written punch list shall be prepared. The Rehabilitation Housing Team should document on the inspection checklist that all failures were addressed. Both the Rehabilitation Housing Team and the homeowner should sign the inspection checklist documenting that all failures were corrected and final inspection.

Photos:

The Rehabilitation Housing Team shall use photos to document each line item in the job specification.

Close out and lien releases:

Upon completion the Contractor must submit a final invoice, lien releases from all Subcontractor's and material person, and any warranties on any materials purchased during the course of construction. Prior to final payment the homeowner must sign a completion of contract certifying all work was completed. Prior to final payment the Contractor must sign a final lien release on a form approved by the TCRA. All permits must be finalized and submitted to the Contract and Program Auditor and all TCRA project closeout acceptance documentation shall

be signed by the property owner the prior to the TCRA issuing the final (10%) retention payment to the Contractor.

Contractor Warranty:

All work performed by the Contractor is covered for a period of (1) one-year. The Contractor must be given written notice of warranty issues by the homeowner with reasonable promptness. Any disputes will be resolved in accordance with the contract documents.

Grievance Process:

Contractor disputes will be addressed in accordance with the construction contract. Any Homeowner grievances about the TCRA will be addressed by the Housing Division Manager .If the homeowner is not satisfied with the grievance they may request in writing to address their grievance against the TCRA with the TCRA Board Chair (or designee).

1.9 CREDIT POLICY

The TCRA credit policy should be used as a guide to making loan decisions on TCRA funded housing projects. The Credit Policy should be annually reviewed to keep up to date with market conditions and industry changes. The TCRA loans will follow all applicable federal/state/local regulations, county policies, federal guidelines including all fair housing, and lending requirements

Definitions:

Borrower: Borrower shall refer to the loan recipient(s) and owner(s) of the property, which take out a loan under an agreement to pay it back later date, unless it is forgiven.

Conventional Loan: A mortgage loan not insured or guaranteed by any government agency.

Deferred Payment Loan: A loan which does not require monthly payments but which is payable upon the sale of the unit, transfer of title or when the borrower(s) no longer occupies the unit.

Debt to Income Ratios: The first ratio (front end) is determined by dividing the monthly mortgage payment(s) (principal, interest, taxes and insurance(s)) by the household's gross monthly income. The second ratio (back end) is determined by dividing the total of monthly mortgage (PITI) and creditor obligations, by the household's total gross monthly income.

Displaced Homemaker: A displaced homemaker is an individual who has been providing unpaid household services for family members; and has been dependent on the income of another household member but is no longer supported by such income; and has been displaced as a result of a divorce.

Financial Assistant: An employee of the City Tacoma Housing Division. Responsible for electronic bidding, processing loan payments, maintaining escrow accounts, reconciling and inputting the loans, generating loan servicing reports processing, and closing applications for a variety of housing loans programs on behalf of the TCRA (Tacoma Community Redevelopment Authority).

Forgivable Loan: A loan in which the principal is forgiven over a specific period of time. These loans are generally provided to address accessibility issues for households with persons with a disability.

FHA: The Federal Housing Administration (FHA) is a part of HUD (Department of Housing and Urban Development) and provides mortgage insurance on loans made by FHA approved lenders.

Housing Ratio: Is determined by dividing the monthly mortgage payment (principal, interest, taxes and insurance(s)) and all monthly utility expenses by the gross monthly household income. The housing ratio reflects the percentage of gross monthly household income attributable to housing costs.

Installment Loan: A specific dollar amount agreed to be repaid over time with a set number of scheduled payments. Also known as an amortizing loan.

Liquid Assets: The value of all checking, savings, money market, mutual funds, or stocks. In general, an asset is considered liquid if it can be converted to cash within 5 days with no penalty for early withdrawal.

Loan to Value: The value of the property divided by the underlying debt on the property.

Low-Interest Loan: A loan with an interest rate below the current market.

Neighborhood Stabilization Program (NSP): Funding for the acquisition, and/or rehabilitation of foreclosed, distressed, or bank owned properties.

Non-liquid Assets: The value of real estate, IRA, 401K, CD's, Annuities, Life Insurance, or any asset that cannot be easily converted into cash within 5 days with no penalty for early withdrawal.

Very Low Income: Annual income level of 30% to 50% AMI (or as indicated by HUD).

Homeowner Rehabilitation Loan

Definition: The lending of funds for the rehabilitation of owner occupied one-unit single family housing to low income homeowners in the City of Tacoma with the goals of bringing the housing up to state and local codes, meeting rehabilitation standards, and/or eliminating health and safety hazards while maintaining affordability for the homeowner.

All applicable program regulations apply. Community Development Block Grant (CDBG), and other funding as applicable.

Federal funding requirements for eligibility:

1. All owners of the property must reside in the property as their primary residence. An exception is allowed if the property is owned by heirs of an estate whereby one of the heirs is residing in the home as their primary residence.
2. The household residing in the property must have a combined household income at or below 80% of area median income as published by HUD.
3. The after-rehab property value must be below the 95% of Median Value as published by HUD, or as determined by the Pierce County Assessor in conjunction with a 40% multiplier to determine the local housing market price.
4. All owners must own the property in fee simple title or in a form acceptable to HUD.
5. Does not accept Reverse Mortgages.

A. Credit Requirements:

Loan Applications will be reviewed for credit worthiness using the following criteria;

- Cannot be delinquent on any public debt. Open delinquencies on public debt are allowed only if the debt is in a verifiable repayment plan. (Contract Program Auditor to verify repayment plan).
- Cannot have any judgments or collections over $1,000, if over $1,000 must be in verifiable repayment plan. This requirement may be waived if the collection is disputed and the borrower can provide documentation showing the collection is in dispute. Medically related collections, including unsecured accounts used to cover medical expenses, are excluded from this requirement. The requirement may also be waived if the borrower(s) sole income is social security.
- Cannot be delinquent on existing mortgage(s) over 30 days, or delinquent on other liens on the property including property taxes, sewer assessments and/or homeowner's association dues.
- Present and past delinquent accounts that are unsecured are allowed. However, chronically delinquent accounts that indicate a poor credit history may be considered a negative factor if an exception to policy is being requested.
- Past due installment accounts 30 to 90 days (i.e. car loans) are allowed. However chronically delinquent accounts that indicate a poor credit history may be considered a negative factor if an exception to policy is being requested.
- Bankruptcies: Chapter 7 bankruptcies must be discharged, and Chapter 13 bankruptcies must have documented court approval to enter into the new debt.
- Foreclosures: if a borrower has had a trustee's sale notice filed on their primary residence the borrower must wait one year after the default has been satisfied in order to qualify for a TCRA Homeowner Rehabilitation Loan.

B. Debt to Income Requirements:

Applications will be reviewed to verify that the borrower(s) has/have demonstrated sufficient income to support monthly household expenses.

Ratios should not exceed:

- 50% First Ratio (Mortgage(s) including taxes and insurance / gross income)
- 75% Total Debt to Income (total debt / gross income)

If the borrower is getting help to pay expenses, they must provide a notarized letter from person assisting them detailing how much, for how long, and why they are assisting applicants. This income shall be counted as income for qualification purposes.

C. Asset Limits:

Applications will be reviewed to ensure that applicants having sufficient liquid assets to fund a rehab project will have to use their own funds prior to coming to the TCRA. Anticipated Income earned from Liquid assets will be counted towards income, at the current HUD published rates, if the assets exceed $5,000.

Maximum Asset Requirements:

- Cannot have more than $25,000 in available liquid assets. Additional liquid assets over $25,000 would be required to be used toward the project. Definition of liquid assets: Savings/Checking Accounts, Mutual Funds, Stocks, Money Market Accounts.

- Cannot have more than $100,000 in non-liquid assets. Examples of non-liquid assets: Personal Property (non-household), Real Estate (other than primary residence), CD's, IRA's, 401K, Pension Funds.

Exceptions to Asset requirements:

1. If the liquid asset is the only or a significant portion of the borrower's income and use of the asset would adversely affect their income.
2. If the borrower can demonstrate that the liquid assets are needed for vital medical expenses or other related life and safety expenses.

D. Interest Rates and Repayment Terms:

Deferred Loans: 1%, Interest / 20 years.

The loan terms and interest rates are subject to periodic review by the TCRA Board and should take into consideration market factors.

NOTE: *Housing expenses include principal, interest on secured mortgages, property taxes and homeowner's insurance, and housing related utilities*.

E. Maximum Loan Amount:

The loan amount will be determined by the rehabilitation needs of the borrower(s) as determined by the TCRA. The maximum loan limit shall be $60,000, unless reviewed and approved by the TCRA Administrator.

F. Maximum Loan to Value:

The maximum combined loan to value (CLTV) shall be 100% based on the after-rehab value of the property.

G. Loan Decisions:

Housing Program Manager will be give authorization to approve loans up to $60,000. If the project loan amount is over $60,000 the TCRA Administrator will review the scope of work, contractor bid and property photos with the Housing Program Manager to review and ensure that all Health and Safety concerns are included in the project scope and contractor bids. The TCRA Administrator will have the authority to approve loan increase up to $100,000.
If the Scope of Work and Contractor bid is greater than $100,000, the Housing Program Manager will present the project scope of work, contractor bid and photos to the TCRA for review and approval.

H. Additions to Existing Loans (After close out):

On a one-time basis (in emergency health and safety situations) it may be necessary to re-open and add on to existing rehab loans that have been closed for less than one year. In those cases, the TCRA will only re-open and add on to an existing loan if the additional loan amount is below $5,000. In cases where the loan amount will be over $5,000 the borrower(s) will need re-apply for another loan from the TCRA and meet the credit policy requirements at the time they apply.

If the loan has been closed for over one-year borrowers requesting an additional loan must re-apply for the new rehabilitation loan and provide all needed documentation and qualify under the TCRA credit policy.

I. Means Testing:

The following standards will be used in assessing the borrower's financial means:

- If a borrower has **<u>any</u>** of the following circumstances the TCRA will deem them **<u>not</u>** to have the financial means to address the rehabilitation needs of the home on their own:
    - Household income is at or below 50% of AMI (Very Low-Income).
    - The Estimated Combined Loan to Value is greater than 80% with the estimated rehabilitation expenses.
    - The borrowers credit score is below 620 and as such would not be able to obtain conventional financing.
    - Current and projected Front-End Ratio ({PITI} divided by {Gross HH Income}) is greater than 30%.
    - Current and projected Back-End Ratio ({PITI + Consumer Debt payments} divided by {Gross HH Income}) is greater than 45%.
    - Current and projected Net HH disposable income ({Net HH Income} less {PITI + Utilities + Consumer Debt payments + other reoccurring HH expenses} is less than $200.00
    - Income sources of borrower and co-borrower are inconsistent and/or not verifiable.
    - Financial Aid and/or Deferral of Student Loans or income such as child support is terminating within three years.
    - Increased HH Medical related costs anticipated within two years.
    - Borrower provides evidence they were declined for a conventional loan and/or home equity loan.

- If a borrower has the following circumstances the TCRA will deem them to have the financial means to address the rehabilitation:
    - Household income exceeds 80% of AMI.
    - The estimated Loan to Value is less than 80% with the estimated rehabilitation expenses.
    - The borrower credit score exceeds 620 and as such would be able to obtain conventional financing.
    - Current and projected Front-End Ratio ({PITI} divided by {Gross HH Income}) is less than 30%.
    - Current and projected Back-End Ratio ({PITI + Consumer Debt payments} divided by {Gross HH Income}) is less than 45%.
    - Projected Net HH disposable income ({Net HH Income} less {PITI + Utilities + Consumer Debt payments + other reoccurring HH expenses} is greater than $200.00.

General Eligibility/Underwriting Principles (Single Family)

A. Income Determinations (HUD Eligibility):

In all cases, the TCRA **(regardless of program**) will use the Part 5, Section 8 method of determining household income as described in the HOME regulations. All income determinations described shall be deemed the best way to determine the applicant(s) anticipated income for the next 12 months. <u>All income documentation shall be no older than 120 days from the date of loan closing and a minimum two months of source documentation is required.</u>

Income Determination Worksheet: An income determination worksheet will be completed for every borrower's household that applies for a loan. The income determination worksheet will describe the methodology for determining income and the determination of income eligibility. The worksheet will be signed and dated by a Housing Division Team and will certify the household's income eligibility for the applicable program.

Household Information Form: A household information form will be required to be completed by all applicants regardless of program. The household information form will list all household members, relation to the head of household, dates of birth, social security numbers, and gross income. The head of household will sign the form and will certify the accuracy of the form. Any adult household members (18 and over) disclosing no income will be required to complete an affidavit of no income. The income of a person renting a room or space on the property shall not be considered a household member if 1) The person is not related to the owner by blood or marriage, & 2) The owner can provide a written rental agreement with the tenant.

NOTE: *In the case of an unrelated tenant renting a room or space the rental income provided to the owner shall be counted for eligibility and qualifying purposes.*

B. Income Documentation and calculations (HUD Eligibility):

Self Employed Income: Persons that are self-employed must provide at least two year's tax returns to verify income. P&L's can be considered as a substitute only if prepared by a certified public Accountant. In most cases a two-year average net business income will be used to determine annual income. If the self-employed income is significantly higher Year to Date (YTD) than the previous year an explanation should be provided. In the absence of an explanation greater weight shall be placed on the most recent year. For borrowers that file a schedule C sole proprietorship the average net income for the past two years will be used to determine income. Ordinary depreciation can be deducted from net income. For borrowers that file 1120 Corporate return the income will be determined on the two-year average of compensation including the percentage of business income generated.

Social Security/SSI Income: Shall be verified with most recent year's award letter. The amount used will be the gross amount and will not include a deduction for Medicare.

Pension Income: Shall be verified with a monthly, quarterly or annual statement.

Salary / Wages / W-2 Employees: Shall be verified through two months of paystubs, and/or a third-party verification of employment plus the last two years W-2's. Base wages shall be the hourly rate of pay times the number of hours worked per week. If these hours vary, use the prior year plus a year to date average of hours worked, or a year to date average whichever way the Housing Division Team deems the best way to calculate anticipated 12-month income.

- Commission Income: Commission income should be averaged from the previous year plus year to date received. If the commissions are significantly higher YTD than the previous year an explanation should be provided. In the absence of an explanation greater weight shall be placed on the most recent year.
- Bonus Income: Bonus income should be averaged from the previous year plus year to date received. The income should be verified through a year-end paystub, or verification of employment. If the bonus is significantly higher YTD than the previous year an explanation should be provided. In the absence of an explanation greater weight shall be place on the most recent year.
- Overtime Income: The same as bonus income.

- Seasonal Income: If income is based on seasonal work the income shall be averaged over the past year and current year to date. All income earned including unemployment income would be averaged to determine projected annual income in the next twelve months.

Unemployment Income: Should be verified with weekly statements. Unless otherwise stated it shall be assumed that unemployment income will continue for the purposes of determining the maximum allowable income.

Sporadic and inconsistent income: If income is sporadic, or inconsistent it shall be averaged over a minimum of a twelve-month period.

Child Support: Shall be verified by court order, DSHS statement, auto deposit, cancelled checks or other third-party methods. See above for inconsistent income.

Investment income/interest, dividend income: Shall be verified through year-end 1099's or bank statements. The income should be determined by the average of previous year's income.

Liquid assets: The TCRA shall use of passbook rate of 1.5% to determine income for assets that exceed $5,000 that do not have a predetermined income. The borrower shall provide three months banks statements on all accounts to verify liquid assets.

Unverifiable income: If the borrower earns income that is not verifiable by normal means, the TCRA shall get third party written verifications on what the borrower is paid. These can be third party signed certifications that the borrower was paid cash for work performed.

Rental Income: Verified by a current rental signed agreement. Full amount of rental income less mortgage on rental property including PITI.

The TCRA will follow the HOME regulations for Income inclusions and exclusions for HUD eligibility. The following income shall not be used in the calculations of debt to income ratios.

* Income of children under 18, or full-time students
* Income of temporary household members
* Lump Sum payments
* Income of a live-in caregiver
* Temporary Income
* Reimbursements for medical expenses
* Other as allowed by HUD

C. Income Documentation Calculations (Debt to Income (D/I) Ratios):

Self Employed Income: Persons that are self-employed must provide at least two year's tax returns to verify income. P&L's can be considered as a substitute only if prepared by a certified public Accountant. In all cases a two-year average net business income will be used to determine annual income. Depreciation may be added back as income.

Social Security/SSI Income: Shall be verified with most recent year's award letter. The monthly income may be grossed up 125%.

Pension Income: Shall be verified with a monthly, quarterly or annual statement. The monthly income may be grossed up 125%.

Salary / Wages / W-2 Employees: Shall be verified through two months of paystubs, and/or a third-party verification of employment plus the last two years W-2's. Base wages shall be the hourly rate of pay times the number of hours worked per week. If these hours vary, use the prior year plus a year to date average of hours worked.

- Commission Income: Commission income should be averaged for the last two years.
- Bonus Income: Bonus income should be averaged for the last two years,
- Overtime Income: The same as bonus income.
- Seasonal Income: If income is based on seasonal work the income shall be averaged over the past two years.

Unemployment Income: Not counted for D/I purposes. Exceptions for seasonal employment.

Sporadic and inconsistent income: Not counted for D/I purposes.

Child Support: Shall be verified by court order, DSHS statement, auto deposit, cancelled checks or other third-party methods. Not counted if less than three years remaining.

Investment income/interest, dividend income: Shall be verified through year-end 1099's or bank statements. Must verify that income will be received for at least three years.

Liquid assets: Not counted for D/I purposes.

Unverifiable income: Not counted for D/I purposes.

Rental Income: Verified by a current rental signed agreement and verification of receipt of last three months rent. Income shall be 75% of gross rent less the mortgage, including taxes and insurance, on the rental property.

D. Credit Report Standards:

If applicable, Credit reports should be kept current and no older the six months from date of closing.

Verification of mortgage should be obtained only if the mortgage is absent from the credit report.

If the borrower has had bankruptcy in the last two years, a copy of the discharge should be obtained.

In the absence of any credit the TCRA shall attempt to get alternative credit. (i.e. utility bills, phone, cable, etc.)

E. Asset Documentation:

The TCRA shall get the borrowers most recent two months account statements on all asset accounts including checking, savings, money market, mutual fund, Life Insurance, 401K, IRA, or other retirement accounts**.** Statements should be kept current within six months from the date of loan closing. If the borrower owns real estate other than their primary residence the TCRA shall get proof of ownership, an estimation of value, and verification of any underlying debt to determine the value.

F. Appraisals:

An after rehab appraised value by a licensed appraiser shall be required for all owner rehab loans, except CDBG funded projects that are less than $60,000 and/or if current market valuations demonstrate sufficient equity and the LTV not exceeding 100%.
Appraisals should be no older that one year from the date loan docs are signed. If older than one year, a new appraisal or recertification of value should be obtained.

G. Title Reports:

The Title Report will be reviewed by the Housing Rehabilitation Team to verify TCRA lien position after loan issuance. The TCRA loan can be in 1st 2nd or 3rd position on the homeowners Title.

Borrower(s) must be named as having vested title interest or be taking title in a form of ownership acceptable to HUD.

H. Refinancing Policy:

Underlying first mortgages can be paid off under the Rehabilitation loan program only if the following criteria are met.

1. The refinance is done in conjunction with a homeowner rehabilitation project and the rehabilitation costs are more than the payoff of the underlying mortgage being refinanced.
2. The refinance must lower the interest rate on the underlying mortgage and benefit the borrower(s).
3. The monthly payment on the new loan cannot exceed 30% of the borrower gross monthly income.

I. Loan Terms:

Interest Rate: 1% Simple Interest
Term: 20 years Deferred
Payments: Due on loan maturity date or before

1.10 REPORTING, RECORD RETENTION AND ARCHIVING

TCRA Board: If any exceptions to TCRA credit policy are made by Housing Division Team the TCRA Board will be informed of the exception and the reasons for the exception will be reported to the TCRA Board monthly.

The Single Family Rehabilitation Loan Program shall follow the City of Tacoma records retention and archiving procedures.

Appendix A.

Employee Health and Safety Standards

All reasonable precautions must be taken against performing work on homes that will subject workers to health and safety risks. The standards included here provide only general guidelines for health and safety concerns. Detailed specifications regarding worker health and safety are found in OSHA Safety and Health Standards (29 CFR 1926\1910) published by the U.S. Department of Labor and corresponding WISHA Rule WAC 296-62. Worker safety rules of general application are also contained in State of Washington General Safety and Health Standards, Chapter 296-24 WAC, published by the Department of Labor and Industries.

COVID-19 Policies and Guidelines

To comply with all sanitation, cleanliness and "social distancing" rules, Tacoma Community Redevelopment Authority (TCRA) and/or the State of Washington per current Labor & Industries' rulings and Executive Orders by the Governor of Washington establish policies and guidelines.

Tacoma Community Redevelopment Authority

Contractor / Employee Health Waiver for COVID-19

Until further notice because of COVID-19, there are additional processes to complete to schedule and go on a house evaluation, please follow these steps:

- When calling to schedule a home evaluation, you will:
  - Ask to schedule a specific appointment day/time
  - Explain that we have specific processes in place because of COVID-19 using this script:
    - We know what many people are concerned about COVID-19 and their health. Our staff will be following these steps to reduce exposure risk:
      - On the morning of the evaluation, go through a COVID-19 symptom check list before going to a client's home. If a staff member says yes to any of the items on the symptom list, they will not go to a client's home and we may reschedule the evaluation.
      - Wear appropriate personal protective equipment for the home evaluation – face masks and gloves required, shoe protection optional – and wash hands/use hand sanitizer between visits.
      - Maintain a physical distance of at least 6' feet from clients and other staff members as much as possible
    - We ask that you follow these steps to help us reduce exposure risk:
      - On the afternoon before the evaluation, go through phone screening for COVID- 19 symptoms. If you answer yes to any of the items on the symptom list, we will reschedule the appointment for another time to protect our staff and other clients.
      - Sign our Homeowner Wellness Policy and Work Authorization waiver. This will be provided to you at the start of the evaluation in an envelope that will also have a pen and a face mask for you to keep. We will explain the waiver in person and will not start the evaluation until it is signed.
      - Maintain a physical distance of at least 6 feet from staff, preferably move to a separate room or the front porch and ask other household residents to do the same.
- On the day before the visit you will:
  - Call the homeowners to check their health for COVID-19 symptoms using this script:
    - "Hello_____, this is_____from Tacoma Community Redevelopment Authority. I'm calling to remind you about your appointment with us for a home evaluation tomorrow at _____ AM/PM and to complete our symptom screening. In the last 14 days have you or anyone in your household:
      - Tested positive or are presumed positive for COVID-19?
      - Experienced one or more of the following symptoms – coughing, fever, shortness of breath, difficulty breathing, chills, body aches, sore throat, headache, diarrhea, nausea/vomiting, loss of smell/taste, or runny nose?"
        - Note – some homeowners may have these symptoms connected to existing medical conditions and/or side effects from prescriptions (shortness of breath is common for someone with COPD, diarrhea could be from a medication). We're looking for changes in symptoms.
        - If they say yes to either question, let them know that we will be unable to conduct the evaluation the following day and ask them to contact us when symptoms resolve.
        - If they say not to either question, thank them for their time and let them know that we're looking forward to meeting them the following day.

        - Adjust the schedule as needed based on symptom check.
    - Prepare for the visit by:
        - Creating a waiver envelope for each house – print waiver double sided, check box on p2 and 3 for "evaluation only", include pen, at least 1 facemask in each envelope, and business card.
        - Collecting staff PPE and cleaning suppliers – enough face masks and gloves for each person at visit, box of disposable booties/shoe protection, bottle of hand sanitizer, container of Clorox wipes, trash bags.
- On the day of the visit:
    - Complete your COVID-19 symptom checklist
    - Bring everything you prepared with you
    - With mask/gloves on, provide the homeowner with the waiver envelope. Wait to begin the visit until the homeowner reads and signs it. Remind them to stay as physically separate from our team as possible.
    - Get list from homeowner of additional things to look at.
    - Complete the visit efficiently, minimizing which surfaces you touch and items you put down.
    - Sanitize as you go with Clorox wipes.
    - Dispose of Clorox wipes, gloves, mask, and shoe protection at the end of each visit.

Appendix B

Rehabilitation Standards

Tacoma Community Redevelopment Authority
City of Tacoma

Revised: December 2020

TABLE OF CONTENTS

PEST CONTROL	100
GRADING & LANDSCAPE	200
FENCES & GATES	300
DEBRIS	400
CONCRETE, MASONRY & CAST STONE	500
DAMPROOFING & WATERPROOFING	600
ASPHALT	700
DOORS & WINDOWS	800
STORMS & SCREENS	900
DRYWALL	1000
SIDING	1100
TILE	1200
FLOORS	1300
INSULATION	1500
CARPENTRY	1600
ROOFING	1800
GUTTERS & DOWNSPOUTS	1900
PLASTER	2000
PAINTING	2100
LEAD BASED PAINT	2200
HEATING	2300
ELECTRICAL	2500

PLUMBING	2700
CLEAN-UP	2900
APPLIANCES	3000

INTRODUCTION

INTRODUCTION

This Manual was prepared for use with single family by the Tacoma Community Redevelopment Authority and the City of Tacoma Housing Division in its housing repair and rehabilitation programs. It provides material, equipment and workmanship standards for items to be furnished and installed under the repair contract. Work items for which a performance standard does not appear in this Manual shall be performed by mechanics skilled in their respective trades in accordance with the best practices of the trade.

The contractor shall be responsible for furnishing all labor, material, equipment and services necessary for and incidental to completion of all repairs as listed in the Work Schedules or described in the Contractor's Manual.

All work shall be subject to a Final Inspection. Standards for satisfactory completion shall be determined by the intent of the Contract, all applicable building code requirements, the Work Schedules and the Contractor's Manual. All work found to be unacceptable shall be repaired or redone at the contractor's expense.

USE OF CONTRACTOR'S MANUAL

Descriptions in the Manual are grouped by trade. See the Table of Contents for a breakdown of trades. For example, a description of work relating to DOORS & WINDOWS is found starting on Page 800. A clue to trade grouping is given by the number listed in the Work Schedule.
Example:

800. INSTALL NEW LOCKING WINDOW HARDWARE

This description would be found under 800. - DOORS & WINDOWS. Finally, there is an alphabetical Index located at the end of the Manual.

USE OF WORK SCHEDULES

All repairs are listed with locations. A closet is considered to be part of the room in which it is located.

Drawings are part of the Work Schedules. Anything called for on the drawings but not listed in the Work Schedules shall have the same effect as it shown or called out on both.

100 - PEST CONTROL

100.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

100.2 PEST CONTROL

All chemical applications, fungicide or insecticide, shall be made by a pesticide applicator licensed by the State of Washington and City of Tacoma.

Apply treatments according to National and Washington State Pest Control Standards and Procedures.

Provide a certificate from the company applying the pest control chemical as to the applicability, content, and date of the application.

200 GRADING & LANDSCAPE

200.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

200.2 EXCAVATION

Remove earth to a depth of 4 inches below finish grade for all new sections of concrete walks. Remove earth to a depth of 10 inches below finish grade for all new sections of concrete driveways and parking areas, to a depth of 6 inches for new asphalt driveways and parking areas, and to a depth of 4 inches for new gravel surface driveways and parking areas.

200.3 BACKFILL

Backfill material shall be clean and free of debris, with no wood scraps. It shall have a reasonable moisture content when placed. Backfill material placed against newly dampproofed surfaces shall be an appropriate sand-gravel mix for proper soil drainage. Backfill material shall be carefully placed against walls and shall be well compacted. Fills having a depth of in excess of 30 inches shall be placed in layers 12 inches in thickness or less, and each layer shall be well compacted. Where applicable, top 4 inches (3 inches under sod) shall be topsoil suitable for plant growth.

200.4 GRADING (YARDS)

No wood surfaces shall be closer than 6 inches to any soil.

