
Contractor's Reference Manual

Developed By

**Neighborhood Conservation Services Division
City of Des Moines, Iowa
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PART I

OVERVIEW OF PROCESSES

AND PROCEDURES

NCS MISSION STATEMENT

The Neighborhood Conservation Services Division in the Community Development Department of the City of Des Moines actively provides housing opportunities for primarily low and moderate-income families and individuals to maintain and expand the housing stock and encourage neighborhood revitalization. The Neighborhood Conservation Services Division strives to implement this program using a friendly, service oriented delivery system that maintains human dignity.

PURPOSE

This manual is intended to describe the various duties and obligations to which you prescribe by being involved in the NCS Housing Rehabilitation Programs. We are glad to have you participate in our programs and we believe this document will enable you to not only understand the basis of the NCS Housing Programs; but also give you a better understanding of the processes of the City of Des Moines and guide you through the construction process. We hope you will find this document useful throughout our processes and suggest you keep it for future reference. This manual will eliminate guesswork in determining what the next steps are as you complete a construction project.

OVERVIEW OF NCS HOUSING CONSTRUCTION PROGRAMS

NCS offers a variety of programs for owner and rental households. Specific guidelines including maximum program allowance and program offerings change annually. Please check with the Rehabilitation Specialist on program specific items

**NCS DIVISION
PRIMARY CONTACT PHONE NUMBERS**

Front Desk (515) 283-4182

Fax Number (515) 237-1687

**NCS DIVISION
STAFF CONTACT PHONE NUMBERS**

Kathy Kahoun - Administrator kmkahoun@dmgov.org	(515) 283-4755
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REQUIRED LEAD HAZARD REDUCTION STRATEGIES

Lead paint is extremely dangerous for both homeowners and contractors. The City is diligent in its enforcement of federal standards for lead paint hazard reduction or lead abatement.

Keep in mind that the required action for lead based paint is based upon the level of federal assistance provided in the project. You, as the contractor, will not have to make this determination; this will be done for you by the NCS Staff.

For work under \$5,000- Do no harm

Safe work practices must be used for all rehabilitation activities to ensure lead paint disturbances are left to a minimum.

For work between \$5,000 and \$25,000- Interim Control or Standard Treatments

For Interim Controls

A Risk Assessor certified by the State of Iowa will perform a Risk Assessment prior to developing a bid document. Interim controls must be performed on the hazard identified by the risk assessment and paint disturbed during the rehabilitation must be repaired. Interim controls include paint stabilization, dust removal preventive maintenance that keeps lead hazards from developing, treating some or all friction and impact surfaces, and covering contaminated bare soil. Unless bare soil has been tested and is found not be lead hazard, soil treatments are required. (24 C.F.R. 35.1330) Bare soil can be covered with appropriate covering such as gravel wood chips, sod or permanent covering material.

For Standard Treatments

Standard treatments must be carried out for the entire unit. Standard treatments include:

- Paint stabilization.
- Smooth and clean-able horizontal surfaces.
- Correction of dust generating conditions.
- Treatment of bare soil.

Workers performing interim controls and standard treatments must be certified in Lead Safe Work Practices or supervised by a contractor trained in lead safe work practices. All units must pass a clearance test before final payment is made.

For work over \$25,000 – Interior Hazard Abatement and Exterior Stabilization

Surfaces painted with lead based paint that are disturbed during rehabilitation and hazards identified by the risk assessment all must be abated. Abatement includes removing lead based paint from surfaces, enclosure methods, removing and replacing components painted with lead based paint and removing and replacing contaminated soil. Abatement methods are considered permanent if they last 20 years. Interim controls may be performed on exterior surfaces if those surfaces are not undergoing rehabilitation.

For Lead Based Paint Abatement

If presuming the presence of lead based paints and hazards, the surfaces being disturbed during rehabilitation and all applicable surfaces- (deteriorated, friction, impact and accessible, and chewable) surfaces and bare soil surfaces must be abated. *All units must pass a clearance test before final payment is made.*

QUALIFICATIONS OF PERSONNEL TO PERFORM LEAD REDUCTION WORK

1. Qualification for Safe Work Practices

There are no specific qualifications for safe work practices. However, the following are useful general courses for all workers who want to work safely with lead.

- Remodeler's and Renovator's Lead Based Paint Training Program developed by HUD and the National Association for the Remodeling Industry.
- "Work Smart, Work Wet, and Work Clean"- Iowa Department of Public Health. The City of Des Moines also presents this same course.

Please contact the Iowa Department of Public Health for the next Lead Worker Training Course. (515) 242-6340

2. Qualifications to Perform Interim Controls or Standard Treatments

A person performing Interim Controls must be 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 one of the following courses:

- An accredited lead based paint abatement supervisor course;
- An accredited lead based paint worker course;
- The lead based paint course "Work Smart, Work Wet, and Work Clean";
- The Remodelers and Renovator Lead Based Paint Training Program prepared by HUD and the National Association of the Remodeling Industry;
- A similar course recognized by HUD and EPA.

3. Qualifications for Abatement Contractors

Abatement contractors must employ:

- Trained and state certified abatement supervisor and;
- Workers who have successfully completed accredited lead abatement worker training.

PROCEDURAL STEPS FOR ALL REHABILITATION PROJECTS

Note: This procedure is applicable to homeowner initiated projects. For developer initiated projects, or other “high profile” projects, other and/or additional procedures may be applied.

- Bid packet is given to the homeowner by the NCS Inspector. *The bid packet may include a Lead Hazard Evaluation or Risk Assessment with specifications of work for Lead Reduction Activities.*
- Owner contacts the contractors of their choice.
- Contractor completes bid packet given to him/her by the homeowner. *Please ensure that if lead hazard reduction is required, this work is included in the bid.*
- Contractor returns bid to the owner and discuss his/her bid with them.
- The owner gives the accepted bid to the NCS Inspector. If the owner has signed the bid packet, the contractor may deliver to the NCS inspector.
- When the cost reasonableness review is completed, the bid is accepted, and all necessary paperwork is prepared, the owner and the contractor sign the construction contract.
- When work is completed, **owner** contacts the NCS Inspector to request a final inspection.
- *NCS Inspector will provide notification to lead consultant for clearance testing (if lead reduction activities are completed).*
- *Clearance test will be completed, and results of pass/fail given to NCS Inspector.*
- NCS Inspector reviews work, conducts inspection, and approves draw request. **All draw requests must be submitted to the NCS Inspector by Wednesday the week before the payment is to be issued. If the project is classified as minor or a lump sum bid, the approved signed bid shall serve as the documentation of work completed for payment. All work must pass a clearance examination before Final payment is made.**
- Inspector contacts the contractor when the check is ready to be picked up on the appropriate Friday afternoon.
- Contractor submits all lien waivers and signs receipt documents for all final payments. If a final payment is requested, a statement of account will also be signed.
- Project is Completed.

GENERAL INFORMATION AND MISCELLANEOUS PROCEDURES

1. Lead Hazard Reduction

All work performed on lead containing surfaces must conform to lead-safe practices and be completed by workers who are either supervised by an EPA-certified abatement supervisor or be performed by workers trained in lead-safe work practices. If abatement options are specified in the work write-up, the contractor must hire an EPA-certified and state-licensed abatement contractor and submit proof of their current state license.

2. Contractor Selection Process

The NCS Inspector will prepare a computer generated work write-up that will be provided to the homeowner as part of a bid package. Bids on rehabilitation projects will be requested from contractors upon invitation from the owner.

The bid package will include a list of contractors who have expressed an interest in bidding such projects, have performed acceptable work and have a current certificate of insurance on file. It is the homeowner's responsibility to contact contractors of their choice, either from the contractors' list or from any other source, and to negotiate a bid for the work necessary to correct the items on the deficiency list.

3. Insurance Requirements

To participate in Our Program, General Contractors must provide a Certificate of Insurance from his/her insurance carrier, with an absolute minimum cancellation provision of ten days, certifying the insured is the General Contracting firm, which has insurance in force with at least the following types and amounts of coverage (as of 1-1-09, subject to change):

<u>Class of Coverage</u>	<u>Bodily Injury</u>	<u>Property Damage</u>
<u>General Liability</u>		
<ul style="list-style-type: none"> • Manufacturer's & Contractors (Including coverage for SCU hazards) • Independent Contractors • Products incl Completed Operations • Hold Harmless (Contractual) 	\$2,000,000 aggregate \$2,000,000 aggregate	\$2,000,000 aggregate \$2,000,000 aggregate
<ul style="list-style-type: none"> • Auto - owned, hired or leased 	\$1,000,000 aggregate	combined, single limit.
<ul style="list-style-type: none"> • Worker's Compensation 	\$100,000 each accident \$100,000 each employee- disease \$500,000 policy limit- disease	

For Minor Owner Occupied Rehabilitation projects, the coverage amounts may be reduced.

The Certificate of Insurance must be presented to this office and *approved prior* to any contract award.

