

11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant order of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and order of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by Law.

(7) The contractor will include the provisions of Paragraphs #1 through #7 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

01320 SPECIFICATION PREFACE

- A. These Rehabilitation Specifications describe the materials and methods required to accomplish the work called for in the Bid Document.
- B. Reference to the Rehabilitation Specifications provided in the Project Specifications are to be interpreted as a starting point only, and are not to be construed as limiting the responsibility of the general contractor or any subcontractor to adhere to other applicable sections of the Rehabilitation Specifications.
- C. Parties performing the work specified in the Rehabilitation Specifications are subject to the conditions and terms set forth in the Invitation to Bid, the Instructions to Bidders, the Project Specifications, the Drawings (if applicable), and the Rehabilitation Contract.

01330 WORKMANSHIP

- A. All work shall be performed by mechanics skilled in their respective trades and shall be accomplished in a workmanlike manner, all in accordance with governing codes and safety regulations.
- B. The general contractor and any subcontractors shall furnish all tools and equipment necessary in carrying out the work, and shall adequately protect all surfaces and construction while performing the work. Such protection shall be maintained as long as required.
- C. The general contractor and any subcontractor shall schedule and perform all work in full cooperation with any consideration for work performed rests with the general contractor.
- D. The general contractor shall be responsible for the removal of all stains, soil, debris, labels and tags resulting from the performance of the work. At the completion of the work, the general contractor shall clean all appropriate surfaces as required to leave the premises in a sanitary condition.

01340 MATERIALS

- A. Materials specified in the Rehabilitation Specifications or the Project Specifications shall be used in the performance of the work. All materials referred to by proprietary name in either document implies that the words written approved substitution are included thereafter.

01350 SPECIAL CONDITIONS

- A. All work shall be carried out in accordance with the Rehabilitation Specifications and Project Specifications, and in compliance with all local codes. Where no local codes exist and the Rehabilitation Specifications are silent, local building practices will govern, subject to the approval of the Administrative Agency.
- B. All required permits shall be secured by the general contractor and included in the total bid price. Where applicable, it shall be the responsibility of the general contractor to insure that all rough-in, in-progress and final inspections required by local codes are requested in a timely fashion. The general contractor shall further insure that, where applicable, all subcontractors are licensed as required by local codes or ordinances.
- C. Submittals, drawings, and tests called for in the Rehabilitation Specifications shall not be required except when requested on a case-by-case basis by the ADMINISTRATOR.
- D. In the event that hidden expense is uncovered during the course of work, the contract price shall be amended accordingly. All reasonable requests shall be honored, at the discretion of the ADMINISTRATOR. Change Orders shall be prepared and their approval secured before any additional work shall be undertaken.

- E. Special treatment shall be required for all surfaces confirmed or suspected to be covered with lead based paint. The general contractor shall be responsible for promptly notifying the ADMINISTRATOR of suspected lead based paint hazards. The contract price shall be amended to correct such hazards.
- F. . Early warning fire protection devices shall be installed in each residence being rehabilitated. Smoke detectors shall be installed adjacent to sleeping areas, and where bedrooms are located on more than one floor, smoke detectors shall be installed on all floors containing bedrooms.
- G. All residences being rehabilitated shall, at the completion of the work, comply with the appropriate sections of the NATIONAL ELECTRICAL CODE regarding the minimum number and type of convenience outlets, switched overhead lighting fixtures, the exterior lighting of entries, and related items. Section 16400 of the Rehabilitation Specifications prescribes minimum installation requirements.

DIVISION 0200-SITEWORK

02010 DEMOLITION

1. Demolition shall be done according to City Ordinance. If no City Ordinance exists, contact the ADMINISTRATOR for General Demolition Specifications.
2. A Demolition Permit may be required for demolition. Contractors should check with the City Clerk to determine if a permit is required.
3. Any damage done to structures and/or premises shall be corrected by the contractors.

02020 EXCAVATION

1. Excavate as required by Building Code. Allow for working space. If suitable bearing is not found, notify the ADMINISTRATOR before proceeding.
2. In the event of over excavation, use compacted backfill or a continuous pour of concrete to the required grade.