Scheduling a yard to be graded does not necessarily imply that the pitch of the entire yard is to be changed. It usually means that various lumps, depressions and irregularities are to be raked smooth.

Rough grading shall establish a subgrade parallel to and approximately 4 inches below the proposed finish grade. Where necessary, it shall be scarified to prevent slippage of the topsoil. Finish 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 be sloped a minimum of 2° (1/4 inch per foot) to insure adequate surface runoff. Surface waters shall be properly routed within the limits of the property to lower elevations off the lot (public rights-of-way or easements) or to drainage systems on the lot. In the case of multiple lot grading, drainage swales may be located along property lines for the mutual benefit of adjoining properties. In no case shall surface waters be diverted onto adjacent private property. Topsoil shall be a minimum of 4 inches (3 inches under sod) of compacted soil, uniformly spread to provide a smooth surface. All topsoil shall be completely free of stones and debris and shall be suitable for plant growth. No finish grading shall be done until the ground is frost free.

200.5 GRADING (CRAWL SPACES)

No wood surfaces shall be closer than 6 inches to any soil. Wood joists shall not be closer than 18 inches to earth and girders no closer than 12 inches. Entire surface shall be reasonably level when grading is complete. When a suspended furnace is installed in a crawl space, there shall be an unobstructed 24 inch wide by 36 inch high passageway to the unit. The furnace itself shall not be closer than 18 inches to earth and shall have a 12 inch clearance on all sides, except that clearance on control side shall be 18 inches.

200.6 REGRADING GRAVEL SURFACES

Remove any large rocks or foreign material. Where substantial depressions exist, remove existing gravel and fill with dense, well drained soil. Replace gravel and grade to obtain uniform surface. Top with cinders, crushed slag or rock, or gravel in sufficient amount to achieve a total depth of 4 inches.

200.7 GRAVEL SURFACE

New driveways shall be at least 10 feet wide, or wider if required by local codes. Driveway approaches shall have flared entrances or radii as required by local codes for safe and convenient ingress and egress. Provide proper grade so that the under-carriage or bumpers of cars entering driveways do not make contact with the surface of the driveway approach. The size of new parking areas shall be as indicated on the drawings.

Gravel surfaces shall not be installed on grades in excess of 7° (7/8 inch per foot). Subsurface shall be well drained, undisturbed or sufficiently compacted to prevent uneven settlement, and uniformly graded 4 inches below finish grade. The area shall be treated with a herbicide in accordance with the manufacturer's directions. Precautions shall be taken to protect adjacent surfaces and existing vegetation, both during and following application. Permanent side forms (treated 2 X 4's) may be used to reduce the spread of the gravel. The surface shall be cinders, crushed slag or rock, or gravel no less than 4 inches in depth.

200.8 SODDING LAWN

New sod shall be nursery grown, fresh cut and healthy. Sod shall be at least one inch in uniform thickness. Fertilizer shall be formulated of three parts nitrogen, one part phosphorus and two parts potash.

Lawns shall be sodded only during the appropriate seasons, when the soil is frost free and weather conditions are favorable. First make sure that the areas to be sodded are properly graded. Next, remove existing grass, weeds, debris and rock. Then, when the soil has the proper moisture content, spread fertilizer over the area to be planted and rake it into the soil. Apply fertilizer at a rate of three pounds per 100 square feet of area. Lightly roll ground in two directions with a lawn roller. Next install sod, starting at the base of any slopes and paralleling contours. Strips shall be tightly joined, butter and end joints shall be staggered. Sections shall be heavily watered following placement and again when the entire installation is completed. A few days after installation, sod shall be rolled lightly and again watered thoroughly.

200.9 TRIMMING TREES AND SHRUBS

Trees and shrubs shall be trimmed in accordance with accepted nursery practice. Branches shall be cut back to balance the root system. Broken and disfigured branches shall be removed. When limbs larger than 2 inches in diameter are removed, the butt end of the branch remaining on the tree shall be sealed. Neither branches nor limbs should obstruct the use of sidewalks or driveways.

200.10 SHRUB PACKAGE

New package shall consist of 4 broadleaf evergreens. Package shall be some combination of rhododendrons and azaleas, but at least one of each type shall be planted. Chinese Azalea (Mollis) and American Rose Bay Rhododendron (Maximum) are suggested for shady locations; Amoena Azalea (Obstrusim) for sunny locations; and Catawba Rhododendron (Catawbiense) for partially shady locations. Determine shrub selection by conditions at area of planting. Evergreens shall be 12-15 inches high when planted.

The shrub package shall be planted only during appropriate seasons, when the soil is frost free and weather conditions are favorable. Plants shall be nursery grown, healthy, well-branched and free from scars, injurious diseases and insects. Plants shall be balled and burlapped or container grown. Appropriate measures shall be taken to insure an acid soil. Excavation for planting shall be at least 6 inches deeper than the depth of the ball or container. Plants shall be set in an upright position and at, or slightly below, nursery levels. Root ball shall be left intact; container shall be removed. The backfill shall be moist planting soil firmly compacted around the roots. Form an earth saucer for watering and cover with a 2 inch mulch of peat moss, well-rotted manure or native organic material. The shrubs shall be watered immediately after the planting is completed.

200.11 SHRUB REMOVAL

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.

200.12 TREE REMOVAL

Note: Tree removal does not include removing the stump unless its removal is also listed in the work schedule.

When trees are to be removed, they shall be cut down to a point as close to the finish grade as possible. All debris shall be removed and the entire area shall be raked and/or broom-swept clean.

200.13 STUMP REMOVAL

When a tree stump is to be removed, all visible traces shall be removed to a point at least 4 inches below the finish grade. Backfill the hole with topsoil. The entire area shall be raked smooth and broom-swept clean. Reseed area.

300 - FENCES & GATES

300.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

300.2 REPAIRING EXISTING FENCE

Existing sections of all types of fences to be repaired shall be restored to a condition comparable to new.

300.3 CHAIN LINK FENCE

When applicable, remove existing sections of fence complete with posts as per drawing or work schedule. Concrete footings shall be removed to a point at least 4 inches below the finish grade. New chain link fence shall be constructed of hot dipped galvanized wire mesh fabric, posts and rails. Line posts shall be 1-5/8 inch O.D. pipe. Top rails shall be 1-3/8 inch O.D. pipe. Corner, end and gate posts shall be 2 inch O.D. pipe. Post spacing shall be equidistant and shall not exceed 10 feet on center. Line posts shall be set a full 18 inches into 8 inch top diameter concrete footings that extend at least 24 inches below grade. Corner, end and gate posts shall be set a full 18 inches into 12 inch top diameter concrete footings that extend at least 24 inches below grade. Footings shall be crowned and smooth at the top. Wire fabric shall be #11 gauge woven into 2 inch mesh. Top selvage shall be knuckled. The completed fence shall match existing sections or stand 48 inches above the finish grade.

300.4 WOOD FENCE

When applicable, remove existing sections of fence complete with posts as per drawing or work schedule. Concrete footings shall be removed to a point at least 4 inches below the finish grade. New wood fence shall be constructed of hem/fir-#2 or better in a type achieving the desired effect (privacy vs boundary definition) and compatible with both the type of the subject dwelling and the surrounding residences. The completed fence shall match existing sections or stand 4 feet above the finish grade. Solid screen privacy fences shall not exceed 4 feet in height when located in front yards; 6 feet in side or rear yards. Cedar posts shall be treated with preservative and set in concrete footings not less than 2 feet below finish grade. Post spacing shall be determined by the fence style chosen but shall, in all cases, be at intervals insuring lateral stability. All nails shall be hot dipped galvanized with a zinc coating of 1.0 ounce per square foot.

300.5 REPAIRING EXISTING GATES

Existing gates of all types to be repaired shall be restored to A-1 condition comparable to new. Hinges and gate latch shall be repaired or replaced as necessary. Hardware shall be zinc plated. All gates shall operate easily and properly.

300.6 CHAIN LINK GATES

New chain link fence gate shall be of the same construction as chain link fence described on section 300, except that both top and bottom selvage shall be knuckled. New gate posts may be required. Gate shall be swing type, with latch. Vehicle gates shall be of a width appropriate to their intended use. All gates shall operate easily and properly.

300.7 WOOD GATES

New wood gates shall be of the same style and construction as wood fence and shall be mounted on new gate posts where

necessary. Gates shall be swing type with latch; all hardware shall be hot dipped galvanized with a zinc coat of 1.0 ounce per square foot. Hardware includes hinges, latches, bolts, or springs. Vehicle gates shall be of a width appropriate to their intended use. All gates shall operate easily and properly.

400 – DEBRIS

400.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

400.1 GENERAL INSTRUCTIONS

The contractor shall be responsible for removing all debris from the property prior to construction.

Demolition work shall conform to the requirements of all applicable codes, ordinances and utility company regulations. When items are scheduled to be removed, they shall be removed complete. Any surfaces scheduled to remain that are damaged by the demolition work shall be repaired to match the adjacent existing surfaces or the new finishes as applicable. All companies or authorities owning conduits, wires or pipes running over or under the property shall be notified so that appropriate arrangements can be made for the removal of any utilities and the capping of any pipes that are to be abandoned. All removed public services shall be checked to see that they have been effectually plugged up or cut off. Similarly, conduits, drains, pipes and wires that are to remain on the property or that serve adjacent properties shall be carefully protected or be rerouted. Existing shrubs and trees to remain shall be protected until demolition is complete and the site is cleared.

Material on the site that is designated to be removed shall become the property of the contractor to sell or dispose of to his best advantage. The demolished material shall be placed in neat piles and stacks while awaiting disposal. Then all demolished materials, all removed sections of pavement and all broken up concrete curbs, gutters and sidewalks shall be removed from the premises within a reasonable time so that the premises will not acquire a disorderly or unsightly appearance. Areas of grass killed by demolition or by the storage of debris and other materials shall be raked clean and resodded. All debris must be removed prior to final inspection and all areas shall be left in a neat condition. Combustible materials or rubbish shall not be burned on the premises. During the performance of the work of this section, the areas being demolished and any materials being loaded into trucks for disposal shall be sprinkled as necessary to reduce dust in the air and prevent annoyance to the neighborhood.

400.2 PORCHES AND FRAME ENCLOSURES

Protect all wall openings until they can be enclosed. Masonry piers and pier footings shall be removed unless they are to be used for the construction of a new porch.

Also backfill and grade as necessary. Exposed areas, now part of the yard, shall have 3 inches of topsoil and shall be sodded.

See GRADING & LANDSCAPE for further description.

400.3 RADIO/TV. ANTENNAS

When scheduled to be removed, radio or television antennas shall be removed from the roof together with any guy wires or ropes attached to the antennas. When the antennas and guy wires or other supports are removed, care shall be taken not to leave any nail holes in the roofing that will leak water into the house. All holes and any other damage to the roofing shall be repaired as necessary.

400.4 STRIPPING INTERIOR SURFACES

Remove finish materials from walls and/or ceilings. When plaster is to be removed, it shall be removed complete with latching and fastenings. Also remove all unnecessary nails and makeshift shelving.

NOTE**:** Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

500 - CONCRETE, MASONRY & CAST STONE

500.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

500.2 GENERAL INSTRUCTIONS

The type of footing, foundation or slab system used shall be determined by the 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 been sufficiently compacted to insure against excessive differential or overall movement of the structure. Refer any questions to the local building department.

Concrete shall be standard, air-entrained Portland Cement Concrete with water-cement rations as recommended by the Portland Cement Association for the particular application. Aggregate shall be clean and free from organic or other harmful material. No concrete shall be placed on extremely wet or frozen ground, and no concrete shall be placed when the temperature is less than 40 degrees F or greater than 90 degrees F, unless it is properly protected and controlled for such weather in accordance with the recommendations of the American Concrete Institute and the Portland Cement Association. Form work shall be true to lines and grades and be properly braced and rigid to prevent displacement. Forms shall be constructed so as to not damage concrete when being removed. Concrete shall have proper slump when placed in forms. Concrete for footings and porch-deck slabs shall have a 1-2 inch slump; concrete for sidewalks, driveways and slabs on grade shall have a 2-4 inch slump. However, in no case shall the slump be more than 4 inches. Concrete shall not be deposited in forms from a height greater than 3 feet. All concrete shall be vibrated to prevent honeycombing. After placement, concrete shall be screeded to proper elevation. During cold or hot weather, steps shall be taken to maintain appropriate curing temperature and rate of water evaporation. After forms are stripped, honeycombed or defective work shall be immediately repaired. After the rods have been removed, holes shall be plugged or patched with the proper mortar mix. All fins and irregularities shall be removed from concrete. Quality and finish shall be in accordance with recognized standards.

Upon completion of work, concrete surfaces shall be swept clean. All loose concrete particles, mortar, plaster and other foreign matter shall be removed and concrete slabs shall be washed with water. After drying, the slabs shall be swept clean.

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

500.3 REPLACE CONCRETE/INSTALL NEW CONCRETE

"REPLACE" implies removal of existing sections of damaged concrete, preparation of the subgrade, and pouring of new concrete. "INSTALL NEW" implies excavation, preparation of the subgrade, and pouring of new concrete.

Good sections of concrete are sometimes scheduled to be replaced, such as when basement walls are to be dampproofed.

That concrete required to be cut, broken or removed which is to be bonded to new concrete in any location shall be neatly cut using concrete cutting saws. The sawcut shall be made deep enough into the concrete being cut to ensure that the subsequent breaking and removal of the remaining section will not result in the cracking, spalling or chipping of an exposed surface or edge. The balance of the breaking shall be carefully done to ensure that exposed or structural parts are not cracked or damaged. Any surfaces to be bonded against shall be prepared by shipping and thorough washing. Exposed sawcut edges that will be treated as expansion or tooled control joints shall have the sharp sawcut edge eased with a power hand grinder to approximate the rounding made by an edging tool.

500.4 PATCHING CONCRETE

Remove spalled or loose concrete in squared-off sections using a masonry saw or chisel. Edges shall be dovetailed so that the opening at the bottom is larger than the opening at the top. Provide wire mesh reinforcement for holes greater than 6 inches X 6 inches. Apply a coat of concrete bonding agent prior to application of new flash patching material. Floor slabs and exterior wearing surfaces shall be float finished. Deck slabs shall be steel troweled.

500.5 CONCRETE SIDEWALK

Subgrade shall be well drained, uniformly graded and compacted. New concrete shall be at least 4 inches thick. Contraction joints shall be provided at approximate 4 foot intervals and expansion joints at entrance platforms and at intersections with driveways or other walks. Width of new concrete sections shall match existing except that new main walks shall be 36 inches wide and new secondary walks shall be 30 inches wide. Wearing surfaces shall receive a float finish.

500.6 CONCRETE DRIVEWAY

Subgrade shall be well drained and uniformly graded. New concrete driveways shall be placed on a well compacted 4 inch gravel base. Concrete shall be at least 6 inches thick. Contraction joints shall be provided at approximate 10 foot intervals and expansion joints at intersections with public walks, curbs and garage or carport slabs. Width of new concrete sections shall match existing except that new driveways shall be at least 10 feet wide, or wider if required by local codes. Finish surfaces shall receive a float finish and be true to cross section and grade. Concrete shall be kept moist for a period of 3 days to ensure proper curing.

500.7 CONCRETE DRIVEWAY APPROACH

Construction of new driveway approach shall be the same as for new concrete driveway. In addition, entrances shall be flared or have adequate radii for safe and convenient ingress and egress. Provide proper grade so that the under-carriage or bumpers of cars entering the driveway do not make contact with the surface of the driveway approach.

500.8 CONCRETE PARKING AREA

Construction of new parking area shall be the same as for new concrete driveway. Size shall be as indicated on the drawings.

SKIRT FOOTINGS (TRENCH FOOTING)

Concrete footings supporting block skirts shall be at least 8 inches wide and extend at least 12 inches below grade. Concrete footings supporting brick and block skirts shall be at least 12 inches wide and extend at least 12 inches below grade.

500.9 PIER AND COLUMN FOOTINGS

Concrete footings supporting masonry piers or columns shall extend at least 12 inches below grade and have the same top dimensions as the piers or columns or be a minimum of 12 inches by 12 inches.

Concrete footings supporting wood piers shall extend from a point at least 12 inches below grade to a point 6 inches above grade. They shall have the same top dimensions as the piers. Bottom dimensions will vary with the footing design. Provide steel pin for anchoring pier.

500.10 STEP STRINGER FOOTINGS (TRENCH FOOTING)

Concrete footings for cast stone or concrete steps shall be a minimum of 6 inches wide and extend at least 12 inches below grade.

500.11 STEP PAD

The concrete step pad supporting the first riser and tread shall be at least as wide as the steps and be a minimum of 4 inches thick.

500.12 STANTION OR POST FOOTINGS (UNDERPINNING)

Cut out a 12 inch by 12 inch section of floor slab using a masonry saw or chisel. Edges shall be dovetailed 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. New footing shall sit on a 4 inch sand-gravel subgrade. Provide wire mesh reinforcement as necessary. Footing for steel stantion shall extend at least 12 inches below the finish floor elevation. Provide metal base; anchor base to footing. Footing for wood post shall extend from a point at least 12 inches below the finish floor elevation to a point at least 4 inches above the finish floor elevation; footing shall have the same top dimensions as the post. Provide steel pin for anchoring post. Float finish surface.

500.13 CONCRETE PIER BLOCK (PLINTH)

New pier block shall be a pre-cast or poured unit and shall be anchored to the existing slab. Pier blocks shall extend 4 inches above the finish floor elevation. They shall have the same top dimensions as the wood posts. Provide steel pin for anchoring post.

500.14 POURED CONCRETE STEPS

New concrete steps shall be as wide as the sidewalk or at least 3 feet wide. For a total step height of 30 inches or less, the tread shall be a minimum of 11 inches and the riser shall be a maximum of 7-1/2 inches; for a total step height of more than 30 inches, the tread shall be a minimum of 12 inches and a riser shall be a maximum of 6 inches. Rise and run shall be uniform through-out flight. Provide 1/8 inch pitch for drainage. Wearing surfaces shall be steel troweled. Footings shall be a minimum of 6 inches wide and extend at least 12 inches below grade.

500.15 CAPPING CONCRETE FLOOR AND DECK SLABS

Clean floor or deck of all loose, damaged or spalled concrete and apply a coat of concrete bonding agent prior to application of new concrete. New topping shall be a minimum of 2 inches thick. Install new pier blocks as necessary. Raise floor drains or drain spout as necessary. Slope basement floor to existing floor drains and slope garage floor to code approved floor drains or to the vehicle door; float finish surface. Slope deck slab to drain away from the foundation wall; steel trowel surface.

500.16 CAPPING AREAWAY BASES

Clean base of all loose, damaged or spalled concrete and apply a coat of concrete bonding agent prior to application of new concrete. New topping shall be a minimum of 2 inches thick. Raise drains as necessary. Slope base to existing drain. Float finish surface.

500.17 CONCRETE DECK SLAB

New concrete deck slab shall be a minimum of 4 inches thick. When the span of the deck is greater than 42 inches, it shall be reinforced with 6 inch X 6 inch, No. 10 wire mesh. Edges of sections of wire mesh shall lap one full mesh or 6 inches. Lap shall be tied together. Provide flashing between the slab and wood construction. Slab shall be anchored to or supported at foundation walls by anchors on piers built with the wall. Slope the deck slab to drain away from the foundation wall. Wearing surfaces shall be steel troweled.

500.18 CONCRETE FLOOR SLAB (ON OR BELOW GRADE)

Base for slab shall be well-compacted 4 inch sand-gravel subgrade. Provide polyethylene vapor barrier between subgrade and slab. Vapor barrier is not required for garage floor slab. Footings will vary with the type of slab, but shall extend at least 12 inches below grade. Unless fill has been compacted, assuring uniform slab support, slabs on fill shall be supported by concrete or masonry piers or intermediate foundation walls resting on undisturbed soil. New concrete slab shall be a minimum of 4 inches thick. It shall be reinforced with 6 inch X 6 inch, No. 10 wire mesh. Edges of sections of wire mesh shall lap one full mesh or 6 inches. Lap shall be tied together. Install one inch rigid insulation board at the perimeter of the slab. Where applicable, slope concrete to floor drains. Float finish surface.

500.19 EXTERIOR STUCCO PLASTER

Remove all damaged stucco. Repair metal lath or wire fabric as necessary. Over wood frame construction, apply new three-coat finish with a minimum thickness of 7/8 inch. Over masonry surfaces apply new two-coat finish with a minimum thickness of 5/8 inch. Top coat shall match existing in texture and finish. Do not apply stucco plaster when the temperature is less than 40 degrees F or when the temperature is not expected to remain above 40 degrees F or when the temperature is not expected to remain above 40 degrees F until initial set.

500.20 A POURED CONCRETE RETAINING WALL

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 necessary and construction joints at 30 foot intervals. Place weep holes 10 feet on center. All walls shall conform to local code requirements.

500.22 B POURED CONCRETE FOUNDATION WALL

New walls shall be no less than 6 inches wide for wood frame and 8 inches for masonry or masonry veneer, and shall extend at least 12 inches below finish grade or as required for the particular installation. Footing dimensions shall be determined by the thickness of the wall. Footings shall be keyed for lateral stability. Provide reinforcement as necessary. Concrete shall be poured continuously and constantly puddled to remove air pockets. Where continuous pouring is impossible, provide construction joints with reinforcement for transfer of stresses. All wall openings shall be properly reinforced. Any existing walls, intersecting walls, porch and entrance slabs, and areaways shall be anchored to the new wall. One half (1/2) inch diameter anchor bolts shall be set no less than 8 inches into the concrete at 6 foot intervals, or foot intervals in earthquake design areas and within twelve (12) inches of ends of anchor plates. The top of the foundation wall shall be carefully finished and leveled for the sill plate. The exterior face of the wall shall have at least one coat of bituminous dampproofing material from footing to finish grade. New drain tile shall be properly placed at the perimeter of the footing and connected, as required by local code, to a storm sewer system, natural outlet or drywell. Backfill material shall be an appropriate sand-gravel mixture for proper soil drainage. Where applicable, top 3 inches shall be topsoil suitable for plant growth. Replace sod or resod as necessary.

500.23 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 close as possible. Where fresh masonry joins existing masonry, the exposed surface of the set masonry shall be cleaned and lightly wetted so as to obtain the best possible bond with the new work. Repair or replace flashing as necessary. Lay masonry units plumb, square, and properly anchored. Lay all courses with a full mortar bed and tool all exposed joints. Backparge all brick below grade, when applicable. Mortar shall be protected from freezing until it has set. Thoroughly clean all exposed new face brick with a proper solution of muriatic acid. Keep acid away from metal work.

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

500.24 CLEAN AND SCRUB FIREPLACE

Scrub the inside of all unpainted fireplaces with an acid bath. 500.25

TUCKPOINTING

Tuckpoint all joints and cracks from which the mortar has eroded, deteriorated, or fallen out. In all cases, the masonry shall be watertight and uniform in appearance. The color of mortar used for tuckpointing shall match existing as closely as possible. Remove all excess mortar.

500.26 REBUILDING/BUILDING NEW PIERS AND COLUMNS

Remove damaged pier or column. Provide new footings where none exist and build new or rebuild existing piers and columns as

scheduled. Size shall match existing, but the dimensions shall be adequate to support the loads imposed. Provide steel reinforcement where necessary. New hollow masonry piers and columns shall be filled with concrete.

500.27 CONCRETE BLOCK RETAINING WALL

New walls shall be structurally sound and durable. Design walls to resist the lateral pressure exerted by the earth behind the wall, including the material above the top of the wall. 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 as necessary and fill cavities containing reinforcement with mortar. Place weep holes 10 feet on center. The top course shall contain a bond beam or be capped to provide a finished surface. All walls shall conform to local code requirements.

500.28 CONCRETE BLOCK FOUNDATION WALL

New walls shall be a minimum of 8 inches thick and shall have poured-in-place concrete footings no less than 6 inches thick that extend at least 12 inches below finish grade. Block face shells shall provide a 1- 1/2 inch wide mortar bed. Joints shall not exceed 3/4 inch and shall be tooled smooth, except those on the exterior face being parged. The joint 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 as necessary. 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 bears on both inner and outer face shells. One half inch (1/2") diameter anchor bolts shall set no less than 8 inches into the concrete at six (6) foot intervals and within twelve (12) inches of ends of anchor plates. Walls shall be bonded 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 reinforced and set with keys. The exterior face shall be covered with at least one coat of Portland cement parging no less than 3/8 inch thick, and shall have at least one coat of bituminous dampproofing material from footing to finish grade. New drain tile shall be properly placed at the perimeter of the footing and connected, as required by local code, to a storm sewer system, natural outlet or drywell. Backfill material shall be an appropriate sand-gravel mixture for proper soil drainage. Where applicable, top 3 inches shall be topsoil suitable for plant growth. Replace sod or resod as necessary. All work shall conform to local code requirements.

500.29 CHIMNEY REPAIR

When a chimney is scheduled to be repaired, it shall be repaired as necessary. This includes tuckpointing, replacing damaged masonry and installing a new cap and/or flue extension where necessary.

500.30 CHIMNEY FLUE EXTENSION

Remove damaged top section. Carefully bed in mortar a new section of fire-clay flue lining on the lower section. Lining shall be not less than 5/8 inch thick. 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.

500.31 GENERAL INSTRUCTIONS

All cast stone units shall be fabricated of concrete or other approved materials providing the required strength, durability, and fire resistance. They shall be reinforced where necessary.

When cast stone units are replacing existing masonry, remove the damaged unit and prepare the adjoining surfaces for the installation of a new unit. Replacement units shall match existing in dimension and appearance as closely as possible.

500.32 CAST STONE CHIMNEY CAP

New cap shall be at least 2 inches thick at the outside edge and shall slope away from the flue.

500.33 CAST STONE STEPS

New step unit shall include precast stringers, stringer footings and cast stone steps. New step unit shall be as wide as the sidewalk or at least 3 feet wide. For a total step height of 30 inches or less, the tread shall be a minimum of 11 inches and the riser shall be a maximum of 7-1/2 inches; for a total step height of more than 30 inches, the tread shall be a minimum of 12 inches and the riser shall be a maximum of 6 inches. Rise and run shall be uniform throughout the flight. Steps shall be pitched for drainage. Concrete stringer footings shall be a minimum of 6 inches wide and extend at least 12 inches below grade.

500.34 MASONRY PORCH

New porch shall be built complete, including trench footings for porch skirt and step stringers, a cast-in- place concrete deck slab, an 8 inch block skirt supporting the edges of the deck slab, a cast stone step unit and wrought iron railings for porch and steps as required by code. The trench footings shall be a minimum of 8 inches wide and shall extend at least 12 inches below grade. The block skirt shall conform to previously mentioned standards for masonry construction. See elsewhere descriptions of concrete deck slab, cast stone step unit and wrought iron railings.

500.35 MASONRY PORCH REMOVAL

Remove all visible evidence of porch to a point at least 4 inches below finish grade. Work shall be done with a minimum of damage to the main structure. Protect all wall openings until they can be enclosed. See also "General Instructions" for DEBRIS, section 400.

Also backfill and grade as necessary. Exposed areas, now part of the yard, shall have 3 inches of topsoil and shall be sodded. See GRADING & LANDSCAPE for further description.

600 - DAMPPROOFING & WATERPROOFING

600.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

600.2 DAMPPROOFING

All walls to be dampproofed shall be prepared as necessary prior to application of the dampproofing material. Repair all loose or defective mortar joints and cracks in exterior foundation walls. Exterior foundation walls of masonry construction shall be dampproofed by applying not less than 3/8 inch of Portland cement parging to the exterior side of the walls from footings to finish grade. The parging shall be covered with one coat of an approved bituminous material applied at the manufacturer's recommended rate. Exterior foundation walls of concrete construction shall be dampproofed by applying one coat of an approved bituminous material at the manufacturer's recommended rate. If drain tile is in good condition, it may be reinstalled. Damaged drain tile shall be replaced. Where none exists, new drain tile shall be properly placed at the perimeter of the footing and connected, as required by local code, to a storm sewer system, natural outlet or drywell. Backfill material placed against newly dampproofed surfaces shall be an appropriate sand-gravel mix for proper soil drainage. Where applicable, top 3 inches shall be topsoil suitable for plant growth; replace sod or resod as necessary. Adjacent materials which have been soiled by dampproofing shall be cleaned immediately and all surfaces shall be left in a neat condition.