4. Contract Documents

- Work Write-Up - This report is prepared by the NCS Inspector who inspected the property. It identifies mandatory work items that must be included in the General Contractor's proposal as well as other Homeowner requested improvements. The work write-up will include:
 - a. Housing Quality Standards Violation
 - b. *Lead Hazard Reduction Items*
 - c. Energy Conservation/Cost Effective Energy Conservation Standards
 - d. Incipient Violations
 - e. General Property Improvements
- Bid Proposal Form - Complete this form showing both the itemized and the total bid price for the work. The NCS Inspector will review the Bid Proposals.
- Program Rehab Standards - All work must conform to the program's minimum Property Rehabilitation Standards which are available from the NCS Division. The contractor's workmanship and performance are subject to evaluation and acceptance by both the Homeowner and the NCS Inspector. Failure to maintain an acceptable performance level will result in disbarment from future City of Des Moines rehabilitation work.

- Rehabilitation Contract - Once the bid has been approved by the homeowner and the NCS Rehabilitation inspector, the contract will be prepared. The contract is between the Homeowner and the General Contractor and will be executed by both the Homeowner and the General Contractor, and witnessed by the NCS staff at a pre-construction conference. This conference will permit the Homeowner, General Contractor and NCS Inspector to review the work write-up and contract documents.

5. Relocation and Site Protection

All contracts that involve extensive lead hazard reduction may also require relocation of the occupants and their belongings. Once the structure is turned over to the control of the contractor, the contractor shall remain fully responsible for all security on a 24 hour basis and is encouraged to supplement the existing security as is prudent and reasonable. While working vacant structures is more efficient, the relocation carries significant daily cost. The contractor must therefore use his utmost effort to complete the lead hazard reduction activities as indicated by a successful clearance examination within the allocated time period.

6. Order to Proceed

The Order to Proceed is issued by the Homeowner and authorizes the General Contractor to begin work. The form also indicates when work is to start and when it is to be completed.

7. Permits

The General Contractor is responsible for obtaining a) all required permits prior to starting construction and b) any required Building Department inspection sign-off's during the rehabilitation.

8. Payment Procedures

Payment procedures are always stipulated in the contract.

All draw requests must be submitted to the NCS Inspector by Wednesday the week *before the payment is to be issued. If project is classified as minor or a lump sum bid, the approved signed bid shall serve as the documentation of work completed for payment. All lead hazard reduction work must pass a clearance examination before Final payment is made.*

Prior to any payment authorization, The NCS Inspector will collect lien waivers or paid receipts from the General Contractor and all subcontractors and/or suppliers furnishing material for the items on the job of which payment is requested. The NCS Division will not provide “advance” money.

9. Clearance Examinations

In all jobs with a lead hazard reduction scope of work the general contractor is responsible for cleaning the work sites to a level below the thresholds of **40 µg/sf on floors; 250 µg/sf on interior sills and 400 µg/sf on exterior wells or troughs.** The general contractor is responsible for all additional cleaning operations required to attain the mandated clearance thresholds as well as any additional cost assessed by the clearance technician for repeated dust and laboratory fees.

10. Warranty

The Warranty provides an outline of the General Contractor’s obligations under the twelve-month warranty for both workmanship and materials completed under the contract.

11. Resolving Disputes

The Construction Contract is between the Homeowner and the General Contractor. NCS staff will clarify misunderstandings and negotiate disputes between the Homeowner and the General Contractor. If a problem cannot be resolved in the field, the legal remedies are stipulated in the contract.

12. Disbarment

If the contractor fails to comply with the program requirements, or in the judgment of the NCS Division does not perform satisfactory work, he/she will be disqualified from the program and unable to secure a Construction Contract. The reasons for disqualification include, but are not limited to:

1. Failure to perform work in a workmanlike manner.
2. Failure to conduct business practices in a professional manner.
3. Failure to complete a contract or failure to make every attempt to fulfill the contractual obligations.
4. Failure to adhere to an established time schedule for work

completion.

5. Failure to honor a bid.
6. Failure to maintain a professional working relationship with the client and NCS Staff.
7. Failure to comply with all the requirements of the Construction Contract and related documents.
8. Discrimination against, or denial of employment to, any individual in the performance of any rehabilitation contract on the grounds of race, color, national origin, age, sex, handicap, belief or political affiliation, in violation of Title V and VII of the Civil Rights Act (A2 USC 2000d) and the Age Discrimination in Employment Act (29 USC 794).
9. Collusion between the homeowner, contractor or other party involving kickback or any other mutual effort to fix a bid in violation of the Copeland Anti-Kickback Act (18 USC 874 as supplemented by 29 CFR. Part 3).

13. Equal Opportunities

The contractor shall take affirmative action to ensure that employees and applicants for employment are treated without regard to their race, color, religion, sex, national origin, age, or disability. Such action shall include but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor also agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth provisions of this non-discrimination clause.

All solicitations or advertisements for employees placed by or on behalf of the contractor must state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, age, or disability.

The contractor shall comply with the provisions of Federal Executive Order 11246 of 1965 as amended by Federal Executive Order 11375 of 1967 and the Equal Employment Opportunity Act of 1972. The contractor may be requested to furnish information and reports requested by the City of Des Moines or the U.S. Department of Housing and Urban Development to ascertain compliance with such rules, regulations or requests, or with this non-discrimination clause.

14. Conflict of Interest

In order to avoid personal conflict of interest in awarding contracts or making purchases of property or service under this program:

1. No contract or procurement will be made with any organization in which any person in an administrative capacity may benefit unless specifically authorized by the Board of Directors in conformity with applicable federal, state and local laws.
2. No contract or procurement will be made to any organization in which an immediate family member of a person in an administrative capacity with the City of Des Moines unless authorized in writing.
3. No employee shall solicit or accept gratuities, favors or anything of monetary value from contractors, providers or potential sub-contractors.

15. Office Visits

Office hours are generally 7:30 a.m. to 5:00 p.m. Monday through Friday, Please contact the NCS staff to schedule an appointment.

**BASIC PROCEDURES TO BE PLACED ON THE
APPROVED CONTRACTOR LIST**

To be eligible for participation in the NCS Housing Construction Programs, a General Contractor must:

- Submit a Contractor's Certification Form which provides information regarding company structure, financial ability to undertake a project, name of insurance carrier(s) for General Liability, Auto and Workers Compensation coverages, names of principle suppliers/subcontractors, work specialties, and work references.
- Possess appropriate "tools of the trade" which include basic contracting tools, and vehicle for transporting materials, tools and accessing the property.
- Have an acceptable past performance record.
- Be certified in an 8-hour lead safe work practices class.

Part II

Material and Workmanship

Performance Standards

PREFACE

This document has been developed to serve as an explanation of methods and materials to be used in the construction of residential dwellings. This document is based on the combined criteria of various sources; the state, national, and the international model codes, and the ordinances regulations and other requirements, all as adopted, or established, by the City of Des Moines, Iowa, and where stated, the specifications and standards developed by the various manufacturers and trade organizations in the industry. This document may also be referred to as “standard specifications”.

It is intended that the Guide be maintained by amending it periodically. Every attempt will be made to notify participants in the construction programs regarding any future changes. However, the City of Des Moines reserves the right to make revisions without guarantee of timely notification.

In the event there are issues of doubt or disagreement regarding materials or methods utilized in construction projects, the appropriate City staff, with the support of the applicable City Department, will rely on the Guide and on the applicable codes adopted by the City in making a determination. The decision of the City will be final.

Any exemptions, alternate methods of construction, variations, and/or deviations from the requirements of these Standards shall require prior approval in writing from the Community Development Director of the City of Des Moines. This approval will only be made when it is clearly evident that the materials and methods to be used meet or exceed the minimum requirements of these Standards and all applicable codes.

All work shall meet or exceed the following codes, standards, and ordinances, as adopted by the City of Des Moines, Iowa:

Current International Building Code

Current Uniform Plumbing Code

Current Uniform Mechanical Code

Current National Electrical Code

Current Uniform Housing Code

Current City of Des Moines Zoning Ordinance

Current City of Des Moines Building Regulations, Chapter 26

SECTION I

ADMINISTRATION

REQUIRED PERMITS AND INSPECTION PROCEDURES

Permits

Permits are required and shall be obtained by the Contractor from the Permit and Development Center for all improvement projects involving construction, alteration, addition, demolition, and grading. Building, plumbing, mechanical, electrical, demolition, grading, public works, and other permits, when applicable, are required for all construction as stated by the applicable Codes and the City of Des Moines.

- a. On all construction projects, all required permits shall be obtained by the Contractor prior to construction, and shall be paid using cash, a check or a credit card.
- b. All electrical, mechanical and plumbing contractors shall be licensed by the City of Des Moines, and shall obtain their respective permits prior to beginning any construction activities.