02030 BACKFILL

1. Use only materials free of roots, stumps, wood, cinders, trash and stones no larger than four (4) inches in diameter.
2. Fills shall be placed in successive layers not exceeding eight (8) inches loose measure. Each layer shall be adequately and uniformly compacted.
3. All fill shall be compacted to a density which will avoid damaging settlement to walks, driveways, lawns and other site improvements.
4. Backfill shall not be placed upon muddy or frozen surfaces which contain frost or ice.
5. Settlement or washing that occurs in backfilled areas prior to the acceptance of the work, shall be repaired and upgrade reestablished to the required elevation.
6. Rough grades shall be established at four (4) inches below the finish grade.

02040 TOPSOIL

1. Topsoil shall be used to establish the finish grade. Height of finished grade is to be maintained for one year. If settling occurs during this time, regrading shall be the contractor's responsibility.
2. The topsoil shall be uniformly distributed on the designated areas and evenly spread to a minimum for four (4) inches for lawn areas to be seeded. Any irregularities in the surface resulting from topsoiling or other operations, shall be corrected in order to prevent the formation of depressions where water will stand.

02050 SAND FILL

1. Use acceptable local materials, compacted to a depth as specified. Sand shall be free of clay, rock or gravel larger than two (2) inches in any dimension. It shall also be free of debris, waste, frozen materials, vegetable and other deleterious material.

02060 SEEDING

1. The seed shall be uniformly distributed over the areas to be seeded at the rate of four (4) pounds per 1,000 square feet. The seed shall be lightly covered by raking.
2. All seed shall be new seed labeled in accordance with U.S.D.A. Regulations. The germination rate shall be at least 85%.

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

02070 FILL AND SEAL CISTERN

1. Break concrete bottom, remove or cut and seal tap lines leading form the cistern.
2. Fill cistern to within four (4) feet of the surface using appropriate backfill material and methods.
3. Break out top walls and remove same form property. Continue to back fill to a rough grade, four (4) inches below the surface. Fill with topsoil to a finished grade, seed, fertilize and water as provide by those sections of this document.

02080 TERMITE TREATMENT

1. Treat entire structure in strict compliance and in accordance with accepted termite control practices, as necessary: 1) structural modifications; 2) soil poisoning; 3) drilling; and 4) flooding of masonry voids.
2. Obtain termite warranty from the qualified applicator and present to the ADMINISTRATOR, with lien waivers, at the time of final payment.

DIVISION 03000-CONCRETE

03010 MATERIALS AND METHODS

1. Concrete for footings and interior slabs shall be 2,500# ready-mixed air entrained. Concrete for sidewalks, patios and parking slabs shall be 4,000# ready-mixed air entrained.
2. Concrete shall not be placed on frozen ground or when the temperature is below 40 degrees Fahrenheit unless special measures are taken.
3. Concrete shall not be poured when temperature is above 80 degrees Fahrenheit unless special measures are taken.

03020 FOOTINGS

1. Footings shall set on undisturbed soil or approved compacted backfill, which is free of organic material. Poor bearing soil shall be removed to extent required for footing loads and replaced with a minimum of eight (8) inches of compacted backfill material.
2. Unless otherwise shown, footings shall be sized as per Code requirements, centered directly under the wall and reinforced with two (2) #4 bars, three (3) inches up from bottom of excavation and three (3) inches away from side excavation. Bars shall be lapped 18 inches at splices and shall run continuously around corners.

03030 WALKS

1. City sidewalk to be as required by City Code. If no specifications exist per the City Code, contact the ADMINISTRATOR for copy of the General Portland Cement Sidewalks, Driveways, and Handicapped Ramps Specifications.
2. Unless otherwise specified, all exterior concrete walks and slabs on grade shall be a minimum of four (4) inches thick. Sidewalk should be of the width as removed, unless called out otherwise in Project Specifications. Sidewalks across driveway areas should be a minimum of six (6) inches thick.
3. During hot weather, cure concrete by methods approved as per the City Specifications or the General Portland Cement Sidewalks, Driveways, and Handicapped Ramps Specifications.
4. During wet weather, cover with plastic sheet or waterproof paper.
5. Protect with barricades, fences or other means until concrete is set. Remove forms 24 hours and restore grade, allowing for grass turf to finish flush with top of walk.
6. Protect from freezing for at least two (2) days after placement.