600.3 WATERPROOFING

First repair all loose or defective mortar joints and cracks in surfaces to be waterproofed. Then clean all dirt, oil, loose particles, concrete laitance, paint, adhesives, etc. from surfaces. Wirebrushing, sand blastings, and acid bathing are acceptable methods of cleaning. Surfaces treated with acid must be thoroughly washed with clean water. Apply two-coat application of Xypex Concentrate and Modified, or equal, as per manufacturer's recommendations. After treatment, the surfaces shall be kept moist for at least two days to aid curing. Adjacent materials which have been soiled by waterproofing shall be cleaned immediately and all surfaces shall be left in a neat condition.

Alternate waterproofing of concrete floors can be processes and procedures developed by the Mortrude Floor Company.

700 – ASPHALT

700.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

700.2 RESURFACING DRIVEWAY AND APPROACH

Resurfacing a driveway shall consist of placing a new wearing surface on an existing asphaltic concrete driveway. Work shall not be done in inclement weather. Patch and fill cracks, holes and depressions to obtain a smooth surface. Sweep and clean all surfaces thoroughly and apply a coal tar emulsion bond coat as per manufacturer's recommendations. New wearing surface shall be not less than 1-1/2 inches, when compressed, of hot asphaltic concrete. Apply two seal coats. New surfaces shall be rolled with a ten-ton (minimum) roller. Surfaces inaccessible to a power roller shall be thoroughly tamped with hot iron tampers. The finish pavement shall be warped smoothly for drainage and show a close grained, uniform and smooth surface free of depressions. The weight of the wearing surface after rolling shall be at least 18 pounds per square foot. The driveway shall not be used until the pavement has set for at least 48 hours.

700.3 ASPHALTIC CONCRETE SURFACES

New driveways shall be at least 10 feet wide, or wider if required by local codes. Driveway approaches shall have flared entrances or radii as required by local codes for safe and convenient ingress or egress. Provide proper grade so that the under-carriage or bumpers of cars entering driveways do not make contact with the surface of the driveway approach. The size of new parking areas shall be as indicated on the drawings.

Final pavement surface shall be near level with adjacent finish grade. Subsurface shall be well drained, undisturbed or sufficiently compacted to prevent uneven settlement, and uniformly graded. The area shall be treated with a herbicide in accordance with the manufacturer's directions. Precautions shall be taken to protect adjacent surfaces and existing vegetation, both during and following application. Formwork shall be used, no rolled edges allowed. Headers shall be 2 X 4's, except that 1 X 4's may be used for curved sections. Stakes shall be 2 X 2's at least 18 inches long. Wood shall be redwood or cedar. The base course of crushed stone or gravel (1-1/2 inch or less in diameter) shall be no less than 2-1/2 inches deep and shall be rolled following placement. This course may be omitted where the subgrade is undisturbed sand and/or gravel. The top course of crushed stone or gravel (5/8 inch or less in diameter) shall be no less than 1-1/2 inches deep. It shall be shaped to provide uniform surface draining with a slope of at least 2°. The wearing surface shall be not less than 2 inches, when compressed, of hot asphaltic concrete.

Apply two seal coats. Asphaltic concrete shall not be placed in inclement weather. Surfaces shall be rolled with a 5 to 10 ton roller. Those inaccessible to a power roller shall be thoroughly tamped with hot iron tampers. The finish pavement shall be warped smoothly for drainage and show a close grained, uniform and smooth surface free of depressions. The weight of the wearing surface after rolling shall be at least 24 pounds per square foot. The driveway shall not be used until the pavement has set for at least 48 hours.

800 - DOORS & WINDOWS

800.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

800.2 GENERAL INSTRUCTIONS

Doors, windows and hardware not scheduled for repairs or replacement are assumed to be in place and to operate properly.

Whenever window assemblies, sash or doors are being replaced, frames, headers and sills shall be repaired as necessary to provide a square, plumb, level and rigid enclosure for the new installation. Install new item as per manufacturer's recommendations. Flashing shall be repaired or replaced as necessary. All openings between wood, masonry and metal shall be caulked with a silicone sealant. 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 filled with silicone sealant. All new sash or doors shall fit tightly in their frames and shall operate smoothly and easily. Contractor shall repair or replace all trim incidental to the operation of the sash or doors.

New glass shall be Grade B, or better, unless otherwise specified. Bathroom sash, both new and existing, shall have obscure glass. The lower sash for double-hung shall be obscure glass. Other types of bathroom sash shall have obscure glass as is appropriate to their design.

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. The 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 in accordance with good general practice.

NOTE: All exterior doors, except service doors for unheated garages and other out buildings, shall be fully weatherstripped.

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

Except where not required by local code, all doors between a carport or garage and the house shall have self-closing hardware.

800.3 REPAIRING/REALIGNING VEHICLE DOORS

Repair or replace tracks, rollers, hinges and all other operating hardware as necessary. Then adjust springs and hardware so that the doors operate smoothly and easily.

800.4 VEHICLE DOOR HARDWARE

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.

800.5 WOOD VEHICLE DOOR

New door shall be sectional roll-up type, either flush or panel style, or overhead type. Type shall be appropriate to the location of the garage. Style of door shall be compatible with the style of the house. Nominal door thickness of sectional door shall be 1-3/8 inches; panels shall be wood or hardboard. Door shall be installed complete with latch lock and hardware. Hardware shall be galvanized or zinc plated.

Counterbalance spring may be extension or torsion type. Bottom edge of door shall have a vinyl weather seal. When the door is closed, the gap at the top and sides shall be no larger than 1/2 inch.

800.6 METAL VEHICLE DOOR

New vehicle door shall be overhead type. Metal shall have corrosion resistance applied to both exterior and interior surfaces or shall be standard anodized sheet aluminum of a gauge as recommended by the manufacturer for garage door siding. Door shall be installed complete with latch lock and hardware.

Hardware shall be galvanized or zinc plated. Counterbalance spring may be extension or torsion type. Bottom edge of door shall have a vinyl weather seal. When the door is closed, the gap at the top and sides shall be no larger than 1/2 inch.

800.7 ENTRANCE LOCKSET HARDWARE

New entrance lockset shall be polished brass or brushed aluminum finish. Cylindrical lock shall key outside with turn button on the inside; lock shall have dead pin. New escutcheon plates shall be installed as necessary to cover unsightly marks when replacing existing hardware. Floor, base or hinge door stops shall be installed for all exterior doors. New hardware for double doors shall include the repair or replacement of flush or surface mounted bolts.

800.8 EXTERIOR DOOR JAMBS AND STOPS

New door jambs and stops shall be clear fir. Finger jointed material is unacceptable. Moisture content shall not be above normally accepted standards.

800.9 WOOD DOOR SILL & WOOD DOOR THRESHOLD (SADDLE)

New wood door sill or threshold shall be oak. Caulk as necessary. 800.10 METAL

DOOR THRESHOLD

New metal threshold shall be aluminum or metal, water return type, with integral weatherstripping and shall fit watertight with door. Caulk at exterior edge.

Threshold may be solid vinyl threshold designed for use at exterior doorways.

800.11 EXTERIOR DOOR WEATHERSTRIPPING

New weatherstripping shall be vinyl coated foam compression type or 7/8 inch wide, .006 inch thick, cushion bronze or interlocking aluminum type. It shall be installed continuous around door casing to prevent infiltration of dust, water and wind.

800.12 WOOD EXTERIOR DOOR

New door shall be either a 1-3/4 inch, flush type, solid core wood door or as scheduled. Door shall be installed complete with new entrance lockset hardware and self-closing hardware where required. Door shall be weatherstripped and shall be hung with three, brass or brushed aluminum finish, 4 inch butt hinges. When door is to be naturally finished, it shall be stain grade wood or it may be pre-finished (woodgrain). When door is to be painted, it may be paint grade.

800.13 WOOD PANEL SERVICE DOOR

New door shall be 1-3/8 inch panel door, paint grade. New service door for house shall be weatherstripped when serving as an exterior entrance door; service door for garage need not be weatherstripped. Door shall be installed complete with new entrance lockset hardware and self-closing hardware where required. Hang door with three primed steel, 3-1/2 inch butt hinges. Door shall fit weathertight in frame.

800.14 WOOD PRE-HUNG EXTERIOR DOOR

New pre-hung door package shall include wood door, jamb (casing), stops, trim, threshold and all hardware. Type of door shall be as scheduled. Door shall be weatherstripped when it opens to the outside. Opening shall be trimmed. Finger jointed casing or trim is unacceptable.

800.15 DEAD BOLTS

Dead bolt locks shall have a minimum of 9/16" throw. Operated by key from outside and thumbturn from inside. Bolt automatically dead locks when fully thrown. On new installations, lock shall be keyed alike with entrance lockset.

NOTE: Interior doors in new construction shall be a minimum of 6'-8" high, except that sliding or bi-fold doors for closets may be 6'-0" in height when the depth of closet is 32 inches or less; doors shall be a minimum of 2'0" wide for closets and bathrooms and 2'-6" wide for all other uses.

800.16 CHECK, FIT AND FREE DOORS

Doors shall be made to operate smoothly and easily. Where necessary, trim doors to allow the circulation of air back to the warm air furnace.

800.17 PASSAGE SET HARDWARE

New passage set hardware shall be polished brass or brushed aluminum finish. Door to bathrooms or toilet rooms shall have privacy lock, push button on the inside. Escutcheon plates shall be installed as necessary to cover unsightly marks when replacing existing hardware. Floor, base or hinge door stops shall be installed for all interior doors.

New hardware for double doors shall include the repair or replacement of flush or surface mounted bolts.

800.18 MISCELLANEOUS DOOR HARDWARE

Miscellaneous hardware to be replaced shall include self-closing hardware for exterior doors where required, finger pulls for sliding doors, knobs or pulls for bi-fold doors, and push plates, when scheduled to be installed. New hardware shall be polished brass or brushed aluminum finish. All miscellaneous hardware within a room shall be similar in style and finish. Mixing painted with unpainted hardware is unacceptable.

800.19 INTERIOR DOOR JAMBS AND STOPS

New door jambs and stops shall be clear fir. Finger jointed material is unacceptable when trim is to be natural finish. Moisture content shall not be above normally accepted standards.

800.20 A HOLLOW CORE INTERIOR DOOR

New door shall be 1-3/8 inch or 1-3/4 inch flush-type wood door. Door shall be installed complete 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 (woodgrain). When door is to be painted, it may be paint grade.

800.20 B SOLID CORE INTERIOR DOOR

New door shall be similar to hollow core door described above, but with hardware appropriate to its location and use.

800.21 PANELED WOOD INTERIOR DOOR

Replacement door shall match existing as closely as possible. Door shall be installed complete 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 or it may be pre-finished (woodgrain).

When door is to be painted, it may be paint grade.

800.22 WOOD FRENCH DOOR

New door shall be installed complete, including glass, 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 or it may be pre-finished (woodgrain). When door is to be painted, it may be paint grade.

800.23 LOUVERED WOOD DOOR

New door shall be slat-type, ventilating wood door. Slats shall be straight or round edge. Doors shall be installed complete with new hardware. Hardware shall be that required for the installation. All hardware shall be polished brass or brushed aluminum finish.

800.24 WOOD PRE-HUNG INTERIOR DOOR

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 when casing and trim are to be natural finish.

800.25 BI-FOLD DOORS

New bi-fold doors shall be either 1-3/8 inch flush-type, hollow core wood doors or as scheduled. When scheduled, louvered doors shall be full louvered type. Doors shall be installed complete with new hardware. When two pairs of doors are being installed, a door aligner shall be provided where the center panels meet. Hinge door stops shall be installed for all bi-fold doors. All hardware (door knobs, hinges, etc.) shall be polished brass or brushed aluminum finish. When doors are to be natural finish, they shall be stain grade wood or they may be pre-finished (woodgrain). When doors are to be painted, they may be paint grade.

800.26 BI-FOLD DOORS AND ASSEMBLY

New bi-fold doors and assembly shall include doors, aluminum track and trim, and all hardware. Type of door shall be as scheduled. When scheduled, louvered doors shall be full louvered type.

Opening shall be trimmed as necessary for the installation of the new assembly. Finger jointed material is unacceptable when casing and trim are to be natural finish.

800.27 SLIDING DOORS

New doors for by-passing installations shall be 1-3/8 inch flush-type, hollow core wood doors. New doors for pocket installations shall be as scheduled, either french-type or hollow core. Doors shall be installed complete with new hardware. Two recessed door pulls (large diameter type) and one door stop shall be polished brass or brushed aluminum finish. When doors are to be natural finish, they shall be stain grade wood or they may be pre-finished (woodgrain). When doors are to be

painted, they may be paint grade.

800.28 SLIDING DOOR ASSEMBLY (BY-PASSING TYPE)

New sliding door assembly shall include 1-3/8 inch flush-type, hollow core wood doors, top roller assembly and floor guide, and all hardware. Opening shall be trimmed as necessary for the installation of the new assembly. Finger jointed material is unacceptable when casing and trim are to be natural finish.

800.29 SLIDING DOOR ASSEMBLY (POCKET-TYPE)

New sliding door assembly shall include 1-3/8 inch flush-type, hollow core wood door, pocket assembly, top roller assembly and floor guide, and all hardware. Opening shall be trimmed as necessary. Finger jointed material is unacceptable when casing and trim are to be natural finish.

800.30 GLASS IN DOOR WALLS

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

800.31 A SLIDING SCREEN PANEL IN DOOR WALL

Screening shall be 18 X 16 gray fiberglass screen cloth or 18 X 16 anodized aluminum screen cloth.

800.32 NEW SLIDING GLASS DOORS

Doors shall be constructed from extruded vinyl shapes. All frame and panel members shall be mechanically joined and scaled in a self-aligning and rigid manner to assure a neat and weather tight construction. Sliding panels shall have fully adjustable sealed ball bearing steel rollers. Sliding and fixed panels shall be glazed with extruded vinyl glazing. Channel shall be weather stripped with silicone treated polypropylene to assure maximum weather seal. Sliding panel shall be provided with positive action locking devices in a deluxe handle assembly. The latch shall be operable only from the inside of door with provision for attachment of 5 pin tumbler cylinder lock for operation from exterior. All extruded aluminum members shall be given a satin anodized finish.

800.33 GLASS FOR SHOWER STALL DOOR AND TUB ENCLOSURE

When sliding panels for tub enclosures or shower doors are scheduled to be reglazed, new glass shall be 3/16 inch full tempered glass, 1/4 inch laminated safety glass or shatter resistant plastic. Glass shall be obscure type.

800.34 DOUBLE-SLIDE TUB ENCLOSURE

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

800.35 SHOWER STALL DOOR AND ASSEMBLY

New shower stall door assembly shall include stiles, headrail, threshold, door and all operating hardware. Door shall open outward. Hinge shall be continuous piano-type. Metal shall be extruded anodized aluminum, satin finish. Door shall be glazed with obscure glass. New assembly shall fit watertight.

800.36 CHECK, FIT AND FREE WINDOWS

Sash painted shut shall be freed and 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 or realigned as necessary to firmly secure windows. Sash cranks missing for casement, awning or jalousie type windows shall be replaced as necessary. Finish and style of new hardware shall match existing as closely as possible. When existing weights or counterbalances for double-hung windows are found to be inoperative, new "Quicki" or "Jiffy" spring window controls shall be installed. Compression spring shall be polished stainless

steel and shall be securely fastened to the jamb.

800.37 LOCKING WINDOW HARDWARE

All window hardware within a room shall be uniform in style and finish, no mixture allowed. New hardware shall not be painted. 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.

800.38 WINDOW STOPS, STOOLS AND APRONS

New wood trim shall be clear fir. Finger jointed material is unacceptable when wood is to be natural finish. Moisture content shall not be above normally accepted standards.

800.39 WINDOW SASH

Replacement sash shall match existing as closely as possible. Install new sash as per manufacturer's recommendations, complete with new operating hardware. Operable 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.

800.40 WOOD UPPER AND LOWER SASH

New sash shall be stock one-over-one type, with spring or tension counterbalances. "Quicki" or "Jiffy" spring window controls are unacceptable for new installations. Window lifts and locking hardware shall be polished brass or brushed aluminum finish.

800.41 WOOD PICTURE WINDOW SASH

Glazing for picture window sash shall be at least ¼ inch tempered plate glass.

800.42 WOOD BASEMENT WINDOW SASH

New sash shall be top-hinged and shall swing into room. Windows shall be hung with two primed steel, 2-1/2 inch butt hinges. Locking hardware shall be polished brass or brushed aluminum finish.

800.43 OTHER TYPES OF WOOD WINDOW SASH

Sash shall be as scheduled. Hinges, sash locks, sash operators, cranks, handles, pulls, etc. shall be polished brass or brushed aluminum finish.

800.44 VINYL WINDOW SASH

New sash shall be tubular extruded poly vinyl chloride (PVC). Construction shall be in accordance with AAMA specifications. All meeting rails shall be interlocking and weathertight. All operating sash shall be fully weatherstripped. No metal to metal contact shall be permitted at sash and frame junction. All sash shall be able to be easily removed from the inside for maintenance and reglazing. Glazing for picture window sash shall be at least 1/4 inch tempered plate glass. After installation, new aluminum windows shall be thoroughly cleaned with plain water. No abrasive cleaning agents shall be used.

800.45 WINDOWS AND ASSEMBLIES

A new window and assembly shall include sash, jamb (casing), mullions, frame, stiles, sill, stool, apron and all trim as appropriate to the particular type. Finger jointed material (for jamb, apron, etc.) is unacceptable when wood is exposed to moisture or when it is to be natural finish. Windows and assemblies shall be installed complete with all operating hardware and all sash shall fit tightly in frames. New sash and assembly shall match existing in style and finish unless in the bathroom or otherwise specified on the drawings.

800.46 PICTURE WINDOWS AND ASSEMBLIES

When picture window and assembly is scheduled to receive new sash, prime sash shall be glazed with at least 1/4 inch tempered plate glass.

800.47 VINYL WINDOWS AND ASSEMBLIES

New vinyl windows shall be consistent with current Washington State Energy Code. New window and assembly shall be vinyl construction. Sections shall be extruded vinyl. All meeting rails shall be interlocking and weathertight. All operating sash shall be fully weather stripped. No metal to metal contact shall be permitted at the sash and frame junction. The factory shall provide weep holes. All sashes shall be able to be easily removed from the inside for maintenance and reglazing. When appropriate to the installation, new vinyl assemblies shall have a vinyl exterior surround designed to form an integral union with the existing frame and be joined in a manner as to prevent any water or air infiltration. Surround shall be of the same construction as vinyl sections described above. Surround shall be sized to cover all exposed exterior wood trim and shall fit neatly into openings. Installation shall be consistent with manufacturer's installation instructions and AAMA 2400-2 and/or 2410-03, Standard Practice for Installation of Windows, as applicable. After installation, new windows shall be thoroughly cleaned. No abrasive-cleaning agents shall be used.

800.48 REPLACEMENT WINDOWS

Replacement windows shall be Class 40 unless otherwise specified. All meeting rails shall be interlocking and weathertight. The factory shall provide weep holes. All sashes shall be able to be easily removed from the inside for maintenance and reglazing. After installation, new windows shall be thoroughly cleaned with plain water. No abrasive-cleaning agents shall be used.

900 - STORMS & SCREENS

900.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

NOTE
After installation, new aluminum doors and windows and screens 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.

900.2 STORM DOOR REPAIR

When a storm door is scheduled to be repaired, locking hardware, safety door check, closure and threshold (where applicable) shall be inspected for damage and shall be repaired or replaced as necessary. Door shall operate smoothly and fit weathertight in frame.

900.1 ALUMINUM STORM DOORS

New storm doors shall be anodized aluminum. All meeting rails shall be interlocking and weathertight. All sash shall be easily removed for maintenance and reglazing or repair. Glass shall be safety glass.

Screening shall be 18 X 16 grey fiberglass screen cloth or 18 X 16 anodized aluminum screen cloth. No metal to metal contact is permitted at the junction of door and frame. Door shall be weatherstripped at bottom rail or an aluminum threshold with integral weatherstripping 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 weathertight in existing masonry or wood frame. Caulk at frame with silicone sealant. The bead shall be at least 3/8 inch in surface. Storm door unit shall meet or exceed Architectural Aluminum Manufacturer's Association (AAMA) performance standards.

900.2 STORM AND SCREEN INSERTS

Frames for storm and screen inserts shall be anodized aluminum. Glass and screening shall be the same as described below. Replacement inserts shall fit tightly in existing tracks or be neatly fitted to windows with the appropriate hardware so that they can be removed with a minimum of effort. On openable windows all storms shall be openable.

900.3 ALUMINUM STORM WINDOWS

New storm windows shall be anodized aluminum. All meeting rails shall be interlocking and weathertight. Unit for double-hung 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. Storms and screens for all other types of windows shall be compatible with their operation and shall be neatly fitted with appropriate hardware so that they can be removed with a minimum of effort. All operating windows shall have insect screens; wherever possible, self-storing units shall be installed. Glass shall be Grade B or better. Screening shall be 18 X 16 gray fiberglass screen cloth or 18 X 16 anodized aluminum screen cloth. Replacement screening shall match existing. Weep holes at the sill shall be provided in the factory. Frame shall fit weathertight in existing masonry or wood frame. Caulk at frame with silicone sealant. The bead shall be at least 3/8 inch in surface. Storm window unit shall meet AAMA performance standards.

1000 – DRYWALL

1000.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

100.1 NOTE

Quantities listed in the Work Schedules are approximate and are only intended to lead the contractor to the area(s) needing repair. Small quantities of drywall - for example, 2 square feet - can hardly be repaired. Therefore the contractor shall replace as much drywall as is necessary to make satisfactory repairs.

When installing new drywall over existing surfaces, it is not intended that the plaster will be removed. However, if plaster is removed, either because it is severely damaged or because the contractor would rather remove it, then it becomes his responsibility to insulate any exterior walls. See description of "Insulation" on Page 1600.

1000.2 DRYWALL

Drywall for new installations (over framing members) shall be 1/2 inch on walls and ceiling, except that for installations requiring a 1 hour fire rating, drywall shall be 5/8 inch "Firestop" or as required by local code. Drywall over existing wall and ceiling surfaces shall be 1/2 inch except that 3/8 inch may be used on ceilings when the finish surfaces will be smooth and free of bulges.

New drywall shall be tapered gypsum wallboard. When going over existing surfaces, first remove all damaged plaster and fur walls or ceilings so that the finished product is properly aligned. For all installations, edges and ends of wallboard shall occur on framing members, except those edges and ends which are perpendicular to the framing members. To minimize end joints, use wallboard for maximum lengths. Wallboard shall be first applied to ceiling, then to walls. When both sides of partitions are to receive wallboard, stagger joints on opposite sides. Protect all vertical exterior corners with corrosion- resistant metal corner beads. When butting up to existing trim, cut drywall carefully and use casing beads for all exposed edges. Where surfaces are to be painted or wallpapered, joints shall be taped and both joints and nail depressions shall have three coats of joint cement (spackling paste) applied as per manufacturer's recommendations. All edges shall be feathered. Finish surfaces shall be sanded smooth and left straight and well aligned. Optional finish for ceilings (except in kitchens, bathrooms, utility rooms, etc.) may be texture spray. Texture spray shall be medium texture, hard finish only - no coarse, polystyrene or other soft finish allowed. After taping and finishing drywall, prime ceilings with a vinyl primer or equivalent. Then apply texture spray as per manufacturer's recommendations. Paint may be added to the mixture when approved by the manufacturer; coordinate color with the painter. No finishing of 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-proof drywall shall be used in areas subject to moisture, in bathrooms and in laundry and kitchen areas adjacent to sinks. All edges, holes and joints shall be treated with a water resistant sealant designed for this purpose. Conventional wallboard tape shall not be used.

100.3 SPRAY TEXTURE FINISH

New spray texture finish shall meet the same requirements as outlined above.

1100 – SIDING

1100.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

1100.2 NOTE

Remove all damaged sections before repairing existing siding. Wall sheathing beneath must be solid. Repair as necessary. New siding shall match existing as closely as possible. Replace all trim incidental to this repair and caulk as necessary. Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

1100.3 WOOD CLAPBOARD

Replace asphalt-saturated felt as necessary. New bevel siding can be either lapped or rabbeted, depending upon the particular installation. Minimum headlap for lapped siding shall be 1 inch. Minimum headlap for rabbeted siding shall be 1/2 inch. Nail siding to each stud with corrosion-resistant nails. Nails shall be long enough to penetrate at least 1 inch into studs. Butt joints of siding shall occur over studs. Stagger joints in adjacent pieces.

1100.4 WOOD SHINGLES AND SHAKES

Replace asphalt-saturated felt as necessary. Corrosion-resistant nails for single and double coursing should be long enough to penetrate sheathing. Use threaded nails over 3/8 inch plywood sheathing. When siding is double coursing, attach undercoursing with one or more 3d nails or staples. Joints shall not be closer than 1-1/2 inches to joint of undercoursing in same course. Break joints in next course of single coursing at least 1-1/2 inches. Provide starter course at bottom of wall.

1100.5 CEMENT BOARD SIDING (FLEXBOARD)

New siding shall be 3/16 inch cement board siding. Cement board installed over existing wood skirting either rotted and/or in contact with soil, is an improper installation. When siding is scheduled to be installed new, existing skirting is to be removed complete. Install sufficient framing or backing for new cement board. Any wood shall be at least 6 inches above grade.

1100.6 CEMENT SHINGLE SIDING

Replace asphalt-saturated asbestos felt as necessary. New sections of cement siding shall be attached to sheathing with corrosion-resistant small headed nails. Over plywood sheathing, use threaded nails. Nails shall be long enough to penetrate sheathing. Embed siding in caulking compound whenever siding butts against wood trim or masonry. Install asphalt-saturated, coated backer strips behind each vertical joint. Minimum headlap shall be 1/2 inch.

1100.7 ALUMINUM SIDING & TRIM

When a house is scheduled to be resided with aluminum, the openings shall be trimmed out with aluminum and all existing wood trim (facia, soffit, corner, etc.) shall be covered with aluminum unless otherwise noted.

When replacing damaged sections of aluminum siding, replace vapor barrier as necessary. When installing new aluminum siding, existing surfaces shall be made smooth and all rotted material shall be removed and replaced. Then apply building paper or felt over existing siding. All accessories used for the installation of new siding shall be aluminum. New aluminum siding shall be unbacked. Install as per manufacturer's recommendations. Nominal thickness of siding shall be .024 inch; nominal thickness of trim and accessories shall be .019 inch, except that individual corner pieces shall be .024 inch. Finish shall be baked enamel. Reverse side shall have corrosion preventative coating. Nails shall be aluminum, same color as siding, and shall penetrate

supports at least 1 inch. Provide for the escape of water vapor by ventilating each space behind siding. Ventilation may be obtained by weather protected horizontal openings or by the installation of siding over furring. Starter strip of siding shall be separated from foundation wall by a layer of sheathing paper or by a heavy bituminous coating. Ends of siding abutting wood trim shall be squarely cut and tightly fitted. Siding over heads of openings shall be installed as flashing and drip unless separate aluminum flashing is used.