Building Code Inspections

Building Code inspections of projects in progress and upon project completion shall be performed by the Community Development Department pursuant to Chapter 26 of the City of Des Moines Building Regulations. Said inspections must be requested from the Permit and Development Center by telephoning 283-4200, 24 hours prior to the scheduled inspection. Inspections are required for all work performed. Work performed without the required permits and inspections will be subject to the provisions of Chapter 26 and possible non-acceptance by the City. The Contractor will assure that the necessary inspections are requested and performed. The NCS Inspector shall follow up as necessary.

Pre-Payment Inspections

Pre-payment inspections shall be performed by the NCS Inspector prior to the issuance of any partial progress payment. Approval is required by the NCS Inspector and the property Owner. The NCS Inspector shall not approve a payment to the Contractor for unauthorized work, or for work that is not, or may not be, acceptable. If any work is not acceptable, the NCS Inspector shall obtain the necessary advice and support from the Supervisor and/or other applicable City staff prior to making a decision to approve payment.

Pre-Paint Inspections

Pre-paint inspections shall be performed by the NCS Inspector upon completion of the preparation phase of work, and prior to the application of any paint, varnish or stain to any interior or exterior surface.

Pre-Final Inspections

Pre-final inspections shall be performed by the NCS Inspector when the project is near completion for the purpose of providing a correction list (punch list) for the Contractor. The NCS Inspector shall obtain a correction list from the Owner and shall determine if the corrections are appropriate. Based on that determination, the NCS Inspector shall add those corrections to his punch list to deliver to the Contractor. The Inspector shall be the sole arbitrator of what corrections are appropriate to include in the punch list.

Final Job Inspections

Final inspections shall be performed by the NCS Inspector after all construction is completed and the building is ready for occupancy. The NCS Inspector shall confirm that all Building Code inspection approvals are completed and finalized by the Community Development Department for all work performed under permit(s) prior to acceptance and approval of the project completion payment.

PRECEDENCE OF DOCUMENTS

In the event of discrepancies between documents the following precedence shall be in effect:

1. Adopted Codes shall take precedence over any approved plans relating to the project.
2. Any approved plans relating to the Project shall take precedence to the Scope of Work (as outlined in the contract by Owner and Contractor).
3. Scope of Work shall take precedence over the Standard Specifications.
4. Standard Specifications shall take precedence over any verbal agreements by any parties.

SECTION II

CONTRACTOR AND OWNER RESPONSIBILITIES

A. CONTRACTOR COMPLIANCE STANDARDS

1. The Contractor Is Defined as

a) The construction company and its owner(s) and agents performing the project under an executed Contract in the company's name, and b) the state registered building contractor and authorized agent who has signed and executed the project Contract Documents. The Contractor shall perform all work described in the Scope of Work (line item specifications) and plans, in accordance with the provisions of all the Contract Documents and this document. The Contractor shall perform as a construction manager, maintaining continuous contact with the Owner and the NCS Inspector regarding the project status and any problems. The Contractor shall solve minor problems with the assistance of the Owner when the task and the solution is normal and implied in the Contract, without relying on the NCS Inspector.

2. Workmanship Standards (A Quality Goal)

All work shall be performed to the standards required by the City of Des Moines. The commonly accepted standards set by the construction industry and the construction trades are used here only as a basis for establishing the minimum standards to be utilized and enforced by the City. Quality of appearance and durable utility, being the direct result of quality workmanship, shall be the goal of the NCS Housing Construction Programs and the Contractors participating in the Programs. Achievement of quality workmanship shall become a goal accomplished by applying standards of excellence which exceed the commonly accepted minimum standards. The quality of workmanship performed by the Contractor shall be scrutinized prior to acceptance by the City. The decision of the City will be final.

3. Material Standards

All material shall be new, recently purchased, and in excellent condition. Only the material specified shall be the material which is used, and only the brand specified shall be the brand used, unless "or equal" is specified. The Contractor shall obtain approval for "equals" from the appropriate City staff and Owner prior to purchasing and installing the equivalent material.

B. CONTRACTOR PERFORMANCE RESPONSIBILITIES

1. Contractor Responsibilities

Include but are not limited to: supervision, technical personnel, labor, materials, machinery, tools, equipment, fixtures, and services including transportation services; and to ensure that all required work is performed in an efficient and workmanlike manner. The Contractor shall perform all the construction and rehabilitation work as described in the Scope of Work (Line Item Specifications) and plans, and in accordance with the provisions of all the Contract Documents and the Guide.

2. The Contractor Shall Maintain a Reasonably Clean and Orderly Project Site

The Contractor shall maintain a clean and orderly project site during the course of the work on a daily basis, subject to inspection by the NCS Inspector. Materials and equipment that have been removed and replaced as part of the work shall belong to the Contractor, unless otherwise agreed by the Owner and Contractor at the time of the Pre-construction Conference. The Contractor shall remove all construction materials and debris and shall leave the property in “broom clean” condition upon project completion.

3. The Contractor Shall Be Responsible

The Contractor shall be responsible for determining that all plumbing and electrical fixtures, switches and receptacles, which were part of the Scope of Work, are in proper working order upon completion of the construction.

4. The Permit Card, Scope of Work and Plans

The permit card, scope of work and building plan shall be posted and maintained by the Contractor at the job site at all times for the purposes of viewing by City staff.

5. Damages Caused by Encroachment

The Contractor is responsible for damages caused by encroachment on adjacent properties or on regulated setback areas. Damage caused by encroachment shall be corrected by the Contractor at no cost to the Owner or the City of Des Moines.

6. Protection of Existing Utilities and Structures

The Contractor shall provide protection of existing utilities and structures during the period of construction, unless otherwise indicated on the plans or Scope of Work. Utilities include all water, gas and sewer lines, lighting, power or telephone conduits and wires, house connections in place, and other surface and subsurface structures or lines. If in the performance of the work, the Contractor disturbs, disconnects, or damages any of the above, all expenses of whatever nature arising from such disturbance, or in

replacing or repair thereof, shall be paid by the Contractor. The Contractor is required to provide notification to all utilities for utility locate purposes.

7. The Contractor Shall Set Required Grades

The Contractor shall set required grades by a registered engineer or land surveyor prior to commencement of any concrete work adjoining a public right-of-way, including, but not be limited to, drive approaches, walks, sidewalks, and other slabs as applicable.

8. The Contractor Shall Set Required Property Corners

The Contractor shall set required property corners by a registered land surveyor for all new construction and additions.

9. Reconstruct (Housing Replacement) Projects

For reconstruct projects, the Contractor shall coordinate all utility service installation and scheduling. All service installation locations shall be as close as possible (least costly) to the original service locations. The Contractor shall pay the cost for any relocation and rerouting of gas and electric services caused by the Contractor's negligence. Prior to approval for disbursement of the project completion payment, the Contractor shall provide fully operational utility hookup, including electric, gas, water and sewer service, ready for inspection testing and transfer to Owner.

10. The Contractor to Provide Temporary Utilities

The Contractor shall provide electric service at the Contractor's own expense on reconstruct (housing replacement) projects.

C. OWNER RESPONSIBILITIES

1. Decisions and Choices About Problems

The Owner shall make decisions and choices with the assistance of the Contractor regarding minor problems, general progress of the project and those items which require choice of color (and style, if applicable); and with the assistance of the NCS Inspector regarding major problems and general progress of the project. The Owner shall authorize all payments to the Contractor, and shall submit said authorization through the NCS Inspector to the City for processing. The Owner shall cooperate with the Contractor in a manner that will allow the work to progress as rapidly as possible. The Owner shall realize that construction is not restoration, and that the Contractor will complete the project in a workman-like manner.

2. The Use of Utilities

For owner-occupied construction projects, the existing house utility services may be made available to the Contractor if the Owner agrees, including electric power, gas, heat, water, and telephone (local calls only). Determination of responsibility to provide utility services shall be made at the pre-construction conference.

3. Owner to Cooperate with the Contractor

When the Owner is to continue to occupy the premises during the construction, the Owner shall cooperate with the Contractor in a reasonable manner to facilitate performance of the work, including abandonment of certain areas as may be essential to the conduct of the work, and moving or removing personal possessions which will interfere with the work.

SECTION III

CONTRACT REQUIREMENTS

A. SCOPE OF WORK (LINE ITEM SPECIFICATIONS)

1. The Scope of Work

shall consist of Line Item Specifications that describe all the work to be performed in accordance with the standard specifications of this document, and shall include all of the following:

- a. The Line Item Number shall be inserted to identify the Line Item.
- b. The Line Item Description (Short Title) shall be inserted. The Item Description shall be preceded by the (most commonly used) action word, install, replace, or repair, or other definitive action word, such as, remove, or construct, or by word combinations, such as, demolish and clear, or excavate and fill, as defined herein.

Additional detailed description may be included in the Line Item Description when the nature of the Line Item is such that a special description or additional specification is necessary to clarify the intended action.

- c. The Line Item Quantity shall be inserted for each location, or group of locations, of the Line Item. The appropriate Unit of Measure and Quantity shall be used and inserted.
- d. The Line Item Location(s) shall be inserted as a single location or group of locations.
- e. The Brand and Model and/or homeowner allowance may be inserted when applicable.