03040 INTERIOR SLABS

1. When required by the Project Specifications or Code, place four (4) inches of sand on undisturbed or compacted fill. Rake and level to a uniform thickness. Place four (4) inch base course of clean graded gravel, no larger than two (2) inches and not smaller than 1/4 inch.
2. Install a continuous six (6) mil membrane on top of gravel. Precaution shall be taken so as not to tear the membrane during concrete placement.

3. Concrete slab to be constructed with 3,000# concrete with a three (3) inch minimum thickness. Finish with a steel basin of a sump pump with a minimum slope of $\frac{1}{8}$ inch/ft.

03050 EXTERIOR SLABS

1. When required by the Project Specifications or Code, place four (4) inches of sand on undisturbed or compacted fill. Rake and level to a uniform thickness. Place four (4) inch base course of clean graded gravel, no larger than two (2) inches and not smaller than $\frac{1}{2}$ inch.
2. Install a continuous six (6) mil membrane on top of gravel, Precaution shall be taken so as not to tear the membrane during concrete placement.
3. Concrete slab to be constructed with 3,000# concrete with a 3 inch minimum thickness. Finish with a steel trowel and slope entire slab to floor drain or a catch basin of a sump pump with a minimum slope of $\frac{1}{8}$ inch per foot.

03050 EXTERIOR SLABS

1. When required by the Project Specifications or Code, fill area with four (4) inches pit rrm sand or a mixture of sand and gravel uniformly compacted.
2. Place a four (4) inch slab over fill. If applicable, see drawings for slab detail. Control joints and expansion joints shall be used to divide slabs into approximate "squares" not exceeding twenty-five (25) feet by twenty-five (25) feet.

03060 SPLASH BLOCK

1. Size shall be 12" x 30" minimum and may be either job site formed or precast. When job formed, make at least four (4) inches thick with concrete depression sloped away from with concrete depression sloped away from building. Reinforce with wire mesh.
2. Existing splash blocks which have settled shall be reset to drain away from the building.

03070 STEPS

1. Form to accurate profile with riser height not to exceed 7 inches and tread to be a minimum of 11 inches. Round all nosings and provide fillet on internal comers. Broom across direction of traffic. If applicable, see drawings for details of reinforcing.

2. Use 3,000# air entrained concrete.
3. Provide protection as required for sidewalks.

03080 COLUMN FOOTINGS

1. Column footings shall be 24" x 24". When concrete floor exists, cut opening as large or larger than column plate, then at a 45 degree angle, dig footing to required base width. Fill opening with 3,000# concrete. Anchor column to footing with a minimum of two (2) bolts. Add steel reinforcing bars as required.

03090 PORCH PIER FOOTINGS

1. Use post hole size width x 42" deep. At the bearing level, flare out top at 45 degree angle to the width and length of masonry pier being replaced.

03100 CONCRETE PORCH

1. Furnish and install concrete porch and step(s).
2. Slab to be a minimum of four (4) inch, 3,000# concrete placed on properly compacted earth and fill. Slab to be laid true and level. Install re-bars as required.

03110 REPAIR CONCRETE STEPS

1. cut out or otherwise remove all deteriorated concrete.
2. Thoroughly clean area, removing all loose particles. Dampen surface and apply heavy brush or slush coat of Thorite as manufactured by Standard Dry Wall Products, Inc., or equally prepared concrete patch mix, making certain all pores and voids are filled.
3. Screed off and steel trowel patch so that it is level with surface.

03120 POURED CONCRETE FOUNDATION

1. Remove and replace complete foundation, as needed.
2. Replace to 8" x 16" with 2 re-bars. Waterproof to meet all applicable codes.

3. Install windows with wells to match location or previously existing windows unless otherwise noted. Provide for proper drainage from window wells.
4. Replace any and all broken or damaged plumbing caused by the replacement of the foundation. Disconnect all sewer, water and gas lines as required. Provide for reinstallation of above services as necessary so that general contractor can hook up services where they enter the structure. If necessary, cap off any existing plumbing lines for facilities, unless new plumbing is required to be stubbed in.
5. Check to make sure that opening is left in walls to allow for replacement (if necessary) or service lines.
6. Backfill and tamp. Reset house. If required, reset porches to meet proper slope. Porches are to be adequately supported. Reset any and all steps to be properly functional.
7. Tamp and slope ground adjacent to foundation to proper grade.
8. Replace and/or patch all broken and/or damaged walks, service walks, patios, driveways, steps, unless otherwise specified in general contract.
9. Regrade and seed as required.
10. Repair and/or replace all broken and/or damaged materials on structure and/ or outbuildings.