1100.8 HARDBOARD LAP SIDING

New hardboard lap siding shall be factory primed or can be pre-finished. Nominal thickness of siding shall be 7/16 inch. Install new siding by using furring strips over existing siding or by first removing it and then applying new siding. All existing material to remain must be solid to provide a firm and adequate nailing base. Use building paper or felt wind barrier when siding is installed directly to studs or over wood sheathing. Use starter strip at bottom edge. Bottom edge of first course of siding shall be 1/8 inch below starter strip. Butt joints shall occur over studs; adjacent pieces shall just touch lightly. Stagger joints in adjacent pieces. Headlap shall be 1 inch. Nail siding with corrosion-resistant nails. Nails shall be long enough to penetrate at least 1 inch into studs. Inside corners shall be wood. Outside corners can be metal or wood. Trim all openings and install flashing as necessary. Shim wherever siding butts against trim and chaulk with a silicone sealant.

1100.9 VINYL SIDING

Siding and Soffit - General Requirements: Polyvinyl chloride products with the following characteristics:

PART 1 Siding: Comply with ASTM D 3679, Class 2.
PART 2 PVC cell classification in accordance with ASTM D 1784: 13334.
PART 3 Coefficient of linear expansion in accordance with ASTM D 696: 0.000029 inch per inch per degree F.
PART 4 Tensile strength when tested in accordance with ASTM D 638: Minimum 7,100 pounds per square inch.
PART 5 Modulus of elasticity when tested in accordance with ASTM D 638: Minimum 360,000 pounds per square inch, average.
PART 6 Izod impact, standard 1/8 inch bar when tested in accordance with ASTM D 256: 3.30 foot-pounds per inch, average.
PART 7 Shore D Hardness: Minimum 73.
PART 8 Specific Gravity: Minimum 1.39.
PART 9 Deflection temperature when tested in accordance with ASTM D 648: 170 degrees F, 264 pounds per square inch.
PART 10 Smoke density rating when tested in accordance with ASTM D 2843: 48 percent, average.
PART 11 Horizontal flammability, when tested in accordance with ASTM D 635:
11.1 Burn distance: 20 mm.
11.2 Burn time: Less than 5 seconds.
PART 12 Surface burning characteristics when tested in accordance with ASTM E 84: Flame spread 20, fuel contribution 0, smoke density 400.
PART 13 Fire Resistance - Siding: 1 hour, when tested in accordance with ASTM E 119, with siding applied over gypsum sheathing.
PART 14 Flammability - Siding: Comply with requirements of UBC Std 26-9.
PART 15 Thermal Resistance when tested in accordance to ASTM C 518: "R" Value 3.7.
PART 16 Water Absorption by Immersion in accordance to ASTM C 272: 0.5 percent by volume.
PART 17 Density in accordance to ASTM D 1622: 1.0 pounds per cubic foot.

Fasteners: Aluminum nails, alloy 5056 or 6110, having minimum tensile strength 63,000 pounds per square inch.

1200 – TILE

1200.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

1200.2 NOTE

The contractor shall make sure that the joints where bathroom floors meet walls are watertight.

1200.3 CERAMIC TILE

When repairing existing tile, first remove all cracked, loose, chipped or otherwise defective tile, then repair. Scratch plaster coat setting bed or wallboard as necessary to provide a level surface for installation of new tile. When repairing floor tile, wash adjacent areas with an approved solution to remove any oil film present. New tile being installed next to existing tile shall match existing as closely as possible in size, color, texture and glaze. When replacement tile does not match existing in size, replace complete rows or areas. Carry rows and areas into corners.

All tile, whether replacement or new, shall be installed in the following manner. Base surface shall be smooth and plumb or level. Base for floor tile shall be "Underlayment: as described in paragraph 1300.5. 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 shall be a chemical resistant, water cleanable tile-setting epoxy. 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, 4-1/4 X 4-1/4 inch glazed ceramic tile. Tile shall extend to a point at least 6 feet above the floor in the shower area and to a point at least 4 feet above the floor on the other bathroom walls. New floor tile shall be standard grade, glazed ceramic mosaic or ceramic tile. 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. Then joints shall be thoroughly saturated and washed out with clean water. 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. Force grout into joints taking care that no open joints are left. Joints shall than be properly sponged and tooled. New tile and any surrounding surfaces soiled during the repair work shall be cleaned immediately. Floor tile shall be protected by covering with a heavy non-staining building paper until the building is ready for its final clean-up.

At the option of the contractor, ceramic tile may be set by cement mortar method.

1200.4 CERAMIC BATH ACCESSORIES

When ceramic bath accessories are scheduled to be repaired, contractor shall inspect the bathroom and shall reset, repair or replace those items which he finds to be defective. Replacement accessories shall match existing as closely as possible. Ceramic accessories shall be vitreous china; metal accessories shall be chrome-plated brass.

New bathroom accessory package shall include one bathtub soap holder with grab bar, one toilet tissue holder, two conveniently located towel bars (24-inch and 18-inch), one robe hook for door and new shower curtain rod for bathtub. Color of new ceramic accessories shall match new wall tile.

1300 - FLOORS

1300.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

1300.2 NOTE

The contractor shall make sure that the joints where bathroom floors meet walls are watertight.

1300.3 CARPET OR TILE STOP

New divider edge shall be aluminum, approximately one inch wide. It shall be attached with countersunk flathead aluminum screws. Divider edge for resilient flooring may be a standard preformed vinyl strip cemented to the floor. Tile stop for bathroom flooring shall be threshold as described below.

1300.4 THRESHOLD AT BATHROOM DOORWAY

New metal threshold shall be aluminum and shall prevent water used for cleaning and water from flooded fixtures from flowing into adjacent rooms or areas. It shall be attached with countersunk flathead aluminum screws. New threshold may be solid vinyl threshold designed for use at bathroom doorways.

1300.5 STAIR EDGING

New stair tread nosing shall be aluminum or rubber or vinyl. Nosing shall be installed on each tread and landing. Install as per manufacturer's recommendations.

1300.6 UNDERLAYMENT

New underlayment shall be plywood, particle board or hardboard. It shall bear the label of a recognized grading association as to grade and type. Type and grade shall be suitable for its intended use. Minimum thicknesses: plywood shall be 3/8 inch except that 1/4 inch plywood may be used over plywood subflooring or T & G boards not more than 3 inches wide; particle board shall be 3/8 inch. Plywood shall be interior type underlayment except that plywood for bathrooms and utility rooms shall be exterior type, C-C plugged underlayment. Particle board is unacceptable as underlayment for resilient flooring and ceramic tile. Hardboard shall be tempered hardboard underlayment developed for use under resilient flooring. It shall not be used as underlayment in bathrooms. 1/4 inch underlayment shall be securely nailed every 3 inches O.C. at the perimeter and every 6 inches O.C. at intermediate supports. 3/8 inch underlayment shall be securely nailed every 6 inches O.C. at the perimeter and every 8 inches O.C. at intermediate supports.

When finish flooring (ceramic tile, carpeting or resilient flooring) is to be installed directly over subflooring, subflooring shall be combination subfloor-underlayment plywood. Types and grades shall be the same as for plywood underlayment. Plywood shall be 1/2 inch thick over joists 16 inches O.C.; 5/8 inch thick over joists 20 inches O.C.; and 3/4 inch thick over joists 24 inches O.C. Subflooring shall be securely nailed every 6 inches O.C. at the perimeter and every 10 inches O.C. at intermediate supports.

1300.7 CARPETING

New carpeting shall be 100% continuous filament nylon, with jute and latex backing, over 40 ounce rubber carpet cushioning. Carpeting shall be at least 20 ounce pile and 1/8 inch gauge, with at least 8-1/2 stitches/inch. Carpeting shall conform to F.H.A.

UM-44B specifications.

Prior to installation, contractor shall check that floors have been renailed to eliminate all squeaking. All rough edges at joints in underlayment shall be sanded smooth. Carpet stripping shall be "Robert's Tackless Stripping" or equal. Carpeting shall be installed smooth and even over all surfaces to be covered. It shall be cut evenly and close fitting to walls and all other projections. It shall be cut to fit closely to and through thresholds where carpet joins together in doorways. Cross seams shall be held to an absolute minimum. All carpet shall be lined up so that all lines (weaving) of carpet match as woven, both width and length. Fill strips in carpeting shall not be less than 9 inches in width nor less than 36 inches in length. The finished installation shall be free from scraps, ripples, scallops and puckers. Carpet stops shall be installed at all exposed edges and changes of material. After installation has been completed, clean all dirt and debris and clean any spots from carpet with proper spot remover. Remove all loose threads with sharp scissors and vacuum clean carpeting. Lay non-staining building paper.

1300.8 RESILIENT FLOORING

New installations shall be as listed in the work schedules, either asphalt tile, vinyl composite tile (VCT) or unbacked sheet vinyl. When sheet vinyl is being installed in areas of excessive moisture - bathrooms and utility rooms - it shall be installed seamless. New asphalt tile shall be 1/8 inch thick 12 inches X 12 inches, residential grade. New VCT shall be at least 1/16 inch thick 12 inches X 12 inches, residential grade. New sheet vinyl shall be .065 - 070 inch thick. When damaged or missing tiles are to be replaced, new tile shall match existing in type, size, thickness, color, pattern and texture.

Colors and patterns shall be homogeneous throughout the full thickness of tiles.

All surfaces to receive resilient flooring shall be dry, clean 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 as per instructions. Before being laid, tile shall be removed from the boxes and scrambled to achieve a thoroughly variegated appearance in he finished installation. Tile shall be laid starting at the center of the room and working towards the walls. Scribe flooring to walls where necessary. All new flooring shall extend under base shoe molding. The color transition between rooms with different floor colors shall occur at the center of the door when the door is closed. 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; bathroom doorways shall have threshold as described above; and stair treads shall have edging as described above. When resilient flooring has been sufficiently sealed, the floor shall be cleaned, waxed and buffed. Lay building paper.

1300.9 COVE BASE

New base shall be 4 inch or 6 inch rubber or vinyl cove base, as is required for the particular installation. Use 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. Base shall not be "Quik-Stik" type. Color shall match new or be compatible with existing resilient flooring.

1300.10 SANDING AND REFINISHING HARDWOOD FLOORS & STAIRS

Prior to sanding, contractor shall check that floors have been renailed to eliminate all squeaking. All nails shall be countersunk and their holes shall be filled. Floors shall be swept clean before and after sanding. Floors shall be machine sanded, beginning with No. 2 paper and graduating to No. 00. Where machine sanding is impossible, they shall be hand scraped and hand sanded to give a smooth even finish. A minimum amount of wood surface shall be removed. Stain new sections of wood flooring as necessary to match existing. Where flooring is open grain wood, apply one coat of a paste wood filler, rub in filler across the grain and then with the grain. Remove excess filler and allow to dry thoroughly. Then apply one coat of penetrating floor sealer and 2 coats of clear spar varnish. Alternate finish may be combined sealer and varnish or liquid polyurethane finish. Apply as per manufacturer's recommendations. Apply one coat of wax over finish. Furnish and lay building paper to protect floor finish.

1500 - INSULATION

1500.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

1500.2 BUILDING INSULATION

1. Application:
   All provisions of the general procedures shall apply to all sections of insulation specifications.

2. Codes:
   Compliance with locally adopted public codes or regulations affecting work under these specifications shall be required. Where local codes or regulations permit lower standards than required by these specifications, the standards contained herein shall govern. Community Development does not assume responsibility for enforcing or determining compliance with local codes, regulations, or interpretations.

3. Materials and Appliances:
   Unless otherwise stipulated, the contractor shall furnish all materials, labor, tools, services, and equipment necessary for the execution and completion of all work under these specifications. All materials shall be new and both workmanship and materials shall be of good quality.

4. Workmanship:
   All work shall be done in a workmanlike manner, using craftsmen skilled in their trades. The contractor shall be prompt and on schedule and complete work in the time frame agreed upon.

5. Post Installation Procedures:
   The contractor shall keep the premises from accumulation of waste materials or rubbish caused by his employees or work, and at the completion of the work, he shall remove all his rubbish from and about the residence and all his tools, scaffolding, and surplus materials and shall leave his work area "Broom Clean" or its equivalent, unless more exactly specified. The contractor will complete the warranty showing the R Value of materials installed in ceilings, walls, under floors, ducts, and water pipes; the date the insulation was installed; and print his company name, address, sign it and submit copies to the customer, the general contractor, and to Community Development. If insulation is to be blown, contractor must submit manufacturer's recommended coverage for both ceiling and wall applications and amount of begs used, and R Value installed.

   The contractor will be required to install additional material if the specified R Value has not been obtained.

6. Therman Insulation:

   A. Materials installed as insulation must have a therman equivalence rating of R-38 for ceilings; R- 21 (or fill wall cavity) for exterior walls; and R-30 for floors. All ductwork installed outside the conditioned space shall be insulated to 3.5 inch 0.60 lb/cu. ft. mineral or glass fiber blanket, 2.5 inch 1.5 to 2 lb/cu. ft. duct liner, mineral or glass fiberboard or equivalent to provide an installed total thermal resistance of at least R-8, R-30 for access doors, All hot and cold water pipes installed outside the conditioned space shall be insulated to a minimum R-3.

   B. All Electrical Homes:

Materials installed as insulation must have thermal equivalence ratings as follows:

Ceilings - R-38 unless architectural barriers preclude installation of same in which case insulate to the maximum extent possible.

Exterior walls - insulate all exterior walls to R-21 (or fill cavity) unless walls have previously been insulated.

Exterior Floors - insulate all exterior floors to a minimum R-30 unless to do so requires major alteration of the existing framing or unless the floors have previously been insulated to a minimum of R-19. If the existing framing precludes insulation to R-30 install insulation to the maximum extent possible.

Exterior windows - install doubled-glazed, one-half inch air space windows and if in metal frames, the frames shall be thermally insulated.

7. Vapor Barriers:
When vapor barriers are attached to the insulation material, these barriers should be installed toward the warm side (winter conditions).

Batt facings shall be lapped on the faces of studs to provide continuity of the barrier.

A continuous ground cover vapor barrier of 6 mil polyethylene must be applied over the entire ground surface to assist in keeping crawl space humidity at a safe level. This ground cover must overlap six inches along the ground, and go up the sides at least four inches. After the material is in place, bricks or other small masonry pieces should be used to prevent movement of the barrier.

8. Insulation Standards and Procedures:
Nailing or stapling wire or nylon mesh directly to the bottom of the joist: Mesh must be tight on post and beam construction. Extra support (lath) may be required to prevent sagging.

Using heavy gauge wire or nylon twine: Lace wire or twine back and forth between nails placed in the bottom of joists to support the material. Wire can also be placed perpendicular to the joist. In both cases, the wire must be tight and spaced close enough to prevent any sagging and to support the ends of butted material. The installed insulation must always rest on the suspension system. Pull the insulation down onto the suspension system prior to leaving the crawl space.

Using wood lath (wood strips): Nail strips to the bottom of the joist, spaced to prevent sagging. The insulation should be turned up at the header, or small pieces of insulation should be cut and attached to the header to avoid heat loss through the header.

Make sure insulation maintains the proper clearances (approximately two inches) from all energy producing devices (such as, but not limited to, motors, transformers, and exposed wiring), to prevent damage to the device and prevent an increased fire hazard due to the retention of heat.

Make sure there is proper crawl-space ventilation and that the insulation does not cover or block the ventilation system in any way.

Normal application of insulation in walls assumes drilling through the siding and wall material. However, if the customer specifically asks that the siding be removed before drilling, the customer must pay the cost of the work over the amount stated for insulation in the contract.

After the insulation has been blown into the wall cavities, each hole must be plugged. Use only wooden or plastic plugs. Plugs need not be vented. f wooden plugs are used, the plugs should be sanded down to the surface of the wall siding. If the customer provides the paint, the wooden plugs will be touched up to match the existing paint

Electrical outlets inside the house must be clear of all insulating material. The Contractor will be required to return to the job site to fill any wall cavity found empty.

1600 – CARPENTRY

1600.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

1600.2 ROUGH WORK

Rough work includes the repair or replacement of all framing members; the repair or replacement of all seriously damaged or otherwise defective structural members; some cutting through joists and other structural members to provide for new or replacement plumbing stacks, drains, piping, duct work, etc.; the framing of new walls, including sheathing and insulation for exterior walls; the building of new garages and carports; the installation of new access panels or doors to crawl spaces, attic spaces and bathtub plumbing; the repair or the building of new wood porches, including framing, columns, deck, ceiling, railings, skirt and steps; the rebuilding of stairways; the repair or installation of folding stairs; the repair, replacement or installation of softwood and plywood subflooring; the insulation of walls, ceilings and floors; the installation of vapor barriers; and the replacement or installation of miscellaneous metal items. It is the intent of these specifications that all walls, ceilings and floors be returned to a solid condition.

1600.3 MATERIALS

Framing Lumber:
All softwood framing lumber used for floor, ceiling and roof framing shall be at least No. 2 grade. Framing lumber used for exterior walls and interior partitions shall be at least standard or stud grade.

Framing lumber of any softwood species except hemlock may be used provided members have sufficient strength and rigidity to support the design load and are suitable for the attachment of wall finish materials. 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 practice. All framing lumber shall be identified by the grademark 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.

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 sawn out. Lumber shall bear the label of a recognized grading association. Moisture content shall not be above normally accepted standards.

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.

Sheathing paper shall be a vegetable fiber building paper (waterproofed, water repellant and fire resistant), Grade C or D or a vapor permeable condensate resistant ICC approved construction wrap material. Rough hardware shall be of stock manufacture and good quality.

1600.4 FINISH WORK

Finish work includes the repair, replacement or installation of all finish trim, both exterior and interior; the repair or installation of wood paneling; the repair or installation of waterproof material on walls; the repair or installation of acoustic and suspended ceilings, the repair or replacement of hardwood and softwood flooring, including the renailing and leveling of all finish floors; the repair of hardwood and softwood stairs; the repair or installation of shelving, clothes poles and hook strips for closets; the repair

of built-in cabinet work; the repair or installation of kitchen cabinets and countertops; the installation of kitchen appliances; the installation of self-venting range hoods; the repair or installation of handrails, railings and ornamental metalwork; and the installation of new medicine cabinets and miscellaneous bathroom accessories. It is the intent of these specifications that all wood surfaces (excepting pre- finished ones) be left in a condition for finishing.

1600.5 MATERIALS

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 normally accepted standards. All wood for interior wood trim shall be throughly 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 fir, except that casing for doors and windows shall be clear fir. New wood for interior trim shall match existing as close as possible in shape, size and specie or be clear fir.

1600.6 ITEM REMOVAL

When items are to be removed, they shall be removed with a minimum amount of damage to the surrounding surfaces. See also "General Instructions: for DEBRIS, Page 400 and Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

Exterior Entrance Doors & Windows (frame construction only):
After removing doors or windows and their assemblies, the remaining openings shall be framed and filled with R-11 building insulation. Sheath exterior side of wall.

Stud Wall Partitions:
When bearing walls are removed, proper size headers shall be installed.

1600.7 EXTERIOR WALL SHEATHING

New exterior wall sheathing shall be no less than 1/2 inch OSB sheathing.

1600.8 ACCESS PANELS

New access panels shall be 3/8 inch plywood with beveled edges. Plywood shall be A-D interior type. Access panels to attic spaces above shall be lay-in type. Access panels to eave spaces and bathtub plumbing shall be attached with screws and grommets.

1600.9 FRESH AIR SOURCE

A fresh air source shall be provided for warm air furnaces having no access to fresh air. Acceptable sources of fresh air are louvers installed near the units or windows located in the vicinity of the units.

1600.10 REBUILDING WOOD STAIRWAYS

When rebuilding wood stairways, existing lumber in good condition may be reused. Worn stair treads shall not be reused. New treads shall be oak or 5/4 inch fir, depending on the stairway construction.

1600.11 SUBFLOORING

New subflooring shall be wood board or plywood. Wood boards shall be 3/4 inch thick with a maximum width of 8 inches. Plywood shall be Interior type underlayment, except that subflooring serving as combination subfloor-underlayment in bathrooms and utility rooms shall be Exterior type, C-C plugged underlayment. Plywood shall be 1/2 inch thick over joists 16 inches O.C.; 5/8 inch thick over joists 20 inches O.C.; and 3/4 inch thick over joists 24 inches O.C. However when finish floor is hardwood strip flooring nailed at right angles to joists, 1/2 inch thick plywood may be used over joists up to 24 inches O.C. Subflooring shall be securely nailed every 6 inches O.C. at the perimeter and every 10 inches O.D. at intermediate supports.

1600.12 CAST IRON STANTION (PIPE COLUMN) AND WOOD POST

All existing stantions whether wood, cast iron or screw-Jack type shall have footings. Screw-Jack stantions improperly installed shall be either repaired or replaced with new cast iron stantions. New wood posts shall sit at least 2 inches above concrete slab.

Columns supporting wood beams shall be installed with column cap or steel angles. Size of new column shall be adequate to bear the load placed on it. Columns supporting steel beams shall be welded to beam or have column cap anchored to beam. Stantion shall be installed with a steel or cast iron base; anchor base with bolts or embed in concrete at least 2 inches. Anchor wood post to footing.

1600.13 LOUVERS & SCREENED OPENINGS

Houses built over crawl spaces shall be properly ventilated. Provide no less than 1-1/2 square feet o net area for each 25 lineal feet of foundation wall. Openings shall be located to insure cross ventilation. All openings shall be screened with 1/4 inch corrosion resistant wire mesh screening and properly trimmed- out. Also see description of "ROOF LOUVERS", section 1800.3.

Garages with openings into dwellings shall have fixed louvered or screened openings to the outside Openings shall be located within 6 inches of the floor. Provide 60 square inches per car.

1600.14 VAPOR BARRIER

All chemical pest control treatment shall be done prior to installation of vapor barrier. All debris shall be removed from crawl space and ground shall be reasonably level. Vapor barrier shall be 6 mil polyethylene film secured with rocks approximately every 8 feet.

1600.15 WOOD TRIM AND MILLWORK

Exterior wood trim which cannot be repaired by simple renailing shall be replaced. Existing interior trim which is broken, splintered, cracked, chipped, warped or otherwise defective shall be replaced with new material. Where drywall is being installed over existing wall finish, room shall be retrimmed (including door and window casings) as necessary. New interior trim shall match existing except that if pattern cannot be matched, clear fir can be substituted. All trim within a room shall be similar.

Insofar as 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 solid backing. Finger jointed material is unacceptable for natural finish wood trim. The woodwork shall be installed level and plumb, be scribed neatly to the walls and be secured firmly in place. Exposed casing nails, set 1/8 inch deep. The scripbing, mitering and joining shall be accurately and neatly performed and the joints shall be properly secured to prevent separation. External corners shall be mitered. Protect finish woodwork until time for painting.

1600.16 WATERPROOF MATERIAL

Where scheduled to be installed new, waterproof material on walls shall be plastic laminate unless otherwise specified. Install plastic laminate as per manufacturer's instructions. Plastic laminate shall extend to a point at least 6 feet above the floor in the shower area and at least 4 feet above the floor on the other bathroom walls.

1600.17 ACOUSTICAL TILE CEILING

Replacement tile for the repair of acoustical tile ceilings shall match existing. Furring strips shall be repaired or replaced as necessary.

New Installation:
First, do a border layout so that tiles for parallel edge rows are approximately the same width. Attach tile with staples or nails to furring strips as per manufacturer's recommendations. Tile shall be a 1/2 inch hardwood fiberboard. Size shall be 12 inches X 12 inches, 12 inches X 24 inches or 16 inches X 16 inches. Joints shall be tongue and groove with beveled edges. Finish shall be vinyl latex coating. Finished ceiling shall be level.

1600.18 SUSPENDED PANEL CEILING

Replacement panels for the repair of suspended ceilings shall match existing. Grid system components shall be repaired or replaced as necessary.

New Installation:
First, do a border layout sketch so that tiles for parallel edge rows are approximately the same width. Install grid system components as per manufacturer's recommendations. Lay in ceiling panels. Panels shall be 1/2 inch hardwood fiberboard or translucent plastic as scheduled. Finish for fiberboard shall be vinyl latex coating. Size shall be 24 inches X 48 inches. Edges shall be square. Grid system components shall be anodized extruded aluminum 6063-T5. Aluminum shall be factory enameled white. Finished ceiling shall be level.

1600.19 HARDWOOD FLOORING

All defective hardwood flooring shall be taken up from the subfloor, using care not to rip up or break the tongues from the flooring strips or pieces that are intended to be reused. 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. Replacement flooring shall match existing. New strip flooring shall be 25/32 inch oak.

1600.20 CLOSET ROD AND SHELF

All clothes closets shall have one clothes pole and one shelf. New shelf shall be 1 inch X 12 inch (nominal dimensions) fir, 3/4 inch X 12 inch MDF or 3/4 inch X 12 inch plywood. See further description of shelving below. Rod shall be wood or finished metal. Provide intermediate support for rods and shelves over 4'-0" long. New closet rod and shelf may be combination metal rod and shelf.

1600.21 SHELVING

New shelfing shall be 3/4 inch #2 fir, 3/4 inch MDF, or 3/4 inch A-B interior plywood (exposed edges faced with solid wood edge material). Each shelf in closets or storage rooms shall be supported on a continuous wood cleat at the walls; where hook strips occur under a bottom shelf, the shelf may be supported on the hook strip. The shelving shall be securely braced against warping and sagging and be scribed to the adjacent construction. Intermediate supports shall be provided for shelves over 4'-0" long.

1600.22 MISCELLANEOUS CABINET HARDWARE

Miscellaneous hardware to be replaced shall include various knobs, catches, drawer slides, drawer rollers, etc. for built-in cabinet work. When scheduled to be installed, any of the above found to be worn, defective or missing shall be replaced. New hardware shall be polished brass or brushed aluminum finish. All miscellaneous hardware within a room shall be similar in style and finish. Mixing painted with unpainted hardware is unacceptable.

1600.23 KITCHEN CABINET HARDWARE

When scheduled to be replaced, missing or defective hardware shall be replaced to match existing. However, if hardware cannot be matched, then all finger pulls, knobs, catches, etc. shall be replaced. All kitchen cabinet hardware shall match, same style and finish. New hardware shall be brass finish.

1600.24 REPAIRING CABINET WORK

All damaged or missing doors, drawers, shelving, and hardware (not including pulls or knobs) shall be repaired or replaced as necessary. Doors shall be properly aligned and shall operate freely. Drawer guides or slides shall be repaired or replaced as necessary so drawers slide or roll easily. Wherever possible use center guides to eliminate lateral wobble.

1600.25 KITCHEN CABINETS

Contractor should verify, in the field, all cabinet and countertop dimensions listed in the Work Schedules and shown on the drawings.

Front frames and drawer fronts shall be hardwood construction. Doors shall be hardwood or have hardwood veneer on both faces. (Base cabinets shall have solid doors - no panel doors allowed). Drawer fronts and doors may also be faced with high pressure plastic laminate (formica). Should new cabinets adjoin existing acceptable cabinets, the new cabinets shall match the existing in general construction style and appearance (finish). When existing cabinets to remain are painted, then new wood cabinets need not be prefinished. Otherwise style and finish shall be as listed in the Work Schedules.

Both wall and base cabinet assemblies shall consist of individual units joined into continuous section, and with the exception of sink units and bottoms and backs for drawer cabinets, all units shall be fully enclosed with backs, bottoms and panels, and tops for wall cabinets. Face frames, when used, shall be of necessary thickness to provide rigid construction. Corner and lineal bracing shall be provided as necessary to insure rigidity and proper joining of components. Fixed shelves shall be recessed into grooves in the ends and in the fronts and backs or be supported by cleats all around. Adjustable shelves shall be supported on ends. Base cabinets designed to rest directly on the floor shall provide for 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. Device may be spring catch, magnetic catch, self-closing hinges or equivalent. Doors shall be properly aligned and operate freely. When appropriate to their design, doors and drawers shall have brass finish pulls and knobs. Cabinet finish shall be clean and free from scratches and other defects. Cabinet units shall be installed level, plumb, and true to line. They shall be fastened to suitable grounds as per manufacturer's instructions. Use closer, filler strips and finish moldings as necessary for sanitary and appearance purposes. Upper cabinets over range space shall be 18 inches high. Upper cabinets over refrigerator space shall be 12 inches high.