NOTE: It is intended that the Scope of Work shall describe the exact items that are going to be installed, replaced, and/or repaired. The sole intent of the standards in this document is to clearly describe the methods in which they will be installed, replaced and/or repaired, and what end results are to be expected.

2. Definition of Contract Words and Phrases

shall be as follows:

- a. **Install** means: Install the Selected Line Item at the Selected Location, finished and complete, including removal of the existing units from the work site if being replaced, all modification, materials and work at and in the vicinity of the Selected Location, leaving the Item fully operational, all in accordance with this document.

- b. **Reinstall/Rehang/Relocate** means: Remove the Selected (existing) Line Item, perform corrective repairs to the Item, and in the manner described under “Repair” and reinstall the Item at either the Selected; a) original Location (for Reinstall/Re-hang), or b) new Location (for Relocate), finished and complete, including removal of existing units, all modification, materials and work at and in the vicinity of the selected Location, leaving the Item fully operational, all in accordance with this document.
- c. **Construct/Re-construct/Frame/Reframe** means: Construct, Reconstruct or Frame/Reframe the Selected Line Item at the Selected Location, using standard construction practices of the trade, finished and complete, including removal of existing units, all modification, materials and work at and in the vicinity of the Location, leaving the Item fully operational, all in accordance with this document.
- d. **Replace** means: Remove the Selected (existing) Line Item and Install the Selected (replacement) Line Item at either the Selected; a) original Location, or b) new (relocated) Location, finished and complete, including removal of existing units, all modification, materials and work at and in the vicinity of the Location, leaving the Item fully operational, all in accordance with this document.
- e. **Repair** means: repair the Selected (existing) Line Item at the Selected Location, complete, including all necessary and required replacement parts, work and materials at the Location, leaving the Item fully operational, all in accordance with this document.
- f. **Secure** means: Use a means to tighten and/or secure the Selected (existing) Line Item at the Selected Location, including all necessary and required work and materials at the Location, leaving the Item fully secure, all in accordance with this document.
- g. **Remove/Strip** means: Remove and legally dispose of the Selected (existing) Line Item at the Selected Location, and either a) cap/plug/close/cover/seal the Location (to abandon), or b) proceed as described by another Line Item (to remove and replace item), all in accordance with this document.
- h. **Demolish** means: Remove and legally dispose of the Selected (existing) Line Item at the Selected Location, complete, including all components and all related, attached or detached, structures, services and appurtenances, all in accordance with this document.

- i. **Scope of Work** means: all the work described by the Line Item Specifications as listed for a specific job and as described under Scope of Work (see A. I. Above), all in accordance with this document.
- j. **Line Item Specification** means: A work item specification which shall be performed in accordance with definition of Scope of Work, and in accordance with this document.
- k. **Guide** means: “A Guide to Rehabilitation Standards: Standard Specifications”. Acceptable phrases are: Standard Specifications, Rehabilitation Standards, Rehabilitation Guide, and this document as used herein.

3. Standard Detail Drawings

shall be considered as a part of the Scope of Work. The Contractor may deviate from the drawings subject to prior approval by the appropriate City staff. The Standard Drawings are referenced in various sections of the Guide and are listed in the Appendix.

4. Standard Installations

Each of the following item groups shall always include installation of all items described in each group:

- a. Medicine Cabinet (in wall or surface-mounted) or Full Mirror shall be provided when rehabilitating a complete bathroom, when building a new bathroom, or when installing a new vanity.
- b. All Doors and Trim shall always utilize 100 percent Acrylic Enamel at all surface locations.
- c. Wood Window Stools shall be provided for all new window installations. Any installation other than wood stools shall be in writing as part of the Scope of Work, part of a written change Order, or have prior written approval by the NCS Inspector.
- d. Shower Curtain Rods shall be installed when installing a new tub/shower combination and/or shower stalls.
- e. Blocking (for support of surface mounted units) shall be provided for securing curtain rods when installing complete interior or exterior coverings and for new window installations with reframing. Also, blocking shall be provided for securing new grab bars for handicap equipment at bathrooms.

SECTION IV

DEMOLITION, EXCAVATION AND GRADING

A. DEMOLITION, SITE CLEARANCE AND GRADING (Reconstruct)

1. Performance of Demolition, Site Clearance and Grading

shall include demolition, and the legal removal and disposal of all structure(s) and/or all other as specified in the Line Item(s) of the Contract including all related and unrelated, attached and detached, surface and subsurface structural systems, materials, fixtures and utility systems; all pavement and concrete slabs, poles, posts, and all other improvements, including all related and unrelated as just described; all surface and subsurface trash and debris to 18 inches below grade; all specified trees and all stumps, shrubs and vegetation including grubbing all roots to 18 inches below grade; and providing imported and compacted fill at basements and at the building. The Remaining Surface of the Site shall be uniformly graded to provide proper surface drainage away from the building and building pad, and shall be wetted and rolled, leaving all surfaces clear and uniformly smooth.

2. The Building Pad Is Defined as

all that area below the new building(s) including a 5 foot wide area, adjacent to and entirely around the outside perimeter of the new building(s).

3. Dust Control

shall be provided by the Contractor, and shall be conducted in accordance with the building code and municipal ordinance.

4. The Contractor Shall Obtain All Required Permits and Clearances

prior to commencing any demolition work.

5. The Contractor Shall Clearly Understand

that it is the Contractor's responsibility to ascertain the existence and application of all regulations pertaining to all aspects of demolition work prior to commencing any work, and to comply with, and perform all work in accordance with all regulations pertaining hereto during the course of all work.

B. EXCAVATION, FILL AND GRADING

1. Under Normal Soil Conditions

the Contractor shall employ standard practices in compliance with all applicable requirements of the City regarding excavation, trenching, back filling and basement filling. All areas of soil disturbance, cuts, fills and building pads shall be properly prepared, and all back fills and imported fills shall be properly installed utilizing approved compaction methods as required by the City. The cost for all known and expected work shall be included in the Contractor's total bid price.

- 2. Special Soil Conditions at Structure Pads** including unforeseen debris pits and locations of saturated and unstable soil (usually over hardpan) may require major excavation, disposal, the importing of clean material, compaction and testing prior to allowing concrete pours or any type of structural work. The cost for special unforeseen work may be considered as extra, if so approved by the NCS Administration .

- 3. Locating and Protection of Utilities and Services** shall be the responsibility of the Contractor. Any damage to utilities shall be immediately repaired by the Contractor, at the Contractor's expense.

4. Excess Soil

shall be disposed of by the Contractor, or may be spread uniformly on the site as directed by City staff.

SECTION V

CONCRETE

A. GENERAL

1. **Defective Concrete Installed by the Contractor**

shall be removed and replaced at no additional expense to the Owner under any of the following conditions:

- a. Surface does not allow drainage.
- b. Incorrect forming, causing improper thickness and irregular appearances.
- c. Material contains foreign debris.
- d. Poor workmanship and poor appearance.
- e. Not in accordance with the plans, specifications or code.

2. **Sub-grade Preparation, Building Slabs and Footings**

All sod or other debris shall be removed to clean earth, and a minimum of 4-inches of clean fine earth or sand shall be placed as a base for all slab and footing work. The base shall be compacted and wetted before pouring any concrete. Place monolithic 3½ -inches minimum thick concrete slab and concrete footing. Cold weather placement of concrete should be conducted in accordance with cold weather concrete policy.

3. **Driveways, Parking Pads and Walkways**

shall be placed on a finished grade in order to provide drainage off of and away from the surface and shall be a full 3½-inches thick, steel troweled and soft-brushed providing a non-slip finish. All edges shall be rounded. All New Garages, Carports and Parking Pads shall have concrete walkways installed to nearest existing walkway or nearest exit from dwelling.

4. **Steel Reinforcing**

need not be provided at concrete slabs and footings unless required by engineered plans approved by the City.

5. **Expansion Joints**

shall be placed a maximum of 15 feet apart on all walkways and driveways and shall be standard vinyl or saturated felt. All joints must be visible and finished with rounded edges.

- 6. Concrete Poured Adjacent to Wood**
shall have a minimum 26 gauge galvanized metal flashing placed between wood and concrete.
- 7. All Steel and Wood Stakes and Form Lumber**
shall be removed from job site on daily basis, if not in use.

B. CONCRETE STEPS, RAILINGS AND LANDINGS

- 1. Footings at Steps**
shall be provided below natural grade.
- 2. Rise and Tread of Steps**
shall comply with current adopted code requirements. Under any circumstances, rise shall not be less than 4-inches and not more than 8 inches and tread shall not be less than 9-inch run.
- 3. Railings**
 - a. All steps over three rises with door landing only shall include an approved railing system, and shall be located on door lock side (or both sides) of steps.
 - b. All steps over three rises with porches shall include the same as 3.a. above, but shall always include railings at both sides of steps and at all sides of porches.
 - c. Open porches exceeding 30-inches above grade shall be equipped with approved railings. Wooden railings may be installed when approved in advance by Owner and Neighborhood Conservation Services Division.