03130 POURED CONCRETE RETAINING WALLS

1. Retaining walls shall be dug to below the frost line level as required by code.
2. Forms.
 - a. Forms for unexposed surfaces shall be #2 common or better lumber.
 - b. Forms for exposed surfaces shall be plywood, metal or lumber lined with 3/16" tempered pressed wood or 1/4" plywood.
 - c. Forms may also be eliminated by accurate ground trenching to the code required depth.
3. Minimum Reinforcing.
 - a. All concrete shall be reinforced. The following shall apply unless greater amounts of reinforcing are noted or specified.
 - 1) Footings (if needed) 2-#4 re-bar

Wall Thickness	Horiz. Reinf.	Ver. Reinf.	Location of Reinf.
6"	#3 @ 9"	#3 @ 15"	Center of Wall
8"	#4 @ 12"	#4 @ 18"	Center of Wall
10"	#4 @ 10"	#4 @ 16"	Center of Wall

4. Following recommendation of ACI 604 for cold weather and concreting and ACI 605 for hot weather concreting are strongly recommended.
5. All poured-in-place concrete shall meet all the following requirements:
 - a. Minimum strength of 3,000 and 3,500 psi at 28 days.
 - b. Maximum of 6 gallons of water per sock of cement
 - c. Minimum of 5 sacks of cement per cubic yard.
 - d. Minimum slump of 4".

All exposed concrete shall be air entrained and shall contain between 5-Yi% and 7-Yi% air by volwne.

6. Remove all rubble, debris, etc. from the premises .
7. Provide adequate drainage or weep holes if needed.
8. Backfill and tamp to proper grade level.
9. Regrade and seed and\or sod as required under T5-2H.
10. Remove and replace evergreens, shrubs, trees, etc., as set forth in T5-2H and 21. Check with homeowner for instruction on which items they do or do not want saved. Contractor shall exercise all caution and care in the removal and replacement of these items, but it is not required that the contractor guarantee the replaced items to live after, provided, the contractor has exercised extreme care in the removal and replacement of the items.

DIVISION 04000 - MASONRY

04010 CONCRETE BLOCK (PORCH SUPPORTS)

1. Use standard weight 8" x 16" face size, with wall thickness as required by code. Use concave ends for square ends or comer block for all comers. Lay in running bond in full

joints off mortar. Strike all joints and rod slightly concave on exterior to form a tight seal of mortar to block.

2. Reinforcing shall be as required by the Uniform Building Code.
3. Provide for proper ventilation.

04020 MORTAR

1. One part masonry cement, three parts clean damp masons sand. (Vary as required by Code)
2. Tint mortar to match existing if required.

04030 TUCK-POINTING

1. Remove and replace all deteriorated masonry or stone units which are no longer securely held with mortar.
2. Remove all surface deteriorated mortar from units which are secure, back to a depth of at least 3/8 inch. Brush out joints free from dust and moisten slightly. Force mortar into joint, strike or rake and tool to match existing conditions. Tint mortar, if required, to match existing. Parge, if required.
3. Do not apply to frozen or frost filled masonry or when temperatures are below 400 Fahrenheit.

04040 TEMPERATURE

1. When the air temperature is expected to be below 400 Fahrenheit during the placing of concrete, or within 24 hours thereafter, the temperature of the concrete as placed, shall be not lower than 500 Fahrenheit, and protected after placement during freezing or near freezing weather.
2. Do not work below 400 Fahrenheit unless special precautions are provided.
3. Use of antifreeze agents or calcium chloride in mortar and concrete is prohibited.

04050 CONCRETE BLOCK TERRACE RETAINING WALL

1. Remove existing deteriorated wall.

2. Replace with 8" concrete blocks with 112" vertical rebar at 4'0" on center. Set rebar in concrete footings.
3. Set new wall on 8" x 16" concrete footings, fill void between new wall and existing foundation wall or firm soil with rubbish free dirt or sand. Tamp firm and level.
4. Place a minimum 2-inch concrete cap, reinforced with a 4-inch/20 gauge wire mesh on top of wall.