1600.26 COUNTERTOPS

Top material shall be securely bonded to 3/4 inch plywood or other equivalent material. Top material shall be laminated plastic sheet at least 1/16 inch thick. Countertop shall be custom made, with self-edge. Front edge shall be approximately 1-1/2 inch. When scheduled, a 4 inch backsplash shall be provided with the abutting wall. Flat rim sinks shall have stainless steel edging (Hudee-type sink rim).

Should new countertop adjoin existing countertop, the new material shall match the existing in pattern, color and finish.

1600.27 HANDRAILS, RAILINGS, AND ORNAMENTAL METALWORK

At least one handrail, the full length of the flight of stairs, shall be provided for each interior stairway. Wood Bannisters: All damaged, missing and broken balusters shall be repaired or replaced. New balusters shall match existing as closely as possible.

Wrought Iron Metal (Railings & Columns):
New ornamental metal 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 and cast iron, or as scheduled. Railings shall be no less than 36 inches high when installed. Columns shall have adjustable bases. Ornamental iron shall be factory primed or factory finished. All units shall be of all welded construction.

1600.28A BATHROOM ACCESSORIES

New bathroom accessory package shall include one recessed bathtub soap holder with grab bar, one recessed toilet tissue holder, two conveniently located towel bars (24 inch and 18 inch), one robe hook for door and new shower curtain rod for bathtub. All bathroom accessories shall be polished chrome finish. Base metal for chrome shall be brass.

1600.29B BATHROOM ACCESSORIES

All bathtubs equipped with shower diverters shall have shower curtain rods. Curtain rod for corner style bathtub shall be wrap-around type.

1600.29 MEDICINE CABINET

New medicine cabinet shall be recessed type except that existing surface mounted may be replaced with like. Front of cabinet shall be a stainless steel framed, plate glass mirror. Cabinet shall have three adjustable plate glass shelves with polished edges. Door shall have piano-type hinge and door stop. Cabinet shall be no smaller than 16 inches X 22 inches overall. Finish shall be baked white enamel.

1600.30 SELF-VENTING RANGE HOOD

New range shall be 30 inch wide standard builder's model or equal. Range hood shall be vented to the outside with a backdraft damper. Filters shall be removable for cleaning or replacement. Unit shall include two-speed fan and recessed light. Range hood shall be type certified for the particular installation.

1800 - ROOFING

1800.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

GENERAL INSTRUCTIONS

When an existing roof is scheduled to be removed, it shall be stripped complete down to wood sheathing or roof deck.

New roofing installations and the repaired portions of existing roofs shall conform to the requirements for an Underwriters' Laboratories, Inc., Class C Label or better roof. A copy of the guaranteed fire classification shall be provided to the owner.

Prior to repair or reroofing, contractor shall examine roof and determine that all repairs affecting his work have been completed as scheduled. When a new Class B chimney, vent stack, roof vent, etc., is scheduled to be installed, the contractor shall cooperate with other contractors in installing sheet metal flashing and counterflashing. This contractor shall also repair or replace all damaged, deteriorated or missing flashing incidental to the repair or new installation. Contractor shall seal all roof openings and exposed roof edges with plastic asphalt cement as necessary to ensure watertight joints. Roofing shall be applied in accordance with the on-the-job recommendations of the manufacturer of the roofing materials. Once it has been started, the roofing application shall not be delayed, except when absolutely necessary due to inclement weather. Each layer of roofing felt shall have been surfaced or glazed with bitumen by the end of the working day.

PLYWOOD SHEATHING

New sheathing shall be not less than 1/2 inch OSB sheathing. Exterior type shall be used when surfaces such as overhangs or ceilings in carports or porches are exposed to weather. OSB shall be installed at right angles to rafters or joists, and shall be staggered so that end joints in adjacent panels break over different supports. Nails shall have threaded shanks. OSB sheathing may be attached with power-driven galvanized wire staples when complying with F.H.A. UM-25a specifications.

NOTE

The quality of materials and workmanship for repair work shall meet the same standards as new installations described elsewhere. Contractor shall make all repairs or replacements necessary to roofing, flashing, drip edges, cant strips, gravel stops, etc. to provide a waterproof installation. When removing damaged sections of existing roofing, replace asphalt-saturated felt as necessary. Color, size, texture and type of new asphalt shingles, sections of rolled roofing, pieces of slate or clay tiles, sections of metal roofing, and wood shakes shall match existing as closely as possible.

CAULKING

All loose, brittle, cracked, rotted and broken caulking shall be removed. Apply new caulking at all roof openings and exposed roof edges as necessary. New caulking shall be plastic asphalt cement applied under gun pressure. Clean immediately any brick, concrete or woodwork soiled during caulking. It is the intent of these specifications to have all exterior openings properly caulked whether previously caulked or not.

FLASHING

All metal roof flashing and trim shall be replaced. New flashing shall be aluminum or galvanized sheet metal. Aluminum shall be a minimum thickness of .019 inch; galvanized metal shall be a minimum thickness of .024 inch. Piping passing through the roof shall be reflashed with one piece metal flashing and cover or two piece flange and sleeve flashing. New metal drip edge shall be

at least 1-1/2 inches wide. New metal gravel stop shall be at least 1-1/2 inches wide. Roof valleys may be flashed with mineral surface asphalt roll roofing, except that painted galvanized metal or aluminum valleys shall be used with wood roofing. Nails shall be corrosion-resistant threaded nails and shall be long enough to penetrate through sheating. It is the intent of these specifications to have all exterior openings properly flashed whether previously flashed or not.

ROOF LOUVERS

All separate attic spaces which are sealed off from the rest of the house shall be cross ventilated. Ventilators shall prevent the entrance of rain and snow. Ratio of total net free ventilating area to area of ceiling shall be not less than 1/150, except that the ratio may be 1/300 if a vapor barrier is provided on the warm side of the ceiling or if at least 50% of the required ventilating area is provided by ventilators located in the upper portion of the space. Attic space which is suitable for future habitable rooms shall have at least 50% of the required ventilating area located in the highest part of the ventilated space. New louver shall be aluminum. Minimum thickness of aluminum shall be .027 inch.

ASPHALT SHINGLE 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 recommendations to provide a watertight Class C Label roof.

BUILT-UP ROOFING REPAIR (HOT ROOF)

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 moppings of asphalt. Average mopping coats shall be 25# asphalt. Replace gravel stops at exposed edges of built-up roofing as necessary. All stops shall be properly secured and lapped sections shall be sealed with plastic roofing cement. Mop all edges thoroughly and re-apply gravel.

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 as necessary.

SLATE ROOFING REPAIR

Where slates are being inserted beneath higher slates, the new slate shall be properly secured in the space between adjacent slates of the row above.

NOTE

All new roofing installations shall have new metal flashing at chimneys and vent stacks. Also install new flashing at all valleys.

Asphalt shingle roofing and new rolled roofing shall not be placed over more than two layers of existing roofing. If the new roofing would be the third layer of roofing or if existing roofing is brittle or cupped, strip existing roof complete down to wood sheathing. Repair existing sheathing, including rafters, or roof deck as necessary.

ASPHALT SHINGLE ROOFING

Except for porches, asphalt shingle roofing shall not be installed on slopes of less than 4 inches/foot. New roof shingles after application shall provide at least double coverage at all points, including both eave and rake edges. Replace metal drip at exposed edges as necessary. New roof underlay shall be one layer of 15# asphalt-saturated felt and shall be double thickness from eave edge to a point not less than 24 inches beyond the inside face of the exterior wall. Low slope installations (3-4 inches/foot) shall have double underlay of 15# asphalt-saturated felt over entire roof surface. Seal double underlay lap to a point 24 inches beyond the inside face of exterior wall with a continuous layer of plastic asphalt cement. Felt underlay shall be omitted when new roofing is being placed over existing shingles. New asphalt shingles shall be 12 inch seal down composition shingles, with a minimum weight of 235# per square. They shall be self-sealing type or may be tabbed with cement or butt stapled to resist wind damage. Minimum exposure shall be 5 inches; minimum headlap shall be 2 inches. Exposure shall be not less than that required for U.L. Class C Label. Starter course of shingles and rake shingles shall project over eave or rake edge approximately 1/2 inch. If gable end has no overhang, provide additional trim piece as necessary so roofing can project at least 1-1/2 inches

beyond face of siding. Nails shall be corrosion- resistant roofing nails and shall be long enough to penetrate sheathing or roof boards. Coordinate roofing color with exterior painting scheme.

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. Endlap shall be 19 inches minimum for a 3 foot wide foll. Starter strip and edges of roofing shall project over eave or rake edge approximately 1/2 inch. Nails shall be corrosion-resistant roofing nails and shall be long enough to penetrate sheathing or roof boards. Coordinate roofing color with exterior painting scheme.

BUILT-UP ROOFING (HOT ROOF)

Remove existing gravel and broom clean roof area. Cut blisters and reinforce low areas. Apply 2 plies of 15# asphalt-saturated felt. Each ply shall be mop-coated with 25# asphalt. Then apply one ply of 45# asphalt-saturated felt and hot mop with 60# asphalt. Endlap of plies shall be 4 inches; side lap shall be 8 inches. All gravel stops shall be properly secured and lapped sections shall be sealed with plastic roofing cement. Mop all edges thoroughly and apply 300# gravel.

NEW SHINGLE OR SHAKE ROOFING

New roofing shall be No. 1 grade red cedar or as schedules. Shingles shall be tapered. Both shingles and shakes shall be all-edgegrain and all-heartwood. Underlay, 30# roofing felt, shall be used for wood shake installations. Use 36 inch wide starter strip at eave edge and 18 inch strips over top portion of each course of shakes. First course of both shingles and shakes shall be double. Exposure shall be determined by type and length of roofing. Extend roofing beyond eave edge about 1-1/2 inches and beyond rake edge about 3/4 inch. Spacing between adjacent shingles or shakes shall be 1/4 inch. Stagger joints in adjacent courses 1-1/2 inches; alternate course joints should not align. Roofing shall be attached with corrosion- resistant nails long enough to penetrate sheathing. Use no more than 2 nails per shingle or shake.

TORCH DOWN ROOFING

Apply approved rigid insulation (R-38) over entire area to receive new torch down roofing. nstall 254 U.L. approved type G2 fiberglass base sheet, mechanically fastened (screws and 3" insulation clips) through insulation into solid wood. Install APP modified bitumen membrane, torch applied. Roofing shall have a 15 year guaranty. Installation shall include all new metal flashing, roof drains, collars and attic vents. All materials shall be installed by a factory approved installer and installed to all manufacturers recommendations.

1900 - GUTTERS & DOWNSPOUTS

1900.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

1900.2 NOTE

Old storm drains not in use shall be capped. 1

900.3 CLEANING AND TIGHTENING

All joints shall be made watertight as necessary. Make sure that the insides of wood gutters to remain are thoroughly coated with asphalt. All gutters and downspouts shall be securely connected and firmly supported or fastened. Cleaning shall take place just prior to FINAL INSPECTION.

1900.4 SPASH BLOCKS

New splash blocks shall be molded PVC, at least 12 inches by 30 inches.

1900.5 GUTTERS & DOWNSPOUTS

New gutters and downspouts and all accessories shall be, as listed in the work schedules, either seamless aluminum, or wood. Aluminum shall be baked enamel finish with corrosion preventative coating on inside surfaces. Galvanized metal may be baked enamel finish with corrosion preventative coating on inside surfaces. Wood shall be cedar with asphalt coating on inside surfaces. All joints, connections and splices shall be made watertight by soldering or sealing with liquid aluminum and/or by using watertight slip joints manufacturer for this purpose (for metal) or by setting joints in white lead and caulking (for wood). New aluminum gutters shall be 5 inch O.G. ("K" style). Minimum thickness of aluminum shall be .027 inch. New galvanized metal gutters shall be 5 inch O.G. or half-round type. Minimum thickness of metal shall be 26 gauge. All metal gutters shall be attached with aprons and hangers or combination hangers every 24 inches on center. No exposed strap hangers shall be used. New wood gutters shall be 4 X 5 and attached with galvanized metal screws. When installed over facia boards, wood gutters shall be mounted on 3/8 inch wood spacer blocks, 24 inches on center. Corners shall be mitered. Maximum lengths shall be used for all types of gutters. Gutters shall be installed with proper pitch to downspouts.

New downspouts shall be 2 inch X 3 inch corrugated rectangular or 3 inch corrugated round, except that 2 inch plain round shall be used with wood gutters. Minimum thickness of aluminum shall be .019 inch. Minimum thickness of galvanized metal shall be 26 gauge. Downspouts shall be properly 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. New downspouts which tie into storm drains shall be first caulked with oakum and then cemented to concrete tiles or cast iron hubs. Where water runs onto splash blocks, downspouts shall be provided with extension pieces (elbows).

2000 - PLASTER

200.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

PLASTER

Quantities listed in the work schedules are approximate and are only intended to lead the contractor to the area(s) needing repair. The contractor shall replace as much plaster as is necessary to make satisfactory repairs.

When patch-plastering, all broken or damaged plaster shall be cut out to straight lines with clean, sharp edges. Cracks shall be cut out to a width of at least 1 inch. New lath and reinforcing strips shall be installed as necessary. The areas to be patched shall be filled with base material and then be given a finish coat of the same material as the adjoining plaster. Patched areas shall match the adjacent work in finish and texture and be free of bulges. Joinings shall be flush and smooth so that the joints between the existing and the new plaster are undetectable. See also description of new installation below.

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 necessary. Support and fasten lathing to provide true lines and surfaces for new plaster. Use flat reinforcing strips where existing and new plaster surfaces butt together. Install reinforcing at all points where surfaces change or where cracking is likely to occur. All metal shall be galvanized or coated with rust-inhibiting paint. New three coat wet plaster shall be a minimum of 3/4 inch thick on metal lath. Gypsum "rocklath" may be substituted for metal lath. New two coat wet plaster and "rocklath" combined shall be a minimum of 7/8 inch thick. New plaster in bathtub or shower areas shall have Keene's cement finish. All interior surfaces shall receive a smooth troweled finish unless matching existing textured finish. Plastering shall be done only when the inside temperature is at least 55 degrees F. This temperature shall be maintained during and up to completion of plastering, including drying. New plaster surfaces shall be smooth and be free of bulges. Finish ceilings shall be level; walls and corners shall be plumb and straight. Give special attention to areas where finish cabinets or wall tile is to be installed.

NOTE: Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

2100 – PAINTING

2100.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

PAINTING PREPARATION - EXTERIOR SURFACES

Previously painted wood trim, millwork, wood siding, masonry, metal work, and all other surfaces to be painted shall be thoroughly cleansed of peeling, blistered or crazed paint, dirt, dust, grease, rust and all other foreign matter. Sanding, wire brushing, scraping and washing are acceptable methods of cleaning. (Burning or sanding may be necessary in some areas to attain the required finish.)

Secure loose material and reset nails as necessary. Also remove all miscellaneous nails, hooks, screws, tacks, etc. Remaining holes, those no larger than a dime, shall be filled with linseed oil putty or caulking compound, depending on the surface material. All vents in surfaces to be painted shall first be swept clean and have paint-plugged squares removed. (If any area to be painted shows signs of mildew, those areas shall be treated with a good fungicide and the entire area shall be thoroughly dry before painting is begun).
NOTE: Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

PAINTING PREPARATION - INTERIOR SURFACES

All surfaces shall be smooth prior to painting or finishing. Previously painted wood trim, millwork, shelving, ceilings, walls, and all other surfaces to be painted or finished shall be thoroughly cleansed of peeling, blistered or crazed paint, dirt, dust, grease and all other foreign matter. Pay particular attention to painted wood trim and doors and windows. Sanding, wire brushing, scraping and washing are acceptable methods of cleaning. (Burning or sanding may be necessary in some areas to attain the required finish.) All old leadbased paint remaining on walls, ceilings and woodwork shall be removed. Secure loose material and reset nails as necessary. Also remove all miscellaneous nails, hooks, screws, tacks, etc. from walls and millwork. Remaining holes, those no larger than a dime, shall be filled with spackling compound or linseed oil putty, depending on the surface material. Seal all unremovable grease spots or stains with shellac so that they do not "burn through" new paint. Kill stain or seal all varnished wood before painting so that the desired coverage is obtained. (If any area to be painted shows signs of mildew, those areas shall be treated with a good fungicide and the entire area shall be thoroughly dry before painting is begun)
NOTE: Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

PAINT GENERAL INSTRUCTIONS

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

MILLER	KELLY-MOORE
DUPONT	OLYMPIC STAIN
DUTCH BOY	PABCO
FULLER	PPG INDUSTRIES
GLIDDEN-SPRED	SHERWIN-WILLIAMS

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

Using formulas from an accepted brand and having the paint mixed by a local concern shall not be allowed. The addition of interior oils or other thinners and quick drying additives shall not be allowed. No adulterations of any kind shall be permitted except as specifically recommended by the manufacturer. (Exterior and interior paints, primers, enamels and related painting materials shall contain no lead).

Primer and finish coats shall be from the same manufacturer for compatibility and best paint adherence. Certain finish coats are formulated to serve as primers and may be so used when applied in accordance with manufacturer's recommendations. Colors shall be factory mixed. Unless listed in the work schedules, interior colors shall be off-white or ivory, except that light neutral colors can be used for living rooms, dining rooms and hallways, and light pastel colors are acceptable for bedrooms. Any exposed 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 and stains. Such items shall include, but not be limited to, all roof vents (color of roof), covers, housings, brackets, piping, ductwork, drain pipes, conduits, access panels, unfinished or prime-coated hardware, grilles, registers, louvers cabinets, electrical panels and similar items.

PAINTING

Paint shall not be applied until all surfaces are thoroughly dry, excepting certain masonry paints formulated for application to wet surfaces. Contractor shall assume the responsibility for such conditions and shall make good any work executed prematurely. Any work which is damaged by contractor's employees, or for any reason is unacceptable, shall be repaired or redone to match the surrounding areas. No exterior painting shall be done when the surfaces are damp, or during cold or rainy or frost weather. No painting shall be done unless the temperature is between 50 degrees F. and 100 degrees F. and is expected to remain within 20 degrees of this temperature (temperature at start of work) until paint is dry. Inserts for storm windows shall be removed prior to painting. Contractor shall reinstall them - not store them - when painting is completed. New and previously unpainted hardware, hardware accessories and electrical fixtures are not to be painted, and when all the receptacles and coverplates within a room are new, they shall not be painted. Switches and their coverplates shall never be painted. Painter shall remove these items as necessary, reinstalling them when his 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 use and be screened free of skim, lumps and foreign matter. No paint, nor the residue thereof, shall be used after it has caked or hardened. Paint shall be worked into all corners, voids and joints. All surfaces other than those of metal items shall receive at least 2 coats of paint and all coats shall be thoroughly dry prior to application of the next coat. Shade primer coat to a color tint slightly different from finish coat(s). Additional coats may be required if the finish surface does not provide acceptable coverage or hiding. Finished work shall be uniform, free of runs and sags, smooth, free of 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.

EXTERIOR WOOD, TRIM, MILLWORK AND SIDING

Sandpaper new millwork prior to application of primer or stain. Reset all loose nails and putty all nail holes and minor cracks in wood with lead putty after spot priming these areas with exterior oil base primer. Prime all knots and resinous wood with a prepared knot sealer or aluminum paint. Neither of these applications is to be 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 paint to all previously painted or primed wood surfaces. Use oil shingle paint for wood shingles and shakes. Wood shall be painted or finished with brush only.

When painting porches, do not paint natural finish ceiling surfaces unless painting of them is specifically noted. First prepare these surfaces to be refinished. Then apply at least two coats of spar varnish formulated for exterior use.

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

CEMENT BOARD SHINGLE SIDING

Prepare surface and apply two coats of waterproof masonry paint.

2100.8 EXTERIOR STUCCO PLASTER

When stucco plaster is scheduled to be painted, application and type of paint shall be the same as for exterior masonry walls. Paints formulated for alkaline surfaces are recommended.

CONCRETE AND MASONRY SURFACES

Apply at least two coats of resin-emulsion paint, solvent rubber paint or floor and deck enamel to concrete decks and steps. If oil base paint is used, neutralize surface before painting. New masonry shall be thoroughly cured (at least 30 days) prior to painting. Apply at least two coats of polyvinyl acetate emulsion paint on masonry wall surfaces to be painted.

EXTERIOR ENTRANCE DOORS

Natural finish doors are not to be painted unless painting of them a specifically noted. First prepare existing doors to receive new finish. All door edges shall 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 water repellent preservative and at least two coats of spar varnish formulated for exterior use. Natural finish for existing doors shall be at least two coats of spar varnish formulated for exterior use. Paint for new doors shall be one coat of exterior oil base primer and two coats of exterior oil base paint. Paint for existing doors shall be two coats of exterior oil base paint. Paint and varnish shall be applied with brush only.

GARAGE VEHICLE DOORS (WOOD)

The inside surface and all door edges, including top and bottom, shall receive the same finish as the exterior face. Paint and varnish shall be the same as for exterior entrance doors.

EXTERIOR WOOD STEPS AND DECK

Caulk joints between wood surfaces and walls with a silicone sealant as necessary. Reset all loose nails. Apply one coat of exterior oil base primer to all new and bare wood surfaces at least two coats of floor and deck oil base enamel designed for exterior use.

GUTTERS AND DOWNSPOUTS

Spot prime metal gutters with zinc dust, zinc oxide primer where necessary and then apply at least one coat of a rust inhibitive, exterior oil base, enamel paint. The inside surfaces of the gutters shall be completely primed.

AWNINGS, METAL RAILINGS, METAL SIDING AND OTHER MISCELLANEOUS METAL ITEMS

New wrought iron if not factory painted shall be primed with at least one coat of zinc chromate primer. Spot prime all other metal with zinc dust, zinc oxide primer where necessary. Then apply at least one coat of a rust inhibitive, exterior oil base, enamel paint. Paint shall be applied with brush only.

STRUCTURAL STEEL

New structural steel shall be primed or be factory coated prior to installation. After thoroughly cleaning structural steel, spot prime bare areas with a zinc chromate primer. Then apply at least one coat of rust inhibitive, exterior oil base, enamel paint. Color shall match adjacent wall.

NOTE

When a room is scheduled to be either painted or painted with some items to be refinished, walls, ceilings, doors, windows (including those surfaces exposed by opening) trim, cabinet work, miscellaneous shelving, etc. shall be painted and/or refinished as described below. A closet is considered to be part of the room in which it is located, and closet rods and shelving (unless prefinished metal either new or in good condition) and bracing and drawers shall also be painted. Natural finish items are not to

be painted unless painting of them is specifically noted.

STAIRS & LANDING PAINTING:
Reset loose nails. Sand all surfaces as necessary to provide reasonably smooth surfaces. Then apply at least two coats of floor and deck oil base enamel.
NOTE: Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

CONCRETE AND MASONRY SURFACES

Apply at least two coats of resin-emulsion paint, solvent rubber paint or floor or deck enamel to concrete floors. If oil base paint is used, neutralize surface before painting. Masonry 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.

WALLPAPER

Plastered walls which are to receive wallpaper shall be thoroughly dry and be neutralized with zinc- sulphate solution, if necessary. Walls being papered with other than vinyl-type shall be coated with sizing before papering. Drywall which is to receive wallpaper shall be sealed with a coat of latex or oil or varnish base sealer. Unless otherwise scheduled, wallpaper shall be vinyl-coated wallpaper, dry strippable type. Color shall be off-white or light pastels. Wallpaper colors shall be sunfast and waterfast.

INTERIOR WOOD TRIM, MILLWORK, PANELING, CABINET WORK & 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. Stain or prime and finish as necessary. Also clean the insides of cabinets and drawers and apply varnish or paint. Then clean and wax all cabinet work and paneling.

PAINTING:
Sandpaper 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 (latex base) to all surfaces except kitchen cabinets. Kitchen cabinets shall be painted with two coats of interior semi-gloss enamel (oil base). Color shall match adjacent wall surfaces, unless scheduled otherwise. Painting shall be with brush only.

NATURAL FINISH:
Sandpaper new millwork prior to application of stain. 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 clear plastic coating as appropriate to its intended use. Application shall be with brush only.

WOOD WINDOWS AND INTERIOR DOORS PAINTING:
All door edges shall be eased. If new wood is open grain type, fill or seal surfaces 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) 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 with brush only.

WOOD WINDOWS AND INTERIOR DOORS (Con't.) NATURAL FINISH:
All door edges shall be eased. Apply one coat of penetrating sealer to all trimmed door edges. All interior doors, if not prefinished, shall receive at least two coats of spar varnish. Edges - top, sides, and bottom - shall be finished the same as the door faces. Varnish shall be applied with brush only.

DRYWALL OR PLASTER WALLS & CEILINGS (EXCEPT IN KITCHENS & BATHROOMS)

Note that certain types of texture finish ceilings cannot be satisfactorily painted with roller or brush. These surfaces, and these surfaces only, shall be spray painted. 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 prior to painting. New plaster or drywall shall receive a first coat of interior latex paint and at least one additional coat of interior latex or oil base paint. Previously painted surfaces shall receive at least two coats of interior latex base or oil base paint. Walls and ceilings shall be matt finish. Unless specified, all closets shall be painted the same color as the adjoining room. 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 prior to painting. New plaster or drywall shall receive a first coat of interior latex paint and at least two additional coats of interior, latex or oil base, semi-gloss enamel. Previously painted surfaces shall receive at least two coats of interior, latex or oil base, semi-gloss enamel. Unless specified, all closets shall be painted the same color as the adjoining room.

RADIATORS, RADIATOR COVERS, H. W. CONVECTOR COVERS, EXPOSED HEATING SYSTEM PIPING, REGISTER COVERS, METAL RAILING & METAL CABINETS

Metal kitchen cabinets shall not be painted with roller or brush. Rather, they shall be "refinished". Color shall be light pastel complementary walls.

New metal, if not factory primed and painted shall be primed with one coat of an alkyd primer and then painted with two coats of interior semi-gloss enamel (latex base). An acceptable alternate would be a primer coat of rust inhibiting paint and a finish coat of interior semi-gloss enamel (oil base). Existing metal shall be spot primed as necessary and them painted with at least one coat of interior semi-gloss enamel (latex base). Color shall match adjacent wall surfaces.

STRUCTURAL STEEL

New structural steel shall be primed or factory coated prior to installation. After thoroughly cleaning structural steel, spot prime bare areas with a zinc chromate primer. If steel is exposed, then apply at least one coat of a rust inhibiting oil base paint.

2200 - LEAD BASED PAINT

220.1 INTENT

It is the intent of this supplement to provide working details to eliminate the risk of lead based paint hazards. The general contractor shall be required to provide HUD/EPA/WAC certified lead abatement sub- contractors to perform all stabilization and abatement work. This shall include all labor, materials, equipment and disposal of waste necessary and incidental to complete all repairs as stated in the bid specifications. The general contractor shall ensure that safe work practices, as defined HUD, WAC, EPA, OSHA and WISHA, are strictly followed. Protection of the occupants and the workers during the lead hazard reduction work will be in accordance with State, HUD, WAC and EPA regulations.

GENERAL

The City of Tacoma, if necessary, shall provide a State certified Risk Assessor to monitor job progress and ensure worker and homeowner safety. The City of Tacoma representative and their Consultant shall be contacted when the lead hazard reduction work has been completed and the site properly cleaned to schedule a visual inspection and required clearance sampling. During the project, the City of Tacoma and/or its designated consultant may issue a "stop work" order if the contractor is deemed to be in non-compliance with regulations and HUD "Safe Work Practice" techniques. Prior to continuing work, the contractor shall demonstrate that all deficiencies noted have been corrected and that proper work procedures shall be utilized for the remainder of the project. A certified Risk Assessor, retained by the City of Tacoma, shall perform a visual inspection and clearance sampling upon completion of the project. Sampling may include soil and wipe samples collected from the work area. If any sample is deemed unacceptable through laboratory analysis, the contractor shall re-clean the work area and an additional visual inspection and sampling shall be performed. The cost for the additional sampling and inspection shall be borne by the Contractor.