SECTION VI

CARPENTRY

A. GENERAL CONSTRUCTION AND WORKMANSHIP

- 1. Framing Installation to Accommodate Other Trades**

shall be provided. Cut all wood as required to accommodate plumbing, heating, ventilation, electrical and other trades. Framing shall fit neatly around exposed items such as outlet boxes, conduit, pipes and ducts.

 - a. Install all wood framing as per plans and details shown and in accordance with applicable code. All new wood framing shall match existing wood framing to assure that both framing systems are plumb, level, true to line and securely anchored and fastened.
 - b. All new wood framing shall be covered with sheathing within one week of the framing installation.
- 2. Framing Cuts and Joining/Jointing**

shall be provided precisely square and clean, and shall provide a tight fit over the entire bearing surface(s) of all members of each joint in order to reduce motion and settlement of the structure to a minimum, and therefore, to reduce stucco cracking, nail popping, and racking of doors and trim.
- 3. Furring, Blocking and Backing**

shall be furnished and installed where required for receiving wallboard, formation or architectural features, concealment of pipes, conduits, ducts, and building specialties such as blocking for curtain rods and other fixtures. Contractor shall consult with the trades concerned and set furring and blocking they require.
- 4. Plywood Sheathing**

shall be installed with the long dimension perpendicular across the supports, rafters or joists. No sheathing may be applied to less than three rafters. Install all sheathing as per the currently adopted building code.
- 5. Roof Overhang and Edge Sheathing**

shall have solid bearing under all edges. Outriggers shall be installed on all gable ends when new sheathing is applied. Outriggers will be spaced so that they bear under the exposed edges of the roof sheathing.

6. **Roof Sheathing**
shall be approved material installed in accordance with adopted code and manufacturer's listing.
7. **Barge Rafters and Facia Boards**
shall be installed with a uniform, tight and flush cut and fit at bevel splices and square corner joints. Material shall be #1 Hem/Fir and kiln dried, free of sap/pitch pockets.
 - a. Facia Boards shall be one lumber size larger than rafters with 2-inch nominal thickness.
 - b. Barge Rafters shall be the same size as facia boards.
 - c. Barge Rafters and Outriggers shall be installed when roof sheathing is completely replaced.

B. MATERIALS

1. **Framing Lumber**
shall be Douglas Fir #2 or better, surfaced four sides, or other as required, conforming to the standards listed in the adopted building code. Grade shall be stamped on the lumber at the mill. All framing lumber shall be fully cured.
2. **Sills**
shall be foundation grade redwood or approved pressure treated fir conforming to the standards listed in the adopted building code. Grade shall be stamped on the lumber at the mill.
3. **Building Sheathing**
shall be of the type and standards listed in the adopted building code, and shall be installed in the sizes and thicknesses shown on the drawings. Each panel shall carry the grade trademark of the American Plywood Association along with the DFPA (Douglas Fir Plywood Association) quality stamp.
4. **Barge Rafters, Fascia and Exterior Trim**
shall be kiln dried, Hem-Fir, #1 and Douglas Fir #2, and may be surfaced or rough sawn, as appropriate and approved by the NCS Inspector.

C. LUMBER FASTENINGS

- 1. Nailing and Bolting of Wood Members**
shall conform to the minimum requirements of the adopted building code.
- 2. Bolts**
shall be all square or hexagonal head with matching washers and nuts. All bolted connections shall be tightened prior to final acceptance. In the case of concealed locations, all bolted connections shall be tightened and accepted before the area is sealed off.
- 3. Framing Anchors, Connectors and Hangers**
shall be approved galvanized units as detailed in the structural drawing, and properly sized for the attached member.
- 4. Nails**
shall be appropriate and suitable for the purpose. Nails for interior trim and finish shall be finishing nails. Nails for exterior work shall be standard types, common wire or box nails, and hot-dip galvanized. All nails for redwood interior or exterior shall be aluminum nails or hot-dip galvanized nails.

D. FENCES

- 1. Installation and Materials**
Variations shall be accepted only with prior approval by the NCS Inspector.

SECTION VII

ROOFING

A. PREPARATION & STRUCTURAL

1. **Surface Preparation (Stripping and Repair)**
shall include stripping all existing roofing materials, and repairing defective structural materials, leaving all components uniform and secure prior to installation of a new roof.
2. **Structural Replacement and Modification**
shall be performed by the Contractor, as specified by the Line Item in the Scope of Work, due to performance of significant remodeling, or when significant and extensive failure of the existing roof structure system exists due to undersized and over spanned members, and deterioration.
3. **Two (Or More) Existing Roofing Layers**
shall be stripped to the original sheathing. Damaged sheathing shall be replaced. Loose sheathing shall be secured with additional nailing.
4. **Removal of Debris and Surplus Materials**
shall be progressively performed by the Contractor on a daily basis, maintaining a clean and safe job site.

B. METAL FLASHING

1. **Flashing at Edges of Roof Sheathing**
shall be provided by using galvanized metal angle strips prior to fastening the new roof covering.
 - a. Overlap At Metal Angle Splices shall be 2-inch minimum overlap.
 - b. All Corners of Metal Angle Strips shall be cut on top and bent around corner to form continuous protection.
 - c. Nailing of Metal Angle Strips shall be top-nailed only.
2. **Valley Flashing**
shall be provided using galvanized metal “W” flashing of 26 GA minimum.
3. **Parapet Flashing**
shall be provided at parapets using corrosion resistant, solid horizontal metal or metal step flashing to be laced in a professional manner and blind-

nailed. All vertical ends of flashings will be installed beneath exterior wall coverings. When exterior wall coverings are not new or are not specified to be replaced, coverings shall be replaced to an adequate height to facilitate installation of flashing. These existing walls may be counter flashed, but only with prior approval by the appropriate City staff.

4. A/C and Cooler Flashing

shall be installed to form a watertight barrier.

C. ANTENNA REMOVAL AND REINSTALLATION

1. Antenna Removal and Reinstallation

shall be provided when the dwelling is re-roofed, and shall include installation of a new antenna, if necessary.

D. BUILT-UP ROOF

1. New Drains at Parapet Walls

shall be installed when receiving new counter flashing

2. Three-ply Hot Mop Fiberglass System

shall consist of one ply of fiberglass base sheet, one ply of fiberglass interlayment sheet, and one ply of 72 pound fiberglass mineral surfaced cap sheet, installed per manufacturers written instructions, GS A-6-M-3 (or approved equal).

3. Two-ply Modified Bitumen (Torch) System

shall consist of one ply of fiberglass base sheet, and one ply of 105 pound APP modified Bitumen (rubber) or 92 pound SBS, modified Bitumen (rubber), or 99 pound modified Bitumen (rubber) mineral surfaced cap sheet, installed per manufacturers written instructions, GS GTA-2-3, or GS GTS-2-3, or Dibiten, or approved equal.

E. COMPOSITION SHINGLE ROOFS UBC INFORMATION

1. Adopted Code Information

For information on all types of roofing material, see the roof covering chapter of the adopted building code. All installations shall conform to the manufacturer's written recommendations and specifications.

2. Manufacturers Installation Specifications

shall be strictly adhered to for all roofing installations, and shall prevail above all other specifications contained herein, with exception of the adopted building code.

3. Application of Composition Shingles

shall be only to a smooth and uniform solidly sheathed roof surface, except when applied over existing wood shingle roof.

4. Minimum Slope

Composition shingles shall not be applied on roof having less than a 3 in 12 pitch, unless double layer felt underlay is installed in accordance with manufacturer's installation recommendations and the City of Des Moines requirements.

5. Underlayment

shall be a minimum of 30 pound felt.

6. Valleys

shall have shingles laced with an under-layment of 30 pound felt extending 18-inches from center line each way, or shall have metal flashing as per Section VII, B-2. Other installations will be approved only if they are submitted to the NCS Inspector in writing prior to the start of construction and if the installation meets all manufacturer's instructions.

7. Pattern (Side Lap)

shall be only a 2-inch or 3-inch (side lap) pattern. Patterns in excess of 3-inches will not be accepted. Exceptions to this requirement will only be allowed with prior written approval by both the NCS Inspector and the property Owner. Requests for those exceptions must be made prior to the start of construction. Approval will not be given for a 6-inch (side lap) pattern.

8. Color

Owner shall have choice of standard and available colors, selected from the Contractors samples prior to installation.

9. Vent Flanges

shall have only one or two nails placed at the top edge for securing.