04060 PARGE COAT FOUNDATION - INTERIOR - EXTERIOR

1. Clean surface of existing masonry walls and all cracks in existing shelf wall. Remove efflorescence, mineral salts, grease, oils, etc. Repair all cracks or breaks. Lay prepared cement plaster on dampened brick walls with Tampico fibre brush or trowel and level out. If wall becomes dry or coating starts to pull during application, dampen the wall again. Do not apply in temperatures below 400 Fahrenheit, or when temperature of work area is expected to fall below 400 Fahrenheit within 24 hours. All work shall be in accordance with Code.

04070 STUCCO

1. Stucco mixes shall be as follows:
 - a. Scratch Coat
 - 1 part or Portland Cement
 - 3 parts sand
 - 10% lime putty
 - b. Finish Coat
 - 1 part white Portland Cement
 - 3 parts sand
 - 10% lime putty
2. Expanded metal lath shall weigh not less than 1.8 pounds per square inch.

04080 REMOVE CHIMNEY - REPAIR CHIMNEY

1. Remove chimney:
 - a. Remove brick to 18 inches below the roof. Cap with a tight fitting 26 gauge galvanized cover. Use caulking to seal tight.

- b. Fit support framing in so as to provide a solid support for $\frac{5}{8}$ -inch exterior sheathing. Use #15 asphalt-saturated felt. Piece in new roofing material to match as close as possible.
 - c. Shingles use for the repair shall match as closely as possible, the color, style and quality of the existing roof.
 - d. The contractor shall be responsible for any repair due to damage resulting from the removal or materials and labor involved in the removal and/or restoration of the chimney.
2. Repair Chimney:
- a. Tear down and remove deteriorated masonry units t solid and sound material.
 - b. Rebuild chimney using all new materials and new chimney shall match, as closely as possible, the color, size and style of previous chimney.

04090 CHIMNEY CAP

- 1. Remove old cap and check all masonry units for tightness. If loose, restore to a sound condition.
- 2. Lay mortar wash of Portland cement from outer edge of brick to within 2" of the flue liner top.
- 3. Use of a steel trowel at a 45° angle to assure fast run off. Make sure there is a watertight seal between the flue liner and the mortar.

04100 REBUILD WALLS - FOUNDATION

- 1. Tear down defective masonry units to sound surface. Rebuild using all new materials, matching existing as to color, size, style, joint, etc., as closely as possible.
- 2. If replacement is of complete wall, and footing are inadequate, new footing are required.
- 3. Structure shall be adequately supported during entire operation.
- 4. All work shall conform to Code.

04110 MASONRY PIERS

Construct new porch piers for porch. If footings do not extend below frost line, excavate and pour new footings at required depth. All work shall conform to Code.

DIVISION 0500 - METALS

05010 HANDRAILS AND RAILINGS

1. Railings and component parts shall be fabricated from mild steel or assembled and installed as per manufacturer's directions. All joints must be welded and ground smooth.
2. Wrought iron handrails and railings shall be of 1/2" square balusters at 6 inches on center, and 3/4" newels on 1" x 3/8" channel. Heights shall be according to Uniform Building Code for rails at steps and for rails at platform.
3. As per Code for height and openings.

05020 FOUNDATION VENTING

Allow 150 square inches of vent area for each 100 linear feet of building perimeter, plus 1 square inch of vents area for each 2 feet of enclosed ground area. All vents to be aluminum, installed with caulking and aluminum nails into prepared opening cut with close tolerance.

05030 SIDING

1. Siding shall be steel (as manufactured by U.S. Steel or equal or aluminum (as manufactured by Alcoa or equal) or by vynol (as manufactured by Georgia Pacific or equal).
2. Metal Siding:
 - a. Use lapped siding with box comers.
 - b. Color to be chosen by owner.
3. Vinyl Siding:
 - a. See also section 10010 for further instructions.
4. Air Infiltration Barrier:
 - a. None required unless specified by Bid Documents.
 - b. Must have a minimum of 64 perforations per square inch.

5. Nailing:
 - a. All existing loose nails must be driven in all deteriorated existing boards must be replaced so as to present a solid nailing surface for the new siding.
 - b. All nailing is to be done in slots provided and drawn up snug but not tight, to provide for expansion and contraction.