Other documents/regulations that may apply:

Occupational Safety and Health Administration
29 CFR 1910 General Industry Standards
29 CFR 1910.1025 Lead Standard for General Industry 29
CFR 1910.134 Respiratory Protection
29 CFR 1910.1200 Hazard Communication
29 CFR 1910.245 Specifications for Accident Prevention (Sign and Tags) 29 CFR
1926 Construction Industry Standards
29 CFR 1926.62 Construction Industry Lead Standard

Environmental Protection Agency
40 CFR Part 261 United States Environmental Protection Agency Regulations

Department of Housing and Urban Development
24 CFR Parts 35, 36, 37 HUD Lead- Based Paint Regulations
HUD Guidelines for the Evaluation and Control of Lead- Based Paint Hazards in Housing
State of Washington Commerce Department
WAC 365-230 Accreditation of Lead-Based Paint Training Programs and the Certification of Firms and Individuals Conducting Lead-Based Paint Activities

PAINT STABILIZATION

Paint stabilization will include removal of all loose, cracked, chipped peeling, dusting or any other deteriorated painted surfaces. Pressure washing is not acceptable. Wet scraping, wet sanding, chemical strippers, heat guns not exceeding 1,100-degrees F., and HEPA vacuum filtered needle guns are some of the approved methods for paint removal. All work shall be performed by certified lead based paint workers using HUD "Safe-Work Practices". Clean all areas where

stabilization was performed with a HEPA vacuum, then apply acceptable primer to all stabilized surfaces. All waste generated from this procedure shall be collected and properly disposed of.

PAINT OR COMPONENT REMOVAL/ABATEMENT

Prior to commencement of any abatement procedures, the certified lead abatement firm shall notify the State of Washington Commerce Department in accordance to WAC 365-230, of all abatement work to be performed. When paint or a component is specified to be removed, they are to be removed completely.
Paint removal shall mean all layers of paint down to the substrate. This may be accomplished be chemical stripping, wet scraping, wet sanding, heat guns not exceeding 1,100-degrees F., or a HEPA vacuum filtered needle gun. Component removal shall include all parts of the component system. The certified lead abatement firm shall provide supervision of the project as defined in WAC 365- 230 to ensure that "HUD Safe Work Practices" are followed and that all material needing to be removed has been removed and properly disposed of.

LEAD HAZARD REDUCTION STRATEGIES AND PROCEDURES

Prior to commencement of any stabilization or abatement work, the Lead Contractor shall be responsible to notify the owner(s) and/or resident(s) of the scope of work and procedures that will be followed during the abatement or stabilization process. This is extremely important if children under six occupy or regularly visit the residence. If the resident(s) are to be relocated, they must remain off site while the job is being done and until the site has met the required clearance standards for their safe return. Relocation is not required if the lead hazard control work is very limited (for example, one room); lead hazard control work and cleanup can be done in one 8-hour day; and as long as the resident(s) have access to a kitchen, bathroom and sleeping facility.

Once the initial consultations are successfully completed, the Lead Contractor shall set-up project boundaries and containment methods that shall be employed on the job site. Project boundaries shall be clearly marked and access shall be restricted. The exterior of the building and all entrances and exits to the work area shall be clearly marked with OSHA approved signage stating "WARNING- LEAD WORK AREA- POISON- NO SMOKING OR EATING" prior to commencement of any lead hazard reduction work.
Lead Hazard Reduction procedures shall consist of the following:
Interior Containment

- Remove all possible objects from the work area. Carpeting should be removed and cleaned. Complete removal and replacement of carpeting is recommended; replacement should be of hard surface flooring (for example, tile, wood flooring or vinyl) that permits the cleaning of dust.
- Cover all remaining objects, furniture, fixtures, and objects or surfaces that would be difficult to clean with 6-mil plastic. Secure plastic with tape or staples; if staples are used, ensure that the finished surfaces are not damaged when removed.
- Openings to rooms or attached units shall be sealed off from the work area with 6-mil plastic and tape.
- Cover the entire floor of the containment area with two layers of 6-mil plastic securely taped to the perimeter walls. The top layer shall be removed with any debris that may result from lead hazard reduction work; the second layer shall be removed only after lead hazard work is completed, after containment plastic is removed and prior to final cleanup procedures.
- All windows shall be closed and forced-air heating and air conditioning systems shall be shut down prior to lead hazard reduction activities. HEPA vacuum all air intake and exhaust points inside containment areas prior to sealing off completely with 6-mil plastic and tape.
- Make routine checks of the containment to ensure the area outside the containment is not being contaminated. Make necessary repairs immediately.
- Follow OSHA requirements regarding Action Levels and Permissible Exposure Limit levels for all exposed workers by means of proper training and education of workers prior to initial job assignment, employment of a

medical surveillance program, engineering and work practice controls, and respiratory protection appropriate to exposure levels as required.

Exterior Containment

- Remove all possible objects from the work area. Place 6-mil plastic as close to the building foundation as possible and secure it to the building if at all possible; secure around the perimeter with weights or stakes. For a containment that will handle liquid waste, the plastic shall be raised around the perimeter and shall be extended far enough to contain runoff; seal all seams with tape. For a containment that will handle dry waste, the plastic shall be extended 20 feet or a distance sufficient to capture all falling dry debris as warranted by the height of the building. If a constant wind speed is in excess of 15 mph, erect a stable vertical shroud sufficient to protect the containment work site.
- Make routine checks of the containment to ensure the area outside the containment is not being contaminated. Make necessary repairs immediately.

Abatement Procedures

- A State certified Supervisor is required for each abatement project and shall be on-site during all worksite preparation and during post-abatement cleanup of work areas. At all other times, the certified supervisor or project designer shall be on-site or available by telephone, pager, or answering service, and be able to be present at the worksite in no more than two hours.
- All abatement procedures are to be performed inside a properly constructed containment area only and shall be conducted by a certified Lead-Based Abatement contractor and properly trained and certified workers.
- If paint is scheduled to be removed from its substrate, it may be removed by wet scraping and wet sanding, the use of a heat gun under 1100-degrees F, hand-held power tools used in conjunction with HEPA exhaust control filtration, on-site chemical strippers (using appropriate respiratory protection), or off-site chemical stripping. The use of open-flame burning or torching, uncontained hydro blasting or pressure washing, grinding, sanding or sandblasting without HEPA exhaust filtration, dry sanding or scraping (only permitted in conjunction with heat guns or around electrical outlets), the use of a heat gun over 1100-degrees F, and the usage of methylene chloride based chemical strippers are expressly prohibited.
- To control dust during abatement, mist or wet-spray the affected item and the surrounding area before commencement of abatement. Make sure to dry surrounding areas after the removal of the component(s) so as not to damage surrounding areas.
- Once you have removed a component, wrap it carefully with 6-mil plastic and seal completely with tape for proper disposal.
- If windows or doors are scheduled to be removed, the interior side of the unit shall be double covered with 6-mil plastic. The floor and/or ground immediately below the window or door shall be sufficiently covered to prevent contamination. Doors shall be tightly covered and taped around the perimeter and to the floor; windows shall be J-bagged (allows for trough at bottom of window to catch debris) and securely taped around the perimeter.
- Abatements that include paint, soil, interior dust, and exterior dust shall be completed in this order: 1) Abate lead-based paint on the outside of the building first; 2) Abate all identified lead- contaminated soil; 3) Abate exterior dust; 4) Abate interior lead-based paint; 5) Abate interior lead dust. This order of abatement shall be followed with all abatement combination possibilities.
- A thorough cleanup of the entire work area shall be conducted each and every day. This daily cleanup shall consist of the following: 1) removal of all debris; 2) HEPA vacuuming, wet cleaning, HEPA vacuuming (horizontal surfaces only); 3) cleaning the exterior directly surrounding the containment; 4) patching and repairing plastic sheeting as required; and, 5) if containments are to be left overnight, secure the containment and worksite to restrict entry.

- Enclosure- encloses a painted surface with a durable substance such as drywall, paneling, metal and vinyl siding, Hardi siding, plywood, wood or tile flooring, metal coil-stock, or some other construction material designed to last a minimum of twenty years. All enclosure products should be applied with fasteners and adhesives and installed according to current manufacturer's specifications. Before enclosing a surface, clearly mark or identify the surface as containing lead- based paint every 3' in height along the entire length of the surface. All seams, edges and joints must be sealed or caulked to prevent dust from escaping.

- Encapsulation- coats and seals the lead-based paint with a durable coating applied as a liquid to the painted surface. To be considered an acceptable encapsulant, the coating must meet or exceed ASTM E1795-04 Standard Specification for Non-Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Buildings. Encapsulants are not to be used on surfaces subject to friction or rubbing such as windows or doors. Before installing encapsulants ensure that the existing paint is stable and well-adhered to its substrate. If the existing paint is not stable and well-adhered, stabilization and priming of the surface must be done in accordance with HUD "Safe Work Practices" prior to application of encapsulant. Installation shall meet all current manufacturers' specifications.

- Soil Abatement- replaces contaminated bare soil or permanently covers bare soil so as to be separated from human contact. If soil is to be abated, WAC 365-230 requirements for soil abatement shall be observed. Soil abatement shall be consistent with one of the following: 1) replacement with soil that has a lead concentration no greater than 250 ppm; or, 2) shall be permanently covered with a relatively impermeable material, such as pavement, asphalt or concrete. Soil that is replaced shall be installed at a level 2-inches above the previous level to allow for settling.

Interim Controls

- Interim control measures include paint stabilization of deteriorated paint, treatments for impact and friction surfaces, treatment of chewable surfaces, dust-lead hazard control, and treatments for soil-lead hazards. Interim control measures must be completed using HUD "Safe Work Practices" (24 CFR Part 35, Section 35.1350).
- Interim controls of lead-based paint hazards shall be conducted by persons who have been trained in accordance with 29 CFR 1926.59 and either be supervised by an individual certified as a lead- based paint abatement supervisor or have successfully completed a HUD-approved "Safe Work Practices" training course.
- Occupants shall not be permitted to enter the worksite during lead hazard reduction activities until after clearance has been achieved.
- A warning sign shall be posted at each entry to a room where lead 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 worksite.
- De minimis levels- HUD "Safe Work Practices" are not required when lead 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 room or interior space; or 3) 10 percent of the total surface area on an interior or exterior type of component with a small surface area. (e.g., window sill, baseboard, trim).
- A thorough cleanup of the entire work area shall be conducted each and every day. This daily cleanup shall consist of the following: 1) removal of all debris; 2) HEPA vacuuming, wet cleaning, HEPA vacuuming (horizontal surfaces only); 3) cleaning the exterior directly surrounding the containment; 4) patching and repairing plastic sheeting as required; and, 5) if containments are to be left overnight, secure the containment and worksite to restrict entry.

Paint Stabilization-

- Correct all interior and exterior water leaks to the building envelope that may be causing the physical deterioration of the various substrates
- 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.

- Before applying new paint, prepare the surface by removing all loose, chipping, cracking, peeling, or chalking paint by wet scraping and sanding, the use of a heat gun under 1100-degrees F, hand- held power tools used in conjunction with HEPA exhaust control filtration, on-site chemical strippers (using appropriate respiratory protection), or off-site chemical stripping. The use of open-flame burning or torching, uncontained hydro blasting or pressure washing, grinding, sanding or sandblasting without HEPA exhaust filtration, dry sanding or scraping (only permitted in conjunction with heat guns or around electrical outlets), the use of a heat gun over 1100-degrees F, and the usage of methylene chloride based chemical strippers are expressly prohibited.
- Clean, degloss, neutralize and rinse stabilized surfaces prior to application of primer and paint. Surfaces should be dry and free of debris prior to painting.
- Apply one coat of primer and at least one coat of paint to all surfaces that have been stabilized. Allow sufficient time for each coat of paint to dry fully. All paint shall be applied in accordance with all current manufacturers' specifications.
- Paint stabilization shall incorporate the use of HUD "Safe Work Practices" in accordance with 24 CFR Part 35.

Friction and impact surfaces-

- Examples of friction and impact surfaces include but are not limited to, windows, doors, stair treads and risers, baseboards, walls where door knobs have knocked against, drawers and cabinets, porches, decks, interior floors, and any other surface that are abraded, rubbed or impacted.
- All deteriorated paint on a friction or impact surface component that is not scheduled to be removed shall be stabilized.
- As and additional protection measure, the installation of rubber or felt bumpers at all points of friction or impact is recommended.
- Interim controls for friction or impact surfaces does not include covering of such surfaces with a coating or other treatment, such as painting the surface, that does not protect lead-based paint from impact or abrasion.
- Interim control measures for friction surfaces shall eliminate friction points or treat the friction surface so that paint is no longer subject to abrasion. For windows, install channel guides or slide systems that reduce or eliminate the abrasion of painted surfaces. If window troughs are badly weathered, cap with caulk-backed, metal coil stock or other approved material. For doors, mist and plane, or rehang door to eliminate friction points. For paint on stair treads and floors, install a durable cover such as wood or tile, carpeting, rubber tread guards, or vinyl sheet goods. For drawers and cabinets, strip paint from drawers and drawer guides or plane impact points and repaint. Strip paint from all cabinet doors or replace doors.
- Interim control measures for impact surfaces shall protect the lead painted surface from impact. For baseboards, remove and dispose of the base shoe molding and replace it. For abraded or damaged outside wall corners, install new plastic or wood corner bead. For doors, remove and dispose of the doorstop from the jamb if possible; to prevent the door from striking a wall or baseboard install new wall or hinge mounted door stops.

Chewable surfaces-

- Chewable surfaces are required to be treated only if there is evidence that a child of less than 6 years of age has chewed on the painted surface, and lead-based paint is known or presumed to be present on the surface.
- Treatments shall make the lead-based paint inaccessible for chewing by children of less than 6 years of age by either the removal of the components completely or by means of enclosure or coatings that cannot be penetrated by the teeth of such children.

Dust-lead hazard control-

- Dust-lead hazard, as provided in WAC 365-230, shall mean surface dust in a residential dwelling or child-occupied

facility that contains a mass-per-area concentration of lead equal to or exceeding 40 µg/ft^2 on floors or 250 µg/ft^2 on interior window sills based on wipe samples.

- All horizontal surfaces, such as floors, stairs, window sills and troughs, that are rough, pitted, or porous shall be sealed with an appropriate sealer or covered with a smooth, cleanable covering, such as metal coil stock, plastic, polyurethane, tile, wood, vinyl, laminate, or other acceptable smooth, cleanable covering.
- Dust control shall involve a thorough cleaning of all horizontal surfaces, such as interior window sills, window troughs, shelves, floors, and stairs, but excluding ceilings.
- Other potential dust traps that require thorough cleaning, other than horizontal surfaces, carpeting, rugs and mats, include radiators, floor grates and registers, drapes, blinds, upholstered furnishings and children's toys.
- Clean from top to bottom and vacuum before wet cleaning. On multistory dwellings, start at the top level in the rear room, furthest from the floors/rooms entrance and work in one direction toward the front; repeat this process for the remaining floors/rooms in sequence. Within a room start with the highest horizontal surface and work down. A typical cleaning sequence would be as follows: top of window heads, tops of sashes, mullions, and interior and exterior window sills and troughs, radiators, baseboards, floors, and finally vents/registers and horizontal components of the ventilation ducts that can be easily reached.
- When at all possible, area rugs and wall-to-wall carpeting in an area where dust-lead hazards have been identified shall be removed and replaced with smooth, easily cleanable, hard-surface flooring, such as wood, tile or vinyl sheet goods.
- All floor surfaces, including those beneath a rug shall be cleaned where possible by methods of HEPA vacuuming, wet wiping with a high phosphate or lead-specific solution like TSP, and then HEPA vacuuming again.
- If carpeting is not scheduled to be replaced, HEPA vacuum the carpeting at a rate no faster than 2 minutes per 10 square feet in a side-to-side direction, followed by another pass at the same rate in a direction perpendicular to the direction of the first vacuuming, for a total of 4 minutes per 10 square feet.
- Replace air filters in the forced air systems at the time of cleaning.

<u>Soil-lead hazards</u>-

- Soil-lead hazard, as provided in WAC 365-230, shall mean bare soil on a residential real property or on the property of a child-occupied facility that contains total lead equal to or exceeding 250 parts per million (mg/g) based on soil samples.
- Acceptable interim control methods for soil-lead hazards are impermanent surface coverings and land use controls. Impermanent surface covering may consist of grass, other ground covers (e.g., junipers or ivy), artificial turf, bark, mulch, and gravel. Land use controls may include fencing, warning signs, and creation of alternate play areas, decking, and planting of thorny or dense shrubbery.
- Impermanent surface coverings shall be designed to withstand the reasonably-expected traffic. If the area to be treated is heavily traveled, neither grass nor sod shall be used.
- When loose impermanent surface coverings such as bark or gravel are selected, they shall be applied in a thickness not less than 6-inches deep. New bark, gravel, or other materials should not contain more than 200 µg/g of lead.
- Adequate erosion control measures shall be used in conjunction with impermanent surface coverings.
- 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, and only if the residents have reasonable alternatives to using the areas to be controlled.
- 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.

<u>Cleanup Procedures</u>

- Occupants shall not be permitted to enter an area where lead hazard reduction work or abatement has been conducted until cleaning is completed and final clearance has been achieved.
- Clearance levels for lead dust shall be as provided in WAC 365-230 as follows: 40 µg/ft^2 on floors; 250

$\mu g/ft^2$ for window sills.

- A thorough cleanup of the entire work area shall be conducted each and every day. This daily cleanup shall consist of the following: 1) removal of all debris; 2) HEPA vacuuming, wet cleaning, HEPA vacuuming (horizontal surfaces only); 3) cleaning the exterior directly surrounding the containment; 4) patching and repairing plastic sheeting as required; and, 5) if containments are to be left overnight, secure the containment and worksite to restrict entry.
- For final cleaning, wait at least 1 hour after active lead hazard control activity has ceased in order to let dust particles settle.
- Removal of plastic sheathing used for containment purposes should begin with upper-level plastic, working toward the floor, with removal of the floor plastic last. Before removing any plastic, spray or mist the plastic with water to hold down dust, and then fold it inwards to trap any remaining dust inside. Place all used plastic and any waste material inside double 4-mil or single
  6-mil plastic bags and seal them tightly before removing from the premises.
- Clean from top to bottom and HEPA vacuum before wet cleaning, then HEPA vacuum again. On multistory dwellings, start at the top level in the rear room, furthest from the floors/rooms entrance and work in one direction toward the front; repeat this process for the remaining floors/rooms in sequence. Within a room start with the highest horizontal surface and work down. A typical cleaning sequence would be as follows: top of window heads, tops of sashes, mullions, and interior and exterior window sills and troughs, radiators, baseboards, floors, and finally vents/registers and horizontal components of the ventilation ducts that can be easily reached.
- Wash all surfaces with a lead specific detergent, high-phosphate detergent, or other suitable cleaning agent to dislodge any ground-in contamination, then rinse. Change the cleaning solution after every room is cleaned. Waste water should be disposed of in the toilet after applicable pretreatment steps (e.g., filtering, gravitational separation), if any, have been satisfied. Waste water shall not be disposed of into storm drains or onto the ground.
- Decontamination of all tools, equipment, and worker protection gear is required before it leaves containment areas.
- After the final cleaning is completed, the certified supervisor shall visually evaluate the entire work area to ensure that all work has been completed and all visible dust and debris have been removed. If the visual examination results are unsatisfactory, affected surfaces must be retreated and/or recleaned.
- After satisfactorily passing the initial visual inspection by the certified supervisor, all floors without an intact, nonporous surface or coating should be sealed to allow for easier cleaning by the occupants. Wooden floors should be sealed with polyurethane or other durable enamel based paint. Vinyl tile, linoleum, and other similar floors should be sealed with an appropriate wax.
  Concrete floors should be sealed with a concrete sealer or other durable epoxy based paint. An alternative to sealing floors would be the installation of new vinyl tile, sheet vinyl, wood flooring or tile that would cover the surface of the porous floor completely.
- After painting/sealing is complete, the entire work area should be thoroughly cleaned again following the same HEPA/Wet Wash/HEPA cycle from ceiling to floor as previously described.
- Clearance dust sampling of a worksite shall be conducted a minimum of one hour after final cleanup is complete.
- Clearance activities and dust sampling of the worksite shall be conducted by a certified risk assessor or certified lead-based paint inspector and shall consist of a visual assessment, dust sampling, submission of samples for analysis of lead by an accredited NLLAP laboratory, interpretation of sampling results, and preparation of a clearance report.
- All surfaces represented by a failed clearance sample or visual inspection shall be recleaned and retested until the applicable clearance level is met.

2300/2400 – HEATING

2300.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

2300.2 INTENT

It is the intent of these specifications and the Work Schedules that the following heating systems be placed in a proper and legal operating condition or be replaced by a new forced warm air heating system.

Gas-fired forced warm air. Oil-
fired forced warm air. Electric
forced warm air. Gas-fired
gravity warm air. Oil-fired gravity
warm air. Gas-fired steam boiler.
Oil-fired steam boiler. Gas-fired
hot water boiler. Oil-fired hot
water boiler.
Electric, wall, baseboard or radiant heating. Heat Pump

It is further intended that heating units more than "15 years old" be rewired and have all new controls installed; including thermostat.

It is the intent of these specifications and the Work Schedules that all exhaust fan ductwork be repaired as necessary and that exhaust fans and ductwork be furnished, installed and connected up for bathrooms and other similar rooms without the required natural ventilation.

All new equipment will be “Energy Star” approved when available. 2300.3 GENERAL

INSTRUCTIONS

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

All materials, equipment, piping, fittings, fixtures, etc., shall conform to the latest A.N.S.I. (American National Standards Institute), A.S.T.M. (American Society for Testing and Materials), A.S.M.E. (American Society of Mechanical Engineers), and F.S. (Federal Specifications) standards. All equipment and materials 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.

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

Except as modified herein, the construction and installation of all equipment, accessories and appurtenances 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, workmanship and finish as the original work and shall accurately match all surrounding work.
NOTE: Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

Equipment and materials furnished by others which require connection to the heating or ventilating systems shall be connected up by the contractor.

Equipment shall be rigidly installed and so connected as not to exert undue strain on fuel piping or other connections. All piping, duct-work 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.

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

All heating and ventilating equipment not required to remain shall be removed by the contractor. See also "General Instructions" for DEBRIS, Page 400.1.

Upon completion of the work, the contractor shall attach consecutively numbered tags to all piping and valves. The contractor shall supply to the owner a chart showing all valve and pipe numbers, their location and controls.

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

2300.4 REMOVING HEATING UNITS OR SYSTEMS

When a steam or hot water system is scheduled to be removed, the boiler, piping, radiators or convectors, and all equipment incidental to its operation shall be removed complete. When a heating unit is scheduled to be removed, the furnace or boiler and all equipment incidental to its operation shall be removed complete. This shall include all trunklines or other exposed ductwork that is scheduled to be replaced. Oil tanks which are no longer functional, when above ground shall be removed complete, and when buried shall be disconnected and have fill pipe and vent pipe removed. When a space heater is scheduled to be removed, also remove the vent pipe and cap the gas line back at a tee.

2300.5 NEW FORCED AIR SYSTEMS

This is an instruction to the contractor. It means that a furnace and at least all trunk lines and take-offs shall be installed new. See the Work Schedules for a list of items to be installed with their locations.

2300.6 NEW HEATING UNITS

A new furnace or boiler shall be installed complete with new disconnect switch, flue pipe, blower motor for forced warm air furnaces, and all controls, wiring, accessories, valves and fuel piping necessary to make the unit operational. All new units shall carry the “Energy Star” rating and be so labeled. Also thoroughly clean the chimney and where applicable, oil tank, fittings and lines.

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. But it is the heating contractor's responsibility to coordinate installation of the junction box and to

wire the unit.

New units shall have ratings sufficient to ensure proper heating of all habitable rooms within the living unit they are intended to serve. Such determinations shall be made in accordance with the best practices of the National Warm Air Heating & Air Conditioning Association, the Institute of Boiler & Radiator Manufacturers, or the "Guide" of the American Society of Heating. This shall include heat loss calculations when required by the local authorities. Furnaces or boilers shall be able to maintain a room temperature of 70 degrees F at a point three feet above the floor in all habitable rooms. Heating systems shall be designed, installed, and balanced or 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.

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

2300.7 NEW OIL TANKS

Where applicable, disconnect existing oil tank and remove fill and vent pipes. Existing oil tanks inside the house shall be removed to the outside and buried.

New tank shall be installed complete. Tank shall be at least 275 gallon capacity. Unless soil conditions preclude such installation, tank shall be buried. Where necessary, set tank on concrete slab and strap down. Tank shall have two coats of asphalt emulsion or other rust inhibitive coating. Tubing for supply and circulating lines 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 earth or sand. Top 3 inches shall be topsoil suitable for plant growth. Replace sod or resod as necessary.

2300.8 DUCT WORK AND REGISTERS

Sheet metal shall be not lighter than 26 gauge galvanized sheet metal. The sheet metal work shall be accurately formed, be fitted snugly, have exposed edges folded under at least 1/2 inch and leave no sharp corners exposed. All ductwork shall be properly supported with hangers or floor rest channels. No new ductwork shall be installed as exposed ductwork in finishing rooms, including closets, unless so noted on the drawings.

Balancing 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.

New supply outlets may be installed in floors or in walls, except that floor outlets are unacceptable for bathrooms. When in the floor, outlets shall be no closer than 6 inches to any wall. Supply outlets on outside walls should be located in front of windows. Basements need not have separate supply outlets unless scheduled. However, an outlet shall be provided on the plenum. All supply registers shall be equipped with shutoff dampers. Return air inlets shall be located in walls or in floors, as is appropriate to their size and function.

All ductwork installed outside the conditioned space shall be insulated to 3.5 inch 0.60 lb/cu. ft. mineral or glass fiber blanket, 2.5 inch 1.5 to 2 lb/cu. ft. duct liner, mineral or glass fiberboard or equivalent to provide an installed total thermal resistance of at least R-8.

2300.9 CLEANING AND ADJUSTING HEATING UNITS

When heating units are scheduled to be cleaned and adjusted, the contractor shall thoroughly clean and adjust the system so that it is operating properly. When necessary replace the thermostat. On forced air systems this shall include cleaning the blower motor. Also install new air filters and replace blower motor belts as necessary. On oil-fired systems this shall include cleaning the oil tank (removing condensation and whatever sediment possible), fittings and lines and cleaning or replacing fuel line filters as necessary. Ductwork shall be cleaned and vacuumed at all accessible openings. Special attention shall be paid to duct runs

with floor registers. Also clean the flue pipe and chimney.

2300.10 CONTROLS/CONTROL PACKAGES

When heating unit controls are scheduled to be repaired and/or replaced, the contractor shall examine all the controls for that particular unit, including the thermostat, and repair or replace those controls found to be defective. Operating and limit or safety devices shall be AGA approved or UL listed.

2300.11 ELECTRIC BASEBOARD HEATING

Prior to installation, provide heat loss calculations as required by local authorities. 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 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 shall have its own thermostat or thermostats, except for bathroom heaters designed for manual switch operation. Thermostats shall be separate from baseboard and located, not above baseboard, but on inside walls adjacent to doors.

2300.12 EXHAUST FAN & VENTED RANGE HOOD

Ventilating equipment shall comply with, and be tested and rated in accordance with Air Moving and Conditioning Association Bulletin 210. Evidence of compliance will be a Home Ventilating Institute or Manufacturer's label showing capacity. Ductwork where required shall be designed for the shortest practical run to the exterior. Exhaust fans shall discharge directly to outside air. Discharge openings through roofs or exterior walls shall be protected against the entrance of rain and snow. Exhaust fan units shall be installed complete with louvers or backdraft dampers which will automatically close and prevent a reverse flow of air when fan is not in operation.