SECTION VIII

FINISH CARPENTRY

A. GENERAL

I. Work to Be Furnished and Installed

shall include performance of all work necessary for the construction of the project, as required, in a professional and workmanship-like manner including, but not necessarily limited to:

- a. Finish carpentry
- b. Wood doors
- c. Shelving
- d. Millwork
- e. Building specialties
- f. Finish hardware
- g. Furnishing of building specialties

2. Installation

shall be in accordance with the details shown in the plans. All components shall be installed plumb, level, true to line and securely anchored. Nails and screws shall be neatly set and all wood raised in the driving of nails and screws removed. Exterior corner joints shall be mitered. Interior corner joints may be coped. Casings at head of doors and windows shall be mitered. Where molded members adjoin other molding or plain sections, the molded members shall be carefully and accurately scribed to the other members. All exposed edges shall be eased.

3. Tool Marks or Marred Surfaces and Edges

will not be acceptable on any exposed finished surfaces and, as evidence of inferior workmanship, shall be cause for rejection of such work. The Contractor shall replace inferior work at no extra cost to Owner.

4. All Exposed End Splices in Finished Members

shall be accurately and neatly square butted. Install members in as of long lengths as possible.

5. Interior Finish

shall be secured using finishing nails or screws as required, unless otherwise indicated. Set nails and screws for putty stopping.

- 6. Finish Hardware**
shall be installed accurately and securely without marking or defacing hardware or finish work. Include the installation of pocket frames, tracks and hangers for sliding doors. Test to assure correct alignment and operation. Items of finish hardware shall be fastened at all points where fasteners are indicated or required. Protect finish hardware with suitable coverings until completion of construction. Properly tag keys to deliver to Owner at completion of construction. Leave all hardware in perfect order. Clean and polish all new (and existing) millwork.
- 7. Specialty Items Not Specified Under Other Sections**
shall be installed. All finish carpentry work required to produce a complete and finished installation shall be performed prior to acceptance.
- 8. Wall-Mounted Items**
shall be securely fastened to solid backing or blocking.
- 9. Miscellaneous Items**
Finish carpentry work and miscellaneous items and their related components which are to be furnished and/or installed under this section are not necessarily individually described. The most important features and those requiring detail description are mentioned. Finish carpentry work and miscellaneous items not mentioned or described shall be furnished and/or installed in accordance with the UBC, Neighborhood Services Division, Scope of Work, and as required to complete this work.

B. MATERIALS

- 1. Exterior Plywood**
shall be of the species, type and face treatment as per the adopted building code. The plywood shall be manufactured with exterior glue and shall be A/C grade.
- 2. Interior Plywood Paneling**
shall be of the species, type and face treatment as shown on the drawings, and shall be Grade A, flame rated per adopted building code.
- 3. All Rough Hardware**
shall be furnished, including all connections to metal studs, bolts, etc., required to complete the work. Exterior bolts, nuts and washers shall be hot dip galvanized.
- 4. Exterior Trim and Casing/Molding**
shall be dressed S4s Fir, dressed or rough Redwood, or Cedar. There shall be no loose or open knots or knotholes. All, splices shall be cut to a 45 degree end bevel and joined over backing.

5. Interior Trim and Casing/Molding

shall be white pine or Douglas Fir, #1, and shall completely void of, and properly sealed against, bleeding or pitch runs. All corners to be mitered.

SECTION IX

DOORS AND WINDOWS

A. DOORS

1. General Installation

All doors, jambs, casings and hardware shall be installed expertly and in accordance with the plans and standard details, and shall be installed plumb, level, square, in plane, true to line and be securely anchored. All components shall fit accurately, with proper and uniform clearances, and shall operate freely, without binding or dragging.

2. Hanging Doors

All doors shall be installed in proper frames as scheduled and shall fit uniformly and snug against all stops. Provide accurate fit, free from hinge bind, and with uniform clearance of 1/16-inch at heads and jambs. Undercut doors for floor finishes or coverings and ventilating purposes where required. Sliding doors shall slide and operate smoothly under fingertip pressure. Finish hardware shall be removed for painting and reinstalled after finishing is completed and dry, or shall be protected from paint by masking.

3. Door Material

All doors shall be flush panel, stain grade mahogany. Exterior doors shall be solid core, 1-3/4-inch thick. Interior doors shall be hollow core, 1-3/8-inch thick. All doors shall be of the size indicated on the Scope of Work (specifications). No exterior door used for egress, shall be smaller than 2-feet 8-inches in width with at least one measuring 3-feet 0-inches. No interior door to a habitable room shall be less than 2-feet 6-inches in width.

4. Setting Door Jambs

Provide required dimensional modification of the framed opening in order to allow a plumb and square door setting. Jambs at nailing points, butts and lock strikes shall have solid backing. Exterior jambs shall be completely caulked and sealed around their perimeter, between jambs and adjoining framing construction, using mastic and tape as required.

5. Setting Door Casings

Exterior corner joints on door casings shall be mitered and interior corner joints to be coped. Casings at head of doors shall be mitered. Where molded members adjoin other molding or plain sections, the molded members shall be carefully and accurately scribe to the other members. All exposed edges shall be eased.

6. Hardware for Exterior Doors

- a. All exterior doors shall have dead bolts as part of any installation. All front doors shall be provided with a security view port.
- b. All exterior doors shall be installed with a rigid aluminum strip with neoprene-type weather stripping securely fastened to sides and head jambs. No other type of weather stripping will be allowed. Install to ensure no air leakage around openings in exterior doors.
- c. All exterior doors shall be provided with aluminum threshold with rubber attached to the drip cap at bottom edge of door.
- d. Aluminum thresholds with rubber exposed to foot traffic shall not be acceptable except in exterior water heater or heater enclosures.
- e. Hardware shall be fastened to framing in a manner to prevent removal to gain entrance while door is in its locked position.

7. Hardware for Interior Doors

All interior doors shall have the appropriate latch set and hinges as part of any installation.

8. Door Preparation and Finish

All doors to be finished shall have edges finished to match exposed face. Top and bottom of door shall be effectively sealed against moisture.

B. WINDOWS

1. General Installation

All windows assemblies and casings shall be installed expertly and in accordance with the plans, and shall be installed plumb, level, square, true to line and be securely anchored. All units shall fit accurately, and shall operate freely without binding or dragging.

2. Setting Windows

All windows shall be installed in proper frames and at the approved location and height. Nails and screws shall be neatly set and all wood raised in the driving of nails and screws removed. Exterior corner joints on window casing shall be mitered and interior corner joints shall be coped. Casings at head of windows shall be mitered. Where molded members adjoin other molding or plain sections, the molded members shall be carefully and accurately scribed to the other members. All exposed edges shall be eased. Jambs at nailing points shall have solid backing.

- 3. Weatherproofing**
shall be provided for all window rough openings when new windows are installed. This shall consist of 15 pound felt wrapped around all framing members prior to the installation of the new window.

- 4. Wood Window Stools**
shall be provided for all new window installations unless written prior approval is given by the Neighborhood Conservation Services Division.

SECTION X

CABINETS AND COUNTER TOPS

A. CABINETS

1. General Installation

All cabinets, cabinet doors, drawers and hardware shall be installed expertly and in accordance with the plans and standard details, and shall be installed plumb, level, square, true to line and be securely anchored.

2. Cabinet Material

shall be Grade A, and custom built by a recognized cabinet shop. The materials utilized shall be; standard soft wood for the interior framework, stain grade hardwood veneered members and plywood panels for all exterior exposed face locations (face panels, face frame members, and drawer faces and doors), and B grade plywood or compressed particle board for the interior shelving and dividers.

3. All Doors and Drawer Facings

shall be flat and plain with beveled edge pull (Owner to select color of paint or stain).

4. Range Hood and Vent Cabinet

shall be provided over stove when new cabinets are installed.

5. Switch-operated Light Fixture and Soffit

shall be provided over sink when new cabinets are installed.

B. COUNTER TOPS

1. High Pressure Laminated Plastic (Formica)

shall be the approved standard material accepted and utilized in the construction programs. All counters shall be fully formed, one-piece assembly with 4-inch waterfall back splash and rolled no-drip front edge. All ends and miters shall be factory (shop) cut, or field cut, only by an expert professional counter installer. All counter tops must be installed perfectly level with provisions for water to drain towards the sink. (Owner's choice of standard and available color pattern, selected from Contractor's samples.)

2. Standard Ceramic Tile with 4-inch Splash and Standard Nosing

shall be installed only when tile is specified by NCS Inspector.

- a. Owner's choice of standard and available tile and grout color, selected from Contractor's samples.
- b. All tile shall be professionally installed using standard construction practices and according to code. All tile must be installed perfectly level with the tile surrounding the sink having provisions for water to drain towards the sink. All tile shall have an acceptable grout sealer applied to the grout to assure that all grout is sealed against moisture.