When a bathroom exhaust fan is scheduled to be installed new, it shall be installed complete with switch, ductwork and all accessories. Fan motor shall be moisture proof and UL listed. Fan shall be wall switched; switch shall be separate from light switch. Air delivery of fan unit shall be no less than 90 CFM; fan shall provide a minimum of 15 air changes per hour. Undercut door if necessary.

When a kitchen exhaust fan is scheduled to be installed new, it shall be installed complete with switch, ductwork and all accessories. Fan motor shall be UL listed. Fan shall be wall switched; switch shall be separate from light switch. Air delivery of fan unit shall be no less than 90 CFM; fan shall provide a minimum of 15 air changes per hour. Grille shall be anodized aluminum.

New range hood shall be 30 inch wide standard builder's model or equal. Range hood shall be installed complete with ductwork and all accessories. Unit shall include recessed light and removable, washable grease filter.

2300.13 SELF-VENTING RANGE HOOD

New range shall be 30 inch wide standard builder's model or equal. Range hood shall be vented to the outside with a backdraft damper. Filters shall be removable for cleaning or replacement. Unit shall include two-speed fan and recessed light. Range hood shall be type certified for the particular installation.

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

2500/2600 - ELECTRICAL

2500.1 INTENT

It is the intent of these specifications and the Work Schedules that each of the following existing items be inspected by a qualified electrician and that any defective items either be repaired or replaced as required by local codes.

Electrical service and panels. Electrical wiring.
Electrical devices. Door bells or chimes. Lighting fixtures.
Convenience receptacles.
Heavy duty receptacles.

2500.2 INTENT

It is the intent of these specifications and the Work Schedules that any of the following items not provided for in the existing wiring of the building be furnished, installed, and connected up to the building's electrical power source.

Exterior light at front, rear and/or side entrances. Doorbell button at main entrance.
At least one small appliance circuit serving the kitchen area. Separate laundry circuit with one convenience receptacle.
Separate furnace circuit.
Separate range and dryer circuits (unless in all-gas subdivision) At least two convenience receptacles per room.
One wall switched lighting fixture or wall switched receptacle per room (bathrooms, kitchens, dining rooms, halls and stairways must have lighting fixtures).

2500.3 GENERAL INSTRUCTIONS

Incidental items not mentioned in the specifications or listed in the Work Schedules that can legitimately and reasonably be inferred to belong to the work described or be necessary in good practice to provide a complete system shall be furnished and installed as though specified in every detail.

All material and equipment used shall conform to the latest U.L. (Underwriters' Laboratory), A.N.S.I. (American National Standards Institute), and F.S. (Federal Specifications) 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 andshall 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.

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

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

All finished parts of the materials 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 finish surfaces will be damaged or marred.

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

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

The contractor shall in no case install permanent electrical equipment that may be damaged by the roughing-in for heating, ventilating, 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 accurately match all surrounding work. NOTE: Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

All remaining electrical equipment and exposed wiring not in use shall be disconnected and removed. See also "General Instructions" for DEBRIS, secion 400.1.

The contractor shall keep all parts of the building and site free from the accumulation of rubbish and waste materials caused by the work of this section and shall remove such accumulations 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.

2500.4 REWIRE TOTAL LIVING UNIT

This is an instruction to the contractor and means that all branch circuit wiring, fixtures, switches, receptacles and cover plates shall be installed new. See the Work Schedules for a list of items to be installed and their locations.

2500.5 NEW ELECTRICAL SERVICE

New service shall be a minimum of 200 AMP for all new installations. Service shall include new service mast or service knob with support where necessary. Service shall be underground where required. Coordinate installation with local utility company.

New panel shall be 200 AMP with room for at least 12 circuits. Panel box shall be flush or surface- mounted as required. It shall be circuit breaker with thermal magnetic breakers. If fuse-type, fuses shall be 'S'-type with adapters. Prior approval may be required if panel is to be located on exterior of house; this panel shall be factory-built rain tight type. Panel box shall be placed in a convenient and protected location. Service equipment shall not be located in coal bins, 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. Each living unit shall have an individual disconnect and circuit protecting device. Where more than one living unit is supplied from a single service entrance panel, the

panel shall be located in a common area accessible to all units. The disconnect and circuit protecting devices for each unit shall be clearly identified.

After installation, each lighting panel shall be tested with the mains disconnected from the feeder, the branches connected, the 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.

2500.6 CIRCUITS

When a living unit is being rewired, in addition to the special circuits serving kitchen, laundry, etc., provide as follows. For units up to 500 square feet provide at least two 15 ampere circuits for lighting and general use and one additional 15 ampere circuit for each additional 500 square feet or fraction thereof.

New one-circuit service to garage shall be an independent branch circuit of 20 ampere capacity. Service shall include new underground conductor, a keyless (switched) fixture for each parking space and at least one grounded receptacle. Service shall be installed complete with all wiring and accessories.

New furnace circuit shall be an independent branch circuit of 15 or 20 ampere capacity. Contractor shall wire the circuit from the panel box to a junction box located near the heating unit. Installation shall include disconnect switch. Coordinate installation with the heating contractor.

New laundry circuit shall be an independent branch circuit of 20 ampere capacity. Receptacle for washing machine shall be a 15 ampere, 125 volt, duplex grounding type mounted on the wall behind or adjacent to each set of laundry trays. When installed new, the wall receptacle shall not be higher than 48 inches above the floor.

New small appliance circuits shall be 20 ampere capacity branch circuits except that Pierce County requires these circuits to be three-wire 115/230 or 120/208 volt circuits with split-type receptacle outlets. Kitchen areas shall have at least one small appliance circuit. When one circuit is scheduled to be installed, a minimum of three grounded receptacles shall be wired to this circuit. When two circuits are scheduled to be installed, a minimum of two grounded receptacles shall be wired to each circuit. When these circuits also serve pantry, dinette, breakfast room and dining area, the receptacles for these areas shall be equally divided between the extended circuits.

New attic circuit shall be an independent 15 ampere branch circuit provided for an unfinished attic space adaptable for living. Circuit shall include one receptacle.

2500.7 CONDUCTORS AND ACCESSORIES

Hot water heater circuit wiring shall be No. 10 AWG.

Dryer circuit wiring shall be No. 10 AWG. Range circuit wiring shall be No. 6 AWG. Branch circuit wiring for 20 ampere circuits shall be No. 12 AWG and all other branch circuit wiring shall be no smaller than No. 14 AWG. Unless otherwise required by local codes, all new wiring shall be Romex. 15 and 20 AMP circuits shall be 2-wire Romex with or without a grounding wire as required by code.

All conductors shall be plainly marked or tagged as follows:

Underwriters' Laboratories, Inc. label. Size, kind and insulation of the wire.
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).

Outlet boxes shall be the pressed steel knockout type or be cast iron with drilled, tapped and plugged holes and be hot-dipped galvanized or Sherardized. Outlet boxes may also be approved non-metallic type. All boxes shall be of the proper code size for the number of wires or conduits passing through or terminating in that box. Approved factory-made knockout seals shall be used in all boxes where the knockouts are not intact. All outlet boxes shall be accurately placed and securely fastened to the structure independently of the conductor. The plaster rings shall be set flush with the finished surface of the ceiling or wall. The hangers for the light outlets shall have adjustable studs.

When work is completed, the wiring and connections shall be tested for continuity, short circuits and improper ground in accordance with the applicable code requirements.

2500.8 REPLACING GARAGE WIRING

When existing wiring is scheduled to be replaced, it shall be removed back to the first junction box. Then new code approved wiring shall be connected up to the existing switches, fixtures and receptacles.

2500.9 REMOVING GARAGE WIRING

When existing wiring is scheduled to be removed, all fixtures, switches, receptacles, conductors, and accessories shall be removed complete. The service drop shall be removed back to the main panel box.

2500.10 REPLACING BASEMENT OR ATTIC OR CRAWL SPACE WIRING

When existing wiring is scheduled to be replaced, all exposed wiring (wiring not concealed behind finished surfaces) shall be removed back to the panel box. This does not include vertical risers concealed in the walls. Then new Romex shall be installed for all branch circuit wiring in the basement or attic or crawl space. Installation shall be complete including all wiring and accessories.

2500.11 FURNACE OR BOILER WIRING AND DISCONNECT

A readily accessible disconnect switch shall be mounted on the exterior of the furnace or on a surface adjacent to the furnace. Heating equipment which is not readily accessible shall have an additional disconnect installed at the nearest readily accessible location. All electrical wiring shall comply with the National Electrical Code. Only those motors which are an integral part of the heating equipment may be connected to the furnace circuit.

2500.12 DOORBELL PACKAGE

New package shall include doorbell button for main entrance door, wiring, chimes, or bell, and transformer. A mechanical bell is unacceptable.

2500.13 INSTALL NEW/REPLACE/RELOCATE/REMOVE

When an item is scheduled to be installed new, a new fixture, switch or receptacle shall be installed complete with all wiring and accessories.

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

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

When an item is scheduled to be removed, it shall be removed complete, or when the existing outlet box and wiring cannot be removed, a blank cover plate shall be installed.

2500.14 COVER PLATES

New cover plates shall finish flush with drywall, plaster or other finished surface. Color shall match receptacle or switch.

2500.15 CONVENIENCE RECEPTACLES

When receptacles are scheduled to be installed new or replaced, they shall be installed complete with new cover plates. When

all switches and receptacles in a room are new, they shall be off white or ivory color. New convenience receptacles shall be flush duplex receptacles. Receptacles for kitchens, bathrooms and laundry areas, whether replacement or new, shall be 3-wire GFCI type duplex receptacles; receptacles shall be grounded. New receptacles shall be conveniently spaced in each room. New receptacles shall not be located in the baseboard. Bedrooms shall be arc fault protected.

2500.16 BASEBOARD AND FLOOR-MOUNTED RECEPTACLES

These receptacles shall be removed automatically when the unit is being rewired.

2500.17 SWITCHES

When switches are scheduled to be installed new or replaced, they shall be installed complete with new cover plates. When all switches and receptacles in a room are new, they shall be off white or ivory color. New switches shall be flush toggle switches, either single pole, 3-way or 4-way as scheduled. All existing two button push switches shall be replaced.

2500.18 LIGHTING FIXTURES

Each lighting fixture in the unit shall be furnished with a lamp bulb or bulbs of appropriate type and wattage. New lighting fixtures shall bear either the UL or the ETL label.

New exterior fixtures shall be wet location type. Wall and ceiling-mounted fixtures shall be cast aluminum with black satin finish.

New keyless and pull-chain fixtures shall be porcelain. All pull-chain fixtures shall have a single convenience outlet.

Ceiling-mounted fixture for living room shall be 12 inch round glass. Ceiling-mounted fixture for dining room shall be 12 inch round glass. Ceiling-mounted fixture for bedroom shall be 12 inch square glass

Ceiling-mounted fixture for kitchen shall be 10 inch round glass. Wall-mounted fixture for bathroom shall be white glass side wall fixture, two-light style. Ceiling- mounted fixture for bathroom shall be 6 inch round glass. Ceiling-mounted fixture for hallway shall be 6 inch round glass-enclosed fixture.

Ceiling-mounted fixture for stairway shall be 6 inch round glass-enclosed fixture. Fixtures for basement, second floor and attic stairways are to be located directly over the stairway section or at the head or the foot of the stairs.

2500.19 SURFACE-MOUNTED CONDUCTORS

Surface-mounted conductors are unacceptable and shall be, as listed in the Work Schedules, removed complete and new wiring installed.

2500.20 EXHAUST FANS

Replacement fans, whether for kitchens, bathrooms or attics, shall match existing in quality and air delivery.

2700/2800 - PLUMBING

2700.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

2700.2 INTENT

It is the intent of these specifications and the Work Schedules that the following piping systems be placed in a proper and legal operating condition as required by local codes.

Fuel gas piping. Cold
water piping. Hot water
piping. Vent piping.
Drain and waste piping. Sewer
lines.

It is the intent of these specifications and the Work Schedules that the following plumbing fixtures and fittings be placed in a proper and legal operating condition or be replaced with new fixtures and fittings.

Bathtub. Bathtub
fittings.
Shower stall floor drain.
Shower stall fittings.
Toilet. Toilet fittings.
Lavatory.
Lavatory fittings. Kitchen
sink.
Garbage disposal. Kitchen sink
fittings. Laundry tray.
Laundry tray fittings. Automatic
washer standpipe. Water heater.
Sillcocks.

2700.3 GENERAL INSTRUCTIONS

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

All materials, piping, fittings, fixtures, etc. shall conform to the latest A.N.S.I. (American National Standards Institute), A.S.T.M. (American Society for Testing and Materials), C.S. (Commercial Standards) and F.S. (Federal Specifications) standards. All equipment and materials 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.

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

All replacement sewer, water and gas systems shall be installed complete and, if necessary, final connections shall be made to the sewer main, gas meter and 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 excavation and backfill necessary for the installation of new underground piping shall be a part of the work of this section. The trenches shall be run in straight lines with the bottom properly pitched to give support to the piping along its full length. The trenches shall be backfilled evenly and be thoroughly compacted using acceptable fill materials. In no case shall the excavation for the trenches undermine or disturb the stability of the building foundations.

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

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

Fixtures and equipment furnished by others which require plumbing connections to waste, water, vent or gas piping shall be connected up by the contractor.
NOTE: Refer to section 2200 LEAD BASED PAINT for additional requirements when materials to be removed contain lead based paint.

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

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

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

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

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

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-siphonage. Gas lines shall be blown clean with compressed air; all valves and filters shall be checked.

All remaining plumbing fixtures and piping not in use shall be disconnected and removed by the contractor. See also "General Instructions for DEBRIS, section 400.1.

Upon completion of the work, the contractor shall attach consecutively numbered tags to all piping and valves. The contractor shall supply to the owner a chart showing all valve and pipe numbers, their location and controls.

After final inspection the contractor shall fully winterize all plumbing systems. For properties having dry heat systems, the contractor shall drain the water heater and all supply piping and put anti-freeze in all the plumbing fixtures. For properties having wet heat systems, the contractor shall install a "T" and two gate valves in the supply piping dividing the domestic water supply from the heating water supply. The valve on the domestic water side shall have a bleeder screw. The contractor shall drain the water heater and all domestic supply piping and put anti-freeze in all plumbing fixtures.

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

2700.4 NOTE

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. It 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 such piping is 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% grade), unless otherwise approved by local jurisdiction. Lines under slabs shall have as short a run as possible and the runs shall be as straight as possible. Copper piping shall be wrapped with plastic tape where it comes 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 red lead shall be applied smoothly to the male threads and to the threads left exposed after fabrication. Twenty-four inch air cushions shall be provided at the ends of all new water supply piping to absorb shock.

2700.5 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 change, settlement, vibrations and superimposed loads.

2700.6 GATE VALVES

There shall be a readily accessible fullway gate valve on the discharge side of each water meter. There shall also be a fullway gate valve with bleeder screw on the cold water supply to each water heater at or near the water heater.

2700.7 SILCOCKS

Two silcocks shall be provided for each house and be located to provide a source of water for both the front and the rear of the property. The silcocks shall be the frostpoof type or shall have a separate accessible stop and waste valve.

2700.8 WATER SUPPLY (DISTRIBUTION) PIPING NEW HORIZONTAL

RUNS:
New horizontal runs shall include all water supply piping in the basement and/or crawl space plus new gate valves, pressure reducing valve when required by local code, all necessary supply shutoffs, two silcocks and, when laundry facilities are located in the basement, automatic washer supply outlets and laundry tray fittings and rough trim. New piping shall be hard temper Type M copper tubing or galvanized steel. New branch supply piping shall be no less than 1/2 inch.

TOTAL REPIPE:
A total repipe shall include all new horizontal runs and vertical risers plus new gate valves, pressure reducing valve when required by local code, all necessary supply shutoffs, two silcocks, automatic washer supply outlets and, where laundry facilities are existing or to be installed new, laundry tray fittings and rough trim. New piping shall be hard temper Type M copper tubing, PEX or galvanized steel. New branch supply piping shall be no less than 1/2 inch.

2700.9 CONDUCTOR BOOT

New conductor boot shall extend from top piece or hub to horizontal storm drainage piping. Connection to existing piping shall be made watertight using cement mortar, mastic or other approved material. Conductor boot shall be supported at its base to prevent tipping, settlement or frost disturbance. Reanchor downspout.

2700.10 STORM DRAINS

New storm drains shall include conductor boot and horizontal storm drainage piping to code approved outlet. Piping shall be cast iron, vitrified clay, concrete or plastic approved by local jurisdiction. All local ordinances regulating the disposal of storm water, including type of piping, shall be followed.

2700.11 SUMP PUMPS

Discharge line of sump pump shall have an accessible back water valve and gate valve. The connection from the discharge line to any horizontal sanitary drainage piping shall be made from the top through a "wye" branch fitting. Sump shall be watertight and have a gastight metal cover of sufficient strength to withstand normal wear. Sump shall be vented as required by local code.

2700.12 BUILDING SEWER (SIDE SEWER)

All sanitary plumbing outlets shall be connected to combined or sanitary sewer systems when they are available. New building sewer shall be constructed of cast iron, vitrified clay, concrete or plastic approved by local jurisdiction. The sewer shall be constructed with watertight joints, be on a grade of 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 T's or 90-degree ells shall be used. Cleanouts shall be installed as required by code.

2700.13 BELL TRAPS

Missing or defective bell trap covers may be replaced when the bell trap is still operational. However, if the bell trap is broken, a new floor drain, trap and cover shall be installed in its place.

2700.14 FLOOR DRAINS

No floor drain shall be installed in any location or manner which will interfere with its proper functioning. New 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 where required by local code.

2700.15 CLEANOUT COVERS

Cleanout covers shall be sized according to the nominal diameter of the pipes which they serve. All removable cleanouts shall be gas and water tight. Cleanout covers shall be brass.

27-00.16 SOIL AND WASTE PIPING

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 by local jurisdiction. Soil stacks shall rest solidly at the base on masonry piers or heavy iron posts and be supported at intervals of no more than 10 feet by stout wall hangers or brackets or on beams at each floor. No 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 provision is made to protect it from frost.

2700.17 VENT PIPING (SOIL, WASTE AND VENT STACKS)

New vent piping shall be schedule 40 galvanized steel pipe standard black cast iron screwed fittings, DWV copper tubing or plastic approved by local jurisdiction. Vent piping shall extend at least 6 inches above finish 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 inches in diameter. Revent shall tie into the soil stack or waste stack at a point at least 6 inches above the last fixture connection to the stack. No vent piping shall be installed in the exterior of a building. New piping passing through the roof shall be flashed with a not lighter than 26 gauge galvanized iron flashing assembly set in waterproof mastic compound.The flashing shall be caulked around the vent. Flat roof flashing shall be the commercial type with a horizontal leg equal all around the base.

2700.18 ROUTING DRAINS AND BUILDING OR SIDE SEWERS

Drains scheduled to be routed shall be cleaned with a power driven rotary clean-out apparatus similar to the Roto-Rooter device. Cleaning area drains shall include either replacing or recaulking the drainage strainers. Building sewers or 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.

2700.19 FUEL PIPING

New fuel piping shall be black pipe or copper tubing. Pipe shall not be bent and offsets shall be made with fittings. Installation shall comply with all the requirements of the local utility company.

2700.20 NOTE

New plumbing fixtures shall be standard builder's models or equal. 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 the other trades for the installation of any build-in items, blocking or necessary supports. Coordinate installation of plumbing fixtures with flooring contractor. New washers shall be installed in all existing faucets not replaced. New and existing fixtures shall be cleaned of plaster, grease, paint and other foreign materials. Chrome shall be thoroughly polished. Color of new fixtures shall match existing or be white. See package explanations below for further description of the fixtures.

2700.21 WATER HEATERS

Package shall include new glass-lined water heater, type and size as scheduled with “Energy Star” rating and labeled so. Heater shall be installed complete with wiring or fuel piping and draft diverter and vent, as appropriate to type. Hot water heater shall be standard builder's model, or equal, with 5-year warranty. Heater shall be American Gas Association certified or UL listed. It shall

be equipped with a temperature and pressure relief valve and an overflow pipe to within 6 inches of the floor or to location required by local code. Hot water heater shall have white baked enamel finish. New water heater shall comply with latest energy efficiency insulation standards. Fume pipe shall be at least No. 26 U.S. Standard gauge galvanized sheet metal. It shall have a minimum slope of 1/2 inch per foot with no horizontal length of the fume pipe exceeding 75% of the height of the chimney or vent. It shall be supported at intervals of no more than 6 feet. Flue or vent connections shall have a diameter not less than the vent outlet of the heater. The fume pipe shall extend just beyond the fire clay flue lining, but no fume pipe shall be vented into a chimney which is used as a fireplace.

2700.22 GARBAGE DISPOSAL

New garbage disposal shall be 1/2 horsepower, continuous feed type, with manual reset. Shredder shall be stainless steel and hopper shall be corrosion resistant. Disposal shall be installed complete. Mount shall be sound deadening. Modify existing drain piping as necessary to accommodate new appliance.

2700.23 FIXTURE TRIM

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

2700.24 LAUNDRY TRAY PACKAGE

Laundry tray shall be single or double-tub type, as scheduled. Package shall include new one piece fiberglass (reinforced polyester resin) tray with integral soap dish, swing type faucet set, strainer(s) and strainer plug(s), trap and self-leveling legs or pedestal. Capacity of each tub shall be not less than 20 gallons.

2700.25 WALL-MOUNTED LAVATORY PACKAGE

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

2700.26 VANITY LAVATORY PACKAGE

Package shall include new vanity sink base, countertop with backsplash, porcelain enameled steel lavatory, centerset faucets with trip waste, fixture stops and supplies, and trap. Quality of vanity sink base and countertop shall equal that for new kitchen cabinets and countertops.

2700.27 WATER CLOSET PACKAGE

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

2700.28 BATHTUB PACKAGE

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

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

2700.29 SHOWER STALL PACKAGE

Package shall include new fiberglass (reinforced polyester resin) integral shower and wall surround (including base and drain

assembly), fixture supply shutoffs where necessary, diverter with trim and fittings, integral soap dish, and curtain rod. Base shall have slip-resistant surface. Install as per manufacturer's recommendations. Shower stall shall be installed on a smooth concrete or plywood subfloor. Plywood shall be 3/8 inch C-C plugged exterior type plywood underlayment. Provide sufficient backing to support the sides of the pan and provide adequate support for the drain assembly to prevent shifting or or settling. At least one layer of 15# asphalt-saturated felt shall be placed between the subfloor and the shower pan.

2700.30 KITCHEN SINK PACKAGE

Package shall include new 18 gauge stainless steel countertop sink, swing type faucet set with spray attachment and hose, removable cup strainer(s), fixture stops and supplies, and waste with trap. Sink shall have ledge. Entire unit shall be undercoated with sound dampening material. New sink will generally be double compartment sink except that space restrictions may require single compartment sink.

2900 - CLEAN-UP

2900.1 INTENT

The contractor shall be responsible for furnishing all labor, material, equipment, and services necessary for, and incidental to completion of all repairs as listed in the work schedules, or described in the Contractor's Manual. Work items for which a performance standard does not appear in this manual shall be performed by mechanics, skilled in their respective trades, in accordance with the best practices of the trade. All work shall be subject to final inspection. Standards for satisfactory completion shall be determined by: the intent of the contract, all applicable Building Code requirements, the work schedules, and the Contractor's Manual. All work that does not meet the standard for satisfactory completion or inspection shall be repaired or corrected at the contractor's expense.

2900.2 GENERAL INSTRUCTIONS

All units, whether scheduled or not, shall be thoroughly cleaned prior to FINAL INSPECTION. Remove all debris and leave all areas in a neat condition, ready for occupancy.

Clean all concrete slabs, porches and sidewalks of any adhering plaster or concrete globs.

Rake all yards and remove accumulated debris. When applicable, cut grass including weeds at the alley just prior to final inspection.

Place splash blocks in their proper positions. Remove all debris from crawl spaces.
Remove any debris still remaining in the garage and house, including the attic.

Clean those aluminum windows, doors, storms and screens not already cleaned with plain water or a petroleum product such as white gasoline kerosene or distillate. No abrasive cleaning agents shall be used.

Wash all glass, both inside and out, and remove any paint splatters or putty marks remaining on the glass with razor blades. Polish all mirror glass.

Polish all unpainted finish hardware. Remove paint splatters with a razor blade, a nylon scrubbing brush or steel wool.

Clean all electrical lighting fixtures, both on the outside and inside. Thoroughly clean all door chimes.

Carefully remove all dirt and stains from ceramic tile. Remove paint splatters with a razor blade. Difficult-to-remove cement film or grout can be cleaned with TC-50 Ceramic Tile Cleaner and a nylon scrubbing pad or stiff brush. An acid solution shall not be used for washing ceramic tile.

Thoroughly clean and polish all plumbing fixtures. All portions of the toilet bowls shall be scoured clean. Drain the water tank pat, clean the inside surfaces, and wipe the operating mechanism clean.

Clean all laminated plastic surfaces.

Wipe clean all shelving and cabinet work in closets, kitchens and other rooms. Wash down concrete basement floors.

Wash down any walls and ceilings not decorated as part of this contract.

Clean (and trip wax when necessary) all wood and resilient floors and apply a coat of wax. Clean all carpeted floors with a commercial type vacuum cleaner.

Cover the floors in all finished rooms with a heavy non-staining building paper.

If Lead Based Paint was detected on the project Contractor shall arrange for clearance testing with the Risk Assessor. If the

clearance test fails all costs for additional cleaning and testing shall be born by the Contractor.

3000 – APPLIANCES

All new appliances will be “Energy Star” certified.

INDEX

A

ACCESS PANELS 1600.
ACCESSORIES, BATH
CERAMIC 1200.
METAL 1600.
ACCESSORIES, ELECTRICAL 2500.
ACOUSTIC CEILINGS
SUSPENDED PANEL 1600.
TILE 1600.
ALUMINUM SIDING AND TRIM 1100.
Also see NOTE 1100.
ANTENNAS, REMOVING 400.
APRONS, WINDOW 800.
AREAWAYS
CAPPING BASE 500.
ROUTING DRAINS 2700.
ASBESTOS BOARDSIDING 1100.
Also see NOTE 1100.
ASBESTOS SHINGLE SIDING 1100.
Also see NOTE 1100.
ASPHALT ROOFING
NEW, See NOTE 1800.
BUILT-UP 1800.
ROLL 1800.
SHINGLE 1800.
REPAIR, See NOTE 1800.
BUILT-UP 1800.
SHINGLE 1800.
ASPHALT SHINGLE SIDING 1100.
Also see NOTE 1100.
ASPHALT SURFACES
NEW, DRIVEWAYS & APPROACHES 700.
PARKING AREAS 700.
RESURFACING EXISTING 700.
ATTIC WIRING 2500.

B

BACKFILL 200.
BANNISTERS 1600.
BASEBOARD HEATING, ELECTRIC 2300.
BASEMENT WIRING 2500.
BATHROOM
ACCESSORIES, CERAMIC 1200.
METAL 1600.
EXHAUST FANS, NEW 2300.
REPLACEMENT 2500.
LIGHTING FIXTURES 2500.
PLUMBING FIXTURES 2700.
Also see NOTE 2700.
BATHTUBS
NEW 2700.
Also see NOTE 2700.
TUB ENCLOSURES 800.