SECTION XI

ELECTRICAL

A. MINIMUM REQUIREMENTS

The City of Des Moines, Community Development Department has adopted the following requirements, in addition to the last adopted edition of the National Electrical Code, relative to single-family residences:

1. **Minimum Electrical Service**
shall be 100 amperes or calculated load, whichever is greater.
2. **Service Conductors for 100 Amperes Service**
shall be three No. 2 aluminum or three No. 4 copper wires.
3. **Grounding Conductor for 100 Amperes Service**
shall be No. 8 copper with sheathing, or No. 6 copper with no sheathing, and shall be continuous to driven ground rod and to a cold water pipe with visible clamp.
4. **Aluminum Wiring**
shall not be allowed other than service entrance wires.
5. **Non-metallic Sheathed Cable Entering Plastic Boxes**
shall be stapled within 8-inches of the boxes.
6. **All Circuits at the Service Panel**
shall be phase balanced and identified.
7. **New and Replacement Light Fixtures**
shall be provided at all required locations of the entire dwelling when the dwelling is being completely rewired.
8. **Receptacle Outlets**
shall be rated for and installed on 20 amp circuits at the kitchen, bathroom, laundry and cooler, and on 15 amp circuits at other non-appliance locations (bedrooms, living room, etc.).
9. **Laundry Outlets**
shall be 20 amp rated T-bar receptacle on a single dedicated circuit.
10. **3-Wire Grounded Receptacles with GFCI**
shall be provided at all kitchens, bathrooms, laundry facilities, garages and exterior receptacles including at all additional new wired locations, and at all new construction locations.

- 11. 2-Wire Non-grounded Receptacles**
at existing locations of living rooms, dining rooms, bedrooms and hallways may remain or be replaced using same type of component only.
- 12. All Major Appliances**
shall have a single dedicated 20 amp circuit. Major appliances are considered to be washers, dishwashers, garbage disposals, freezers, refrigerators and microwaves.
- 13. At Least One Light Bulb**
shall be installed by the Contractor in all new light fixtures.
- 14. All Electrical Boxes for Fixtures and Receptacles**
shall be installed in walls and ceilings with a maximum 1/8-inch side gap between the box and the covered surface, and shall be flush with the covered surface.
- 15. Pre-wiring for Telephone and Television Antenna Hookup**
shall be provided whenever the exterior and/or interior surfacing is being replaced and on all new reconstruct projects.

SECTION XII

PLUMBING

A. GENERAL

1. **No Cross Connection Between the Supply and Waste Systems**
shall be allowed. No plumbing fixtures or device shall be installed which will provide a cross connection of any sort between a potable water supply intended for drinking and a polluted water supply, waste pipe or drainage.
2. **Access for Waste System Inspections**
shall be provided. Any drainage or building sewer, or part thereof, which is installed, altered or repaired, and is covered or concealed before being inspected, tested and approved, shall be uncovered for inspection upon notice.
3. **Vent System Termination at the Roof**
shall conform to adopted plumbing code. Each vent pipe or stack shall extend through its flashing and shall terminate vertically a minimum of 6-inches above roof and not less than 12-inches from any vertical surface and shall be painted.
4. **All Water Closets**
shall be water conservation type.
5. **All Gas Appliances**
shall have proper gas flex, shut-off valve, and flue according to Uniform Plumbing Code.
6. **All Exterior Sewer Cleanouts**
shall be properly boxed.
7. **All Exposed Plumbing, Faucets, Drains and Components**
shall be replaced when the sink, vanity or tub is replaced, removed or reinstalled.

B. HOUSE SEWER

1. **General Installation**
shall be within practical limits of alignment and at uniform slope of 1/4-inch per foot of fall from dwelling to property line.
2. **Material**
shall be approved 4-inch, cast iron sewer pipe.

3. A Clean-Out

shall be installed at the dwelling and at each change of direction in excess of 22 degrees (except that no clean-out shall be required for ONE change of direction of 45 degrees) and at each 100 feet. Cleanouts are to be installed so that they open in the direction of the flow. Clean-outs are to be extended to grade and boxed.

4. Trench Bed Preparation and Backfill of New House Sewer

The new house sewer pipe shall be on a firm bed throughout its entire length and back-filled with sand or fine earth. Throughout the full length, the back-filled trench shall be flooded and tamped. Any surplus dirt to be either removed from property or spread as Owner directs. Settlement in excess of 3-inches within a 12-month period shall be refilled at Contractor's expense.

C. WATER SERVICE

1. A Main Shutoff Valve

shall be installed, when required and requested, where line enters dwelling, using a 3/4-inch minimum, all brass gate valve.

2. A New Water Service Line

shall be installed, from the meter location at the property line (street or alley), to the dwelling shut-off valve location, using 1" copper service line.

3. A New Water Line

may be installed in same trench with sewer line, if the following conditions are met:

- a. The bottom of the water piping at all points shall be at least 12-inches above the top of the sewer pipe.
- b. The water piping shall rest on a solid shelf at one side of common trench.
- c. A new 8-foot driven ground rod shall be installed for electrical grounding in addition to grounding at the cold water line.
- d. There shall be a minimum of a 10-foot separation between sewer line and water line connection at the property line.
- e. Backflow devices shall be installed in accordance with adopted plumbing code.

D. WATER HEATERS

1. All Installation Requirements

shall be compiled with by the Contractor including, provision of all required hookup components.

2. Water Heater Insulation Blankets

shall be installed on all un-insulated water heaters, and shall be included with new water heaters only if the manufacturer's installation instructions allow it to be insulated.

3. Additional Information

may be found in the adopted plumbing code.

SECTION XIII

SHEETROCK AND PAINTING

A. SHEETROCK/TEXTURE COAT INSTALLATION

1. **Sheetrock Installation**

shall be in a uniform flat plane, secured using galvanized nails and in accordance with all requirements. All joints shall be taped and floated, and all nails sunk and spotted.

2. **All Outside Edges**

shall have galvanized metal edge installed uniformly straight and square at openings to provide a screed for uniform texture applications.

3. **Texture Application**

shall be uniform and square at window and door openings, so that blinds will properly fit the openings, and so that all openings will be, and appear, straight, plumb and square.

4. **All Sheetrock Installed at New and Existing Framing**

shall be ½” thick material, unless otherwise required for fire separation between occupancies. Overlaid surfaces may utilize ~8” thick material. Separation walls between residence and garage shall receive one layer of *1/a*” Type “X” material or 2 layers of ½” material on the garage side and one layer of ½” material on the residence side.

B. PAINT MATERIALS

1. **All Paint Material**

shall be of a well-known manufacturer of high quality paint. All paint colors selected shall be standard, pre-mixed, colors (custom mixed colors will generally not be permitted). Colors shall always be selected by the Owner from a color document provided by the Contractor. Paint shall remain in original containers until the final inspection has been performed.

2. **Reduction and Application**

of paint, stain or varnish shall not be performed in any way except as recommended by the manufacturer. All written instructions of the manufacturer shall be read and followed by the Contractor.

3. **On Not Fully Cured and Dry Exterior Wood Surfaces**

use only flat/semi-gloss acrylic latex paint

4. On Fully Cured and Dry Exterior Surfaces

use the following:

- a. Rough siding - use only flat alkyd oil base paint or acrylic latex paint
- b. Smooth siding - use only flat alkyd oil base paint or 100 percent acrylic paint.
- c. Smooth trim - use only satin/semi-gloss alkyd oil base enamel, 100 percent acrylic enamel, or other synthetic enamel.

5. On Exterior Masonry Surfaces (Stucco/block Walls)

use flat/satin vinyl latex paint.

6. On Interior Surfaces

use the following:

- a. General: It shall be the policy of this Department to only use satin/semi-gloss latex paint. It is a well known fact in the construction industry that such paint does show imperfections more readily than flat wall paint. Therefore, if the Owner chooses to have flat wall paint in his project, he will be allowed to do so. He must, however, agree and acknowledge that he is aware and accepts the fact that flat wall paint does have limited maintenance abilities and has been informed of such by the NCS Inspector.
- b. All Doors and Trim - use only semi/full-gloss alkyd oil base enamel, 100 percent acrylic enamel, or other synthetic enamel.

7. On Interior Localized Surface Repairs of Drywall/Plaster

use suitable texturized paint (sanded/stipple/etc.).

8. No Lead Base Paint

shall be applied to any surface.

C. DEFECTIVE WORKMANSHIP

1. Any Defective Work Performed by the Contractor

shall be the responsibility of the Contractor, and shall be corrected at no additional cost to the Owner.

D. PREPARATION OF INTERIOR SURFACES

1. Pre-paint Inspection

shall be requested by the Contractor of the NCS Inspector to check the

surface preparation prior to application of any paint. Surfaces may be required to be repainted at Contractor's expense if the surfaces are not inspected prior to painting.