BELL TRAPS	2700.
BOILERS, HEATING	
CLEANING & ADJUSTING	2300.
CONTROLS/CONTROL PACKAGES	2300.
NEW HEATING UNITS	2300.
REMOVAL	2300.
WIRING & DISCONNECTS	2500.
BRICK - See MASONRY BUILDING	
SEWERS	
NEW	2700.
ROUTING	2700.
BUILD-UP ROOFING-See ASPHALT ROOFING	

C

CABINETS & CABINET WORK	
COUNTERTOPS	1600.
HARDWARE, KITCHEN	1600.
MISCELLANEOUS	1600.
MEDICINE	1600.
NEW KITCHEN, WOOD	1600.
REPAIR	1600.
CARPENTRY	
FINISH WORK & MATERIALS	1600.
ROUGH WORK & MATERIALS	1600.
CARPETING	
CARPET STOPS	1300.
NEW	1300.
SUBFLOORING	1600.
UNDERLAYMENT	1300.
CAST STONE	
CHIMNEY CAPS	500.
GENERAL INSTRUCTIONS	500.
STEPS	500.
CAULKING	
DOORS & WINDOWS	1600.
ROOF	1800.
CEILING FIXTURES, ELECTRICAL	2500.
CEILINGS	
ACOUSTIC, SUSPENDED PANEL	1600.
TILE	1600.
DRYWALL, NEW OR REPAIR	1000.
Also see NOTE	1000.
INSULATION	1600.
PLASTER	2000.
SPRAY TEXTURE FINISH	1000.
STRIPPING INTERIOR	400.
CERAMIC TILE	
BATH ACCESSORIES	1200.
NEW OR REPAIR	1200.
Also see NOTE	1200.
SUBFLOORING	1600.
UNDERLAYMENT	1300.
CHAIN LINK FENCES & GATES	300.
CHIMNEY	
CAPS	500.
CLEANING	2300.

FLUE EXTENSION	500.
REPAIR	500.
CIRCUITS	2500.
CLEAN-OUT COVERS	2700.
CLEAN-UP	
FIREPLACES	500.
GENERAL INSTRUCTIONS	2900.
CLOSETS	
RODS AND SHELVES	1600.
SHELVING	1600.
COLUMNS	
FOOTINGS	500.
ORNAMENTAL METAL	1600.
PIPE STANTIONS	1600.
REBUILDING/NEW MASONRY	500.
WOOD POSTS	1600.
COMPOSITION SIDING	1100.
Also see NOTE	1600.
CONCRETE	
DAMPPROOFING	600.
DECK & FLOOR SLABS, CAPPING	500.
NEW	500.
PATCHING	500.
DRIVEWAYS & APPROACHES, NEW	500.
PATCHING	500.
FOOTINGS, PIER & COLUMN	500.
SKIRT	500.
STANTION OR POST	500.
STEP STRINGER	500.
FOUNDATION WALL	500.
GENERAL INSTRUCTIONS	500.
PARKING AREAS	500.
PIER BLOCK	500.
REPLACE/INSTALL NEW	500.
RETAINING WALL	500.
SIDEWALKS, NEW	500.
PATCHING	500.
STEP PADS	500.
STEPS	500.
STUCCO	500.
WATERPROOFING	600.
WINDOW WELL BASES, CAPPING	500.
CONDUCTOR BOOTS	2700.
CONDUCTORS, REMOVING SURFACE- MOUNTED	2500.
CONDUCTORS & ACCESSORIES, ELECTRICAL	2500.
CONTROLS/CONTROL PACKAGES, HEATING	2300.
CONVENIENCE RECEPTACLES - See RECEPTACLES	
COUNTERTOPS	1600.
COVE BASE	1300.
COVER PLATES, ELECTRICAL	2500.
CRAWL SPACE	
GRADING	200.
LOUVERS OR SCREENED OPENINGS	1600.
WIRING	2500.
VAPOR BARRIERS	1600.

D

DAMPPROOFING	600.
DEBRIS	
GENERAL INSTRUCTIONS	400.
FENCES AND GATES	400.
INTERIOR SURFACES, STRIPPING	400.
PORCHES & FRAME ENCLOSURES	400.
RADIO/TV ANTENNAS	400.
DECKS	
CONCRETE, CAPPING	500.
NEW	500.
PATCHING	500.
DISCONNECT SWITCHES - See SWITCHES	
DOOR BELLS	2500.
DOOR WALLS	
GLAZING	800.
SLIDING SCREEN PANELS	800.
DOORS, EXTERIOR ENTRANCE	
CAULKING OPENINGS	1600.
GENERAL INSTRUCTIONS	800.
Also see NOTE	800.
HARDWARE, LOCKSET	800.
MISCELLANEOUS	800.
JAMBS AND STOPS	800.
REMOVAL, FRAME CONSTRUCTION 1600. SILLS &	
THRESHOLDS, WOOD	800.
THRESHOLDS, METAL	800.
WEATHERSTRIPPING	800.
WOOD EXTERIOR DOORS	800.
WOOD PANEL SERVICE DOORS	800.
WOOD PRE-HUNG	800.
DOORS, INTERIOR	
BI-FOLD DOORS	800.
BI-FOLD DOORS & ASSEMBLY	800.
CARPET OR TILE STOPS	1300.
CHECK, FIT AND FREE	800.
FRENCH DOORS	800.
GENERAL INSTRUCTIONS	800.
Also see NOTE	800.
HARDWARE, MISCELLANEOUS	800.

PASSAGE SET	800.
HOLLOW CORE DOORS	800.
JAMBS AND STOPS	800.
LOUVERED	800.
PANELED WOOD DOORS	800.
SLIDING DOOR & ASSEMBLY, POCKET	800.
SLIDING DOORS	800.
SLIDING DOORS & ASSEMBLY, BY-PASSING	800.
SOLID CORE DOORS	800.
THRESHOLDS, MARBLE	1200.
METAL	1300.
WOOD PRE-HUNG	800.
DOORS, SHOWER STALL	
GLAZING	800.
NEW	800.
DOORS, STORM	
REPAIR	900.
NEW ALUMINUM	900.
Also see NOTE	900.
DOORS, VEHICLE	
GENERAL INSTRUCTIONS	800.
HARDWARE	800.
NEW, METAL	800.
WOOD	800.
REPAIRING/REALIGNING	800.
DOWNSPOUTS - See GUTTERS and DOWNSPOUTS	
DRAINS, CLEANING & ROUTING	2700.
DRIVEWAYS & APPROACHES	
ASPHALT, NEW	700.
RESURFACING	700.
CONCRETE, NEW	500.
PATCHING	500.
EXCAVATION FOR	200.
GRAVEL, NEW	200.
REGRADING	200.
DRYWALL	
NEW	1000.
Also see NOTE	1000.
SPRAY TEXTURE FINISH	1000.
DUCTWORK AND REGISTERS	2300.

E

ELECTRIC	
BASEBOARD HEATING	2300.
WATER HEATERS	2700.
ELECTRICAL	
BASEMENT, ATTIC OR CRAWL SPACE WIRING, REPLACING	2500.
CIRCUITS	2500.
CONDUCTORS & ACCESSORIES	2500.
COVER PLATES	2500.
DOOR BELLS	2500.
EXHAUST FANS	2500.
FURNACE OR BOILER WIRING &	

DISCONNECTS 2500.
GARAGE WIRING, REMOVING 2500.
REPLACING 2500.
GENERAL INSTRUCTIONS 2500.
INSTALL NEW/REPLACE/RELOCATE/
REMOVE 2500.
INTENT OF WORK 2500.
LIGHTING FIXTURES 2500.
RECEPTACLES, BASEBOARD &
FLOOR-MOUNTED 2500.
CONVENIENCE 2500.
REWIRE TOTAL LIVING UNIT 2500.
SERVICE, NEW 2500.
SURFACE-MOUNTED CONDUCTORS 2500.
SWITCHES 2500.
EXCAVATION 200.
EXHAUST FAN
DUCT WORK 2300.
NEW 2300.
REPLACEMENT 2500.
EXTERIOR DOORS-See DOORS, EXTERIOR
ENTRANCE
EXTERIOR PAINTING
AWNINGS, METALWORK, ETC. 2100.
DOORS AND WINDOWS 2100.
GUTTERS & DOWNSPOUTS 2100.
MASONRY & CONCRETE 2100.
PREPARATION 2100.
STEPS & DECKS 2100.
STRUCTURAL STEEL 2100.
STUCCO PLASTER 2100.
TRIM, MILLWORK, SIDING, ETC. 2100.
VEHICLE DOORS 2100.
EXTERIOR WALL FINISHES
ALUMINUM SIDING 1100.
ASBESTOS BOARD SIDING 1100.
ASBESTOS SHINGLE SIDING 1100.
COMPOSITION SIDING 1100.
HARDBOARD LAP SIDING 1100.
MASONRY 500.
STUCCO PLASTER 500.
WOOD CLAPBOARD SIDING 1100.
WOOD SHINGLE & SIDING 1100.
EXTERIOR WOOD TRIM 1600.

F

FENCES & GATES
FENCES, NEW 300.
REPAIR 400.
GATES, NEW 300.
REMOVAL 400.
REPAIR 300.
FIREPLACES, CLEANING &
SCRUBBING 500.
FIXTURE TRIM, PLUMBING 2700.
FIXTURES, LIGHTING 2500.
FIXTURES, PLUMBING 2700.

Also see NOTE	2700.
FLASHING, ROOF	1800.
Also see NOTE	1800.
FLOOR DRAINS	
BELL TRAPS	2700.
NEW	2700.
FOORS	
CARPET OR TILE STOPS	1300.
CARPETING	1300.
CERAMIC TILE	1200.
Also see NOTE	1200.
CONCRETE, CAPPING	500.
NEW	500.
PATCHING	500.
COVE BASE	1300.
HARDWOOD	1600.
INSULATION	1600.
RESILIENT	1300.
Also see NOTE	1300.
SANDING & REFINISHING	1300.
SILLS & THRESHOLDS, WOOD	800.
STAIR EDGING	1300.
SUBFLOORING	1600.
THRESHOLDS, MARBLE	1200.
METAL	1300.
UNDERLAYMENT	1300.
WATERPROOFING	600.
FLUE EXTENSIONS	500.
FOOTINGS	
PIER & COLUMN	500.
SKIRT	500.
STANTION OR POST	500.
STEP PAD	500.
STEP STRINGER	500.
FORCED WARM AIR HEATING	
NEW FORCED-AIR SYSTEMS	2300.
NEW HEATING UNITS	2300.
FOUNDATION WALLS	
BLOCK	500.
CONCRETE	500.
DAMPPROOFING	600.
WATERPROOFING	600.
FRAME ENCLOSURES, REMOVING	400.
FRESH AIR SOURCES	1600.
FUEL PIPING	2700.

FURNACES	
CLEANING AND ADJUSTING	2300.
CONTROLS/CONTROL PACKAGES	2300.
NEW FORCED-AIR SYSTEMS	2300.
NEW HEATING UNITS	2300.
REMOVAL	2300.
WIRING & DISCONNECTS	2500.

G

GARAGE WIRING, REMOVING	2500.
REPLACING	2500.
GARBAGE DISPOSALS	2700.
GAS	
HEATING UNITS	2300.
PIPING	2700.
WATER HEATERS	2700.
GATE VALVES	2700.
GATES - SEE FENCES & GATES	
GENERAL INSTRUCTIONS	
CARPENTRY	1600.
CAST STONE	500.
CLEAN-UP	2900.
CONCRETE	500.
DEBRIS	400.
DOORS & WINDOWS	800.
ELECTRICAL	2500.
HEATING	2300.
MASONRY	500.
PLUMBING	2700.
ROOFING	1800.
GLASS & GLAZING	
SEE GENERAL INSTRUCTIONS	800.
DOOR WALL	800.
SHOWER STALL DOOR & TUB WALL	800.
STORM DOOR	900.
STORM WINDOW	900.
WINDOW & ASSEMBLY	800.
WINDOW SASH	800.
GRADING	
BACKFILL	200.
CRAWL SPACES	200.
EXCAVATION	200.
YARDS	200.
GRAVEL SURFACES, NEW	200.
REGRADING	200.
GUTTERS AND DOWNSPOUTS	
See NOTE	1900.
CLEANING & TIGHTENING	1900.
NEW METAL & WOOD	1900.
SPLASH BLOCKS	1900.

H

HANDRAILS	1600.

HARDBOARD LAP SIDING 1100.
HARDWARE
CABINET, KITCHEN 1600.
MISCELLANEOUS 1600.
DOOR, ENTRANCE LOCKSET 800.
MISCELLANEOUS 800.
PASSAGE SET 800.
VEHICLE 800.
WINDOW 800.
HARDWOOD FLOORS & STAIRS NEW
FLOORING 1600.
REBUILDING STAIRWAYS 1600.
SANDING & REFINISHING 1300.
SUBFLOORING 1600.
HEATING
CLEANING & ADJUSTING UNITS 2300.
CONTROLS/CONTROL PACKAGES 2300.
DUCT WORK & REGISTERS 2300.
ELECTRICAL BASEBOARD 2300.
EXHAUST FANS 2300.
FORCED-AIR SYSTEMS 2300.
FRESH AIR SOURCES 1600.
GENERAL INSTRUCTIONS 2300.
HEATING UNITS, NEW 2300.
REMOVAL INTENT 2300.
OF WORK 2300.
OIL TANKS 2300.
WIRING & DISCONNECTS 2500.
HORIZONTAL WATER SUPPLY PIPING HOT 2700.
ROOFING-See ASPHALT ROOFING HOT WATER
HEATERS 2700.
HOT WATER HEATING, NEW
HEATING UNITS 2300.

I
I-BEAMS 1600.
INSULATION
DUCT 2300.
WALL, CEILING & FLOOR 1600.
INTENT OF WORK
ELECTRICAL 2500.
HEATING 2300.
PLUMBING 2700.
INTERIOR DOORS-See DOORS, INTERIOR INTERIOR
FLOOR FINISHES
CARPETING 1300.
CERAMIC TILE 1200.
HARDWOOD, NEW 1600.
SANDING & REFINISHING 1300.
RESILIENT FLOORING 1300.
INTERIOR PAINTING
DOORS & WINDOWS 2100.
DRYWALL & PLASTER 2100.
MASONRY & CONCRETE 2100.
METALWORK & MISCELLANEOUS

METAL	2100.
PREPARATION	2100.
Also see NOTE	2100.
STAIRS & LANDINGS	1300.
	2100.
STRUCTURAL STEEL	2100.
TRIM, MILLWORK, CABINETS, ETC.	2100.
INTERIOR WALL & CEILING FINISHES	
ACOUSTIC, SUSPENDED PANEL	1600.
TILE	1600.
CERAMIC TILE	1200.
DRYWALL	1000.
PLASTER	2000.
WALLPAPER	2100.
WATERPROOF MATERIAL	1600.
INTERIOR WOOD TRIM	1600.

J

JAMBS & STOPS, EXTERIOR DOOR	800.
INTERIOR DOOR	800.

K

KITCHEN	
CABINETS, METAL	2700.
WOOD	1600.
COUNTERTOPS	1600.
EXHAUST FANS, NEW	2300.
REPLACEMENT	2500.
GARBAGE DISPOSALS	2700.
LIGHTING FIXTURES	2500.
RANGE HOODS, SELF-VENTING	1600.
VENTED	2300.
SINKS	2700.
Also see NOTE	2700.

L

LANDSCAPE	
SODDING LAWNS	200.
SHRUBS, NEW PACKAGE	200.
REMOVAL	200.
TRIMMING	200.
TREES, STUMP REMOVAL	200.
TREE REMOVAL	200.
TRIMMING	200.
LAUNDRY TRAYS	2700.
Also see NOTE	2700.
LAVATORIES	
See NOTE	2700.

VANITY	2700.
WALL-MOUNTED	2700.
LAWNS, SODDING	200.
LEAD BASED PAINT	2200
LIGHTING FIXTURES	
COVER PLATES	2500.
INSTALL NEW/REPLACE/RELOCATE/ REMOVE	2500.
NEW	2500.
LOUVERS & SCREENED OPENINGS	
CRAWL SPACE	1600.
GARAGE	1600.
ROOF	1800.
LUMBER	
BOARD	
1600.	
FINISH	1600.
FRAMING	1600.
PLYWOOD	1600.

M

MARBLE THRESHOLDS	1200.
MASONRY	
CHIMNEY REPAIR	500.
DAMPPROOFING	600.
FIREPLACES, CLEANING &	
SCRUBBING	500.
FLUE EXTENSIONS	500.
FOUNDATION WALL	500.
GENERAL INSTRUCTIONS	500.
PIERS & COLUMNS	500.
PORCHES, NEW 4 X 6	500.
REMOVAL	500.
RETAINING WALL	500.
TUCKPOINTING	500.
WATERPROOFING	600.
MEDICINE CABINETS	1600.
METAL CABINET, SHELF & SINK	2700.
Also see NOTE	2700.
METALWORK, ORNAMENTAL	1600.
MILLWORK	1600.
MORTAR-See GENERAL INSTRUCTION for MASONRY	

N

O

OIL HEATING UNITS	2300.
TANKS 2300.	
OPENINGS	
CAULKING, DOOR & WINDOW	1600.
ROOF	1800.
FLASHING ROOF	1800.

ORNAMENTAL METALWORK	1600.
P	
PAINTING	
PAINT	2100.
PAINTING	2100.
Also see NOTE	2100.
PAINTING OF,	
ASBESTOS SHINGLES	2100.
AWNINGS, METALWORK, ETC.	2100.
DOORS & WINDOWS	2100.
DRYWALL & PLASTER	2100.
GUTTERS & DOWNSPOUTS	2100.
MASONRY & CONCRETE	2100.
STAIRS & LANDINGS	1300. 2100.
STEPS & DECKS	2100.
STRUCTURAL STEEL	2100.
STUCCO PLASTER	2100.
TRIM, MILLWORK, CABINETS, ETC.	2100.
VEHICLE DOORS	2100.
PAINTING PREPARATION,	
EXTERIOR	2100.
INTERIOR	2100.
WALLPAPER	2100.
PARKING AREAS	
ASPHALT	700.
CONCRETE	500.
GRAVEL	200.
PEST CONTROL	100.
PIER BLOCKS	500.
PIERS	
FOOTINGS	500.
REBUILDING/NEW MASONRY	500.
PIPING	
See NOTE	2700.
FUEL	2700.
SOIL AND WASTE	2700.
WATER SERVICE	2700.
WATER SUPPLY	2700.
VENT	2700.
PLASTER	
EXTERIOR STUCCO	500.
INTERIOR	2000.
PLUMBING	
BATHTUBS	2700.
BELL TRAPS	2700.
BUILDING SEWERS (SIDE SEWERS)	2700.
CLEANOUT COVERS	2700.
CONDUCTOR BOOTS	2700.
FIXTURE TRIM	2700.
FIXTURES	2700.
Also see NOTE	2700.
FLOOR DRAINS	2700.
FUEL PIPING	2700.

GARBAGE DISPOSALS	2700.
GATE VALVES	2700.
GENERAL INSTRUCTIONS	2700.
HOT WATER HEATERS	2700.
INTENT OF WORK	2700.
KITCHEN SINKS	2700.
LAVATORIES, VANITY	2700.
WALL-MOUNTED	2700
LAUNDRY TRAYS	2700.
METAL CABINET, SHELF & SINK	2700.
PIPING	2700.
Also see NOTE	2700.
ROUTING DRAINS	2700.
SHOWER STALLS	2700.
SILCOCKS	2700.
SOIL & WASTE PIPING	2700.
STORM DRAINS	2700.
SUMP PUMPS	2700.
VENT PIPING	2700.
WATER CLOSETS	2700.
WATER SERVICE	2700.
WATER SUPPLY PIPING	2700.
PORCHES	
MASONRY, NEW 4 X 6	500.
REMOVAL	500.
WOOD, NEW 4 X 6	1600.
REMOVAL	400.
POSTS	
FOOTINGS	500.
NEW WOOD	1600.

Q

R

RAILINGS	1600.
RANGE HOODS, SELF-VENTING	1600.
VENTED	2300.
RECEPTACLES	
BASEBOARD & FLOOR-MOUNTED	2500.
COVER PLATES	2500.
INSTALL NEW/REPLACE/RELOCATE/ REMOVE	2500.
NEW CONVENIENCE	2500.
REGISTERS	2300.
REPIPE UNIT, SUPPLY PIPING	2700.
RESILIENT FLOORING	
NEW OR REPAIR	1300.
SUBFLOORING	1600.
UNDERLAYMENT	1300.
RETAINING WALLS	
CONCRETE	500.
BLOCK	500.
REWIRE TOTAL LIVING UNIT	2500.
ROOFING	
CAULKING	1800.

FLASHING	1800.
GENERAL INSTRUCTIONS	1800.
LOUVERS	1800.
METAL DECKS	1600.
NEW, See NOTE	1800.
ASPHALT ROLL	1800.
ASPHALT SHINGLE	1800.
BUILT-UP	1800.
WOOD SHINGLE OR SHAKE	1800.
REPAIR, See NOTE	1800.
ASPHALT SHINGLE	1800.
BUILT-UP	1800.
SLATE	1800.
SHEATHING, NEW	1800.
REPAIR	1800.
ROUTING DRAINS	2700.

S

SANDING & REFINISHING	1300.
SASH, WINDOW	800.
Also see GENERAL INSTRUCTIONS	800.
SCREENS	
See STORMS & SCREENS	900.
SLIDING SCREEN PANELS	800.
SEWERS, BUILDING (SIDE)	
NEW	2700.
ROUTING	2700.
SHEATHING	
DECK	1600.
ROOF, NEW	1800.
REPAIR	1800.
WALL	1600.
SHELVING	
CLOSET RODS & SHELVES	1600.
NEW	1600.
SHINGLES	
ASBESTOS SHINGLE SIDING	1100.
ASPHALT ROOFING SHINGLES, NEW	1800.
REPAIR	1800.
ASPHALT SHINGLE SIDING	1100.
WOOD SHINGLE ROOFING	1800.
WOOD SHINGLE SIDING	1100.
SHOWER STALLS	
DOOR & ASSEMBLY	800.
GLAZING	800.
NEW	2700.
Also see NOTE	2700.
SHRUBS	
NEW PACKAGE	200.
REMOVAL	200.
TRIMMING	200.
SIDEWALKS	
EXCAVATION FOR	200.
NEW	500.
PATCHING	500.

SIDING	
See NOTE	1100.
ALUMINUM	1100.
ASBESTOS BOARD	1100.
ASPHALT SHINGLE	1100.
COMPOSITION	1100.
HARDBOARD LAP	1100.
LOUVERS & SCREENED OPENINGS	1600.
WOOD CLAPBOARD	1100.
WOOD SHINGLE & SHAKE	1100.
SILCOCKS	2700.
SILLS, DOOR	800.
SKIRT FOOTINGS	500.
SLABS, DECK & FLOOR	500.
CAPPING	500.
NEW	500.
PATCHING	500.
SLATE ROOFING	1800.
Also see NOTE	1800.
SOIL & WASTE PIPING	
CLEANOUT COVERS	2700.
NEW	2700.
SPLASH BLOCKS	1900.
SPRAY TEXTURE FINISH	1000.
STAIRS & LANDINGS	
EDGING	1300.
HANDRAILS, RAILINGS, ETC.	1600.
REBUILDING WOOD	1600.
SANDING & REFINISHING	1300.
STANTIONS	
FOOTINGS	500.
PIPE COLUMN	1600.
WOOD POST	1600.
STEAM HEATING,	
NEW HEATING UNITS	2300.
STEPS	
CAST STONE	500.
POURED	500.
STEP PADS	500.
STRINGER FOOTINGS	500.
STONE	
CHIMNEY CAPS	500.
GENERAL INSTRUCTIONS	500.
STEPS	500.
STOOLS, WINDOW	800.
STOPS	
DOOR, EXTERIOR	800.
INTERIOR	800.
WINDOW	800.
STORM DOORS-See STORMS & SCREENS STORM DRAINS	
CONDUCTOR BOOTS	2700.
NEW	2700.
STORM WINDOWS-See STORMS & SCREENS STORMS & SCREENS	
See NOTE	900.

DOORS, NEW ALUMINUM	900.
REPAIR	900.
WINDOWS INSERTS	900.
NEW ALUMINUM	900.
STRUCTURAL STEEL	
I-BEAMS	1600.
PIPE STANTIONS	1600.
STUCCO PLASTER	500.
STUD PARTITION REMOVAL	1600.
SUBFLOORING	1600.
Also see UNDERLAYMENT	1300.
SUMP PUMPS	2700.
SUPPLY PIPING, WATER	2700.
SURFACE-MOUNTED CONDUCTORS	2500.
SURFACES, STRIPPING INTERIOR	400.
SUSPENDED PANEL CEILINGS	1600.
SWITCHES	
COVER PLATES	2500.
DISCONNECT, FURNACE OR BOILER	2500.
INSTALL NEW/REPLACE/RELOCATE/ REMOVE	2500.
SINGLE POLE, 3-WAY, ETC.	2500.

T

THRESHOLDS	
CARPET OR TILE STOPS	1200.
MARBLE	1200.
METAL 800.	1300.
WOOD SADDLE	800.
TILE	
ACOUSTIC	1600.
CERAMIC	1200.
Also see NOTE	1200.
RESILIENT	1300.
Also see NOTE	1300.
SUBFLOORING	1600.
SUSPENDED PANEL	1600.
UNDERLAYMENT	1300.
TILE STOPS	1200.
TREES	
STUMP REMOVAL	200.
TREE REMOVAL	200.
TRIMMING	200.
TRIM	
ALUMINUM	1100.
WOOD	1600.
TUB ENCLOSURES	
NEW ASSEMBLY	800.
GLAZING	800.
TUCKPOINTING	500.

U

UNDERLAYMENT	1300.
Also see SUBFLOORING	1600.

V

VAPOR BARRIERS	1600.
VEHICLE DOORS-See DOORS, VEHICLE	
VENT PIPING	2700.
VENTS	
CRAWL SPACE	1600.
GARAGE	1600.
ROOF	1800.
VENTILATING EQUIPMENT DUCT	
WORK	2300.
NEW	2300.
REPLACEMENT	2500.

W

WALLPAPER	2100.
WALLS	
ACCESS PANELS	1600.
CERAMIC TILE	1200.
Also see NOTE	1200.
COVE BASE	1300.
DAMPPROOFING	600.
DRYWALL	1000.
Also see NOTE	1000.
FOUNDATION BLOCK	500.
CONCRETE	500.
INSULATION	1600.
LOUVERS & SCREENED OPENINGS	1600.
MASONRY	500.
PARTITION REMOVAL	1600.
PLASTER	2000.
RETAINING, BLOCK	500.
CONCRETE	500.
SHEATHING	1600.
SIDING	1100.
STRIPPING INTERIOR	400.
STUCCO	500.
WALLPAPER	2100.
WATERPROOF MATERIAL	1600.
WATERPROOFING	600.
WARM AIR HEATING	
NEW FORCED-AIR SYSTEMS	2300.
NEW HEATING UNITS	2300.
WASTE PIPING	2700.
WATER CLOSETS	2700.
Also see NOTE	2700.
WATER HEATERS	2700.
WATER SERVICE	2700.
WATER SUPPLY PIPING	2700.
WATERPROOF MATERIAL	1600.
WATERPROOFING	600.
WEATHERSTRIPPING, DOOR	800.
Also see NOTE	800.
WINDOWS	
CAULKING OPENINGS	1600.

CHECK, FIT & FREE 800.
GENERAL INSTRUCTIONS 800.
HARDWARE 800.
REMOVAL 1600.
REPLACEMENT 800.
SASH 800.
STOPS, STOOLS & APRONS 800.
WINDOWS & ASSEMBLIES 800.
WIRING
ATTIC, BASEMENT OR
CRAWL SPACE 2500.
CONDUCTORS & ACCESSORIES 2500.
FURNACE OR BOILER 2500.
GARAGE, REMOVAL 2500.
REPLACEMENT 2500.
SURFACE-MOUNTED CONDUCTORS 2500.
WOOD CLAPBOARD SIDING 1100.
Also see NOTE 1100.
WOOD FENCES & GATES WOOD 300.
SHINGLES & SHAKES
ROOFING, NEW 1800.
Also see NOTE 1800.
SIDING, NEW OR REPAIR 1100.
Also see NOTE 1100.
WOOD TRIM 1600.

X

Y
YARDS, GRADING 200.

Z