- 2. Contractor Preliminary Examination of All Surfaces**
shall be carefully performed (by the Contractor) before beginning any paint application in order to determine that all work of other trades and all surface preparation has been properly completed and that the surfaces are in approved condition to receive paint or stain. All woodwork to receive paint or stain is to be thoroughly sanded, dusted, and be clean. Collected dust is to be removed before preliminary paint work is begun.
- 3. All Existing Sheetrock**
shall have all damaged or missing portions properly installed and/or replaced as outlined in the Scope of Work. Proper preparation of interior surfaces shall include removal of all tape that is loose or missing to be replaced with new tape and finish, and it must be done in a uniform, professionally finished, workmanlike manner. All surfaces shall have a uniform, professional, and workmanlike finish, including texture if it is required in the Scope of Work.
- 4. Surfaces Not Property Prepared**
all surfaces shall be thoroughly sanded and cleaned of all foreign materials prior to painting. Any surface that is painted, and was not properly prepared shall be cleaned, properly prepared, and repainted by the Contractor at no additional cost to the Owner.
- 5. Existing Plaster Walls and Ceilings**
shall have all cracks and holes filled and have a uniform and professionally finished surface.
- 6. Existing Loose Paneling**
shall be re-nailed and re-glued to form a tight bond with the wall.
- 7. Woodwork**
shall have all knotholes, pitch pockets or sappy portions shellacked before preliminary painting. Nail holes, cracks or other defects to be carefully puttied. New wood shall receive a prime coat before painting.
- 8. All Electrical Fixtures and Cabinet Hardware**
shall be removed prior to painting. Missing and damaged cover plates and hardware shall be replaced after painting is complete. Any such items that have old paint, or are painted over, shall be cleaned (or replaced) at Contractor's expense.

9. **Walls and Ceiling Surfaces with Moisture or Mildew Conditions**
shall be made free of those conditions and properly prepared for painting as per this section, and the source and cause of the problem shall be corrected by the Contractor.

E. PREPARATION OF EXTERIOR SURFACES

1. **Pre-paint Inspection**
shall be requested by the Contractor, of the NCS Inspector, to check the surface preparation prior to application of any paint. Surfaces may be required to be repainted at the Contractor's expense if the surfaces are not inspected prior to painting.
2. **New Wood Surfaces to be Painted**
shall be inspected by the Contractor to determine and assure that all other trades have made proper and complete installations prior to application of any paint. All exterior new wood shall be kiln dried, 4sf, #2 or better. All knots, pit pockets, or sappy portions shall be shellacked or sealed with knot sealer. All exposed nails are to be set and all imperfections are to be filled and sanded smooth. All dust shall be collected and removed from the job prior to any paint application. All new wood shall receive a primer coat prior to the application of the paint coat. Two coats of paint alone will not be sufficient. Two coats of paint may be used if such application is in accordance to the paint manufacturer's instructions and has been approved in advance by the NCS Inspector.
3. **Preparation of Previously Painted Wood**
shall be performed by the Contractor by scraping, wire brushing and power sanding (vibrating type), or by burning or other method where necessary. Remove all defective material such as peeling, blistered, or scaling paint. Replace all rotted, damaged and defective siding or other inadequate material prior to painting as described and required in the Scope of Work. All unpainted surfaces and weathered or bare wood shall receive a coat of primer prior to any paint being applied. All imperfections shall be filled and sanded smooth.
4. **Preparation of Stucco or Masonry Block**
shall be performed by the Contractor by scraping, wire brushing, sandblasting or other method, to remove all loose and defective material. For the treatment of mildew, prior to painting, first scrape the surfaces free of as much mildew as possible. Secondly, scrub the surfaces with a mixture of TSP and water, and brush the surfaces to remove all dust and other materials, and then finally prime the entire surface being treated prior to applying any paint. Other methods of treatment must have prior written approval from the Neighborhood Conservation Services Division. All masonry or stucco surfaces shall have all large cracks, chipped corners,

loose material, etc., repaired and filled with proper materials before painting. Large repair areas shall be identified in the Scope of Work. Other methods must have prior approval from the Neighborhood Services Division.

5. Preparation of Wood Trim

shall be performed by the Contractor. Trim is to include all wood molding around doors, windows and/or other openings, overhang (eaves), fascia, window shutter, window boxes or other exterior decorative adornment and are to be prepared and painted as described previously in this section.

6. Double-hung Wood Windows

shall be prepared for painting. Preparation shall include re-glazing as necessary, cleaning glass and freeing windows of all new and old paint.

F. SPRAY PAINTING - INTERIOR AND EXTERIOR

Protection from Over Spray

shall be provided for all surfaces not to receive paint or finish. All over spray on other surfaces to be cleaned and completely removed. Paint to be thinned or reduced per manufacturer's recommendations. All roof area to be protected from over spray.

G. METAL SURFACES - INTERIOR AND EXTERIOR

1. Sanding of All Surfaces

shall be performed prior to applying primer, and shall be scraped to remove old scaling paint.

2. All Metal Surfaces

shall have all foreign material completely removed, i.e., oil, rust, grease, etc. All surfaces to be primed before painting.

3. Prepared Metal Surfaces

shall receive sufficient paint to insure complete coverage. Any indication of defective surface preparation will be cause for repeat preparation and repainting by the Contractor at no extra cost to Owner.

4. Galvanized Treated Surfaces

shall not be painted unless prior direction and approval is obtained from the NCS Inspector. All galvanized treated roof jacks previously painted will be repainted as per this Section. If the Scope of Work requires painting of new galvanized treated roof jacks or existing roof jacks (unpainted), they shall be properly prepared and treated as per paint manufacturer's instructions. All other methods shall have prior approval from the NCS Inspector.

H. WORKMANSHIP-- INTERIOR AND EXTERIOR

1. Application of Paint

shall be at proper consistency as recommended by the Manufacturer, free of brush marks, sags, and runs (including those existing by previous coats), with no evidence of poor workmanship. Care shall be exercised to avoid lapping of paint on glass or hardware. Paint sharply cut to lines. Finished paint surface to be free from defects or blemishes. All exposed nails shall be set and holes filled.

2. Woodwork and Trim to be Finished

shall be adequately covered with sufficient coats, and a uniform color and finish. The number of coats herein specified as being a minimum shall be one prime coat and one coat to produce a first class job. All unpainted wood shall receive a prime coat before painting.

I. CLEAN-UP AND PROTECTION

1. Protective Coverings or Drop Cloths

shall be used to protect floors, fixtures and equipment. Care must be exercised to prevent paint being splattered onto surfaces which are not to be painted. Surfaces from which such paint cannot satisfactorily be removed shall be painted, repainted or replaced, as required by the Neighborhood Services NCS Inspector, to produce a satisfactory finish.

2. All Debris Related to, or Created by, Painting

shall be removed from the job site, and the job site shall be left clean and ready for use. All windows to be free of paint and operating properly.

3. All Shrubs and Plants

shall be protected in an approved manner or replaced by Contractor at no added cost to the home Owner.

SECTION XIV

FLOOR COVERINGS

A. GENERAL

1. **Color and Pattern**
shall be selected by the Owner(s) from standard and available material samples provided by the Contractor, unless otherwise specified.
2. **All Carpet, Pad and Vinyl Floor Coverings**
shall meet or exceed FHA requirements. The Contractor shall provide suitable documentation of the material used.
3. **Underlayment**
shall be installed prior to installation of all new linoleum, using ¼” minimum ply-wood.
4. **Do Not Commence Installation of New Floor**
until work of all other trades has been entirely completed and a subfloor nailing inspection has been done. Commencing installation implies acceptance of surfaces to be covered.

B. PREPARATION

1. **Removing/Cleaning**
all defective materials, dirt, grease, oil and/or any other films shall be performed by the Contractor.
2. **All New Sub-floor Installations**
shall be nailed in accordance to ICBO Building Standards. All existing sub-floor shall be re-nailed as required.
3. **All Cracks, Minor Holes, Crevices and Depressions**
shall be filled with crack filler, as recommended by floor manufacturer.
4. **Concrete Floors**
shall be dry. A smooth, steel troweled finish shall be provided.

C. INSTALLATION

1. **Manufacturer’s Specifications and Recommendations**
shall be followed for all installations.

- 2. Adhesive**
shall be spread uniformly and at the coverage rate recommended by manufacturer. Use notched steel trowel or other devices as specified by manufacturer of adhesive and flooring. Apply adhesive only to the extent which can be covered with flooring within the recommended tack time of the adhesive.
- 3. All Joints and Seams**
shall be tightly butted, straight and aligned square with room axis. Neatly trim materials abutting other work to form a true, clean joint where flooring edges are covered by other materials, make cuts sufficiently accurate so that edges are completely concealed. All joints and seams between carpeting and vinyl flooring shall have trim and proper tack snips.
- 4. Floor Covering in Kitchens, Bathrooms, and Service Porches**
shall be of durable, waterproof, non-absorptive materials such as asphalt, vinyl asbestos, vinyl plastic or rubber. No floor tile or wood finish flooring shall be used in these rooms.
- 5. Floor Covering Bathrooms**
shall cove at the walls and under toe space of vanities, unless otherwise specified in the Scope of Work.
- 6. Coving/Base**
shall have sufficient adhesive required to form a tight bond at the wall.
- 7. Exterior Corners at Coving**
shall be neatly cut and trimmed straight with sufficient adhesive to form a tight bond.