NOTE: DO NOT USE STAPLES.

6. Accessories:
 - a. Any style metal accessory, including nails, provided for installation, must be in matching metals.

05040 TRIM WRAP

1. Install aluminum wrap to exterior trim surfaces, as bid.
2. Window sill wrap to be installed to butt against exterior edge or interior sill; caulking at all edges.
3. Installation of all wrap to be in workmanlike manner, with no gaps or exposed under-coverings and with no ripples.

05050 FLUE LINERS

1. Furnish and install prefabricated metal liners as approved by the Uniform Mechanical Code.
2. Liners shall be installed according to manufacturer's specifications to within 6 inches above top of exterior brickwork. All work shall comply with all applicable codes.

05060 ROOF VENTING

1. Roof and/or vents shall be aluminum or code approved equivalent, installed so that the net free ventilating area shall not less than 1/150 of the area of the space ventilated, except that the area of the space ventilated, except that the area may be 1/300 provided at least 50% of the required ventilation area is provided by ventilators located at least 3 feet above eave or cornice vents with the balance or required ventilation provided by eave or cornice vents.

2. All vents to be installed with caulking and aluminum nails into prepared openings cut with close tolerance to insure watertight fit. All work shall comply with all applicable codes.
3. Roof vents shall be reinstalled when new roofs are installed.

05070 SOFFIT AND FASCIA COVER

1. Install aluminum soffit and fascia cover on areas of house as per Bid Documents.
2. Aluminum soffit system to be Rollex, Alcoa or approved equal system. Install complete with all mouldings required as per manufacturer's instructions.
3. Job-formed fascia cover will be allowed when circumstances prevent usage of factory-formed fascia cover. Job-formed shall match in color, etc. Minimum thickness to be .019" aluminum.
4. Installation of all aluminum soffit and fascia cover to be in workmanlike manner, with no gaps or exposed under-coverings.
5. Color and style as per Bid Documents.

DIVISION 0600 - CARPENTRY AND MILLWORK

06010 FRAMING

1. Framing lumber shall be kiln dried, Douglas Fir, White Wood, construction grade or equal.
2. Framing work shall be accomplished in a level, straight, plumb and true manner. Notching and cutting of framing members SHALL NOT be done without approval of ADMINISTRATOR.
3. Galvanized nails shall be used on exposed exterior work.

6020 FLOORING

1. Sub-flooring shall be 3/4" tongue and groove plywood unless otherwise specified.
2. Plywood shall be douglas fir. Glue and nail all plywood.

3. Nail plywood sub-floor to joist at each bearing point with 8d or 6d ring-shank nails spaced 6" on center at edges and 8" on center along intermediate bearing points.
4. Common boards used as sub-flooring, when allowed, shall not be over 8" wide or less than $\frac{3}{4}$ " thick when laid on joists spaced at 16" on center.
5. Nail boards with 8d or 6d ring-shank nails. Provide two nails in 4" to 6" boards and three nails in 8" boards.

06030 ROOF SHEATHING

Roof sheathing shall be exterior grade plywood or exterior grade OSB flake board with a minimum thickness as provided by Code but not less than $\frac{1}{2}$ ", unless applied over existing sheathing, in which case, thickness may be $\frac{3}{8}$ ". No mill certified material will be accepted.

06040 UNDERLAYMENT

1. Underlayment may be required whenever vinyl sheet goods vinyl tile is installed.
2. Underlayment shall be $\frac{1}{4}$ " or $\frac{3}{8}$ " thick exterior solid core plywood or $\frac{1}{4}$ " thick Armstrong "Temboard" or equal. Nail with coated or ring-shank nails spaced (2" apart on all edges and 4" apart over the entire face of each sheet. Glue as necessary). Finish work shall be free from protrusions of any kind and shall be feathered with rock putty to provide a smooth surface for finish flooring. Particle board shall not be used.

06050 FINISH WOOD FLOORING

1. Material: hardwood
Minimum thickness: over sub-floor $\frac{5}{16}$ ", direct to joists $\frac{25}{32}$ "
Maximum width: 2-1/4"

Material: softwood
Minimum thickness: over sub-floor $\frac{5}{8}$ "
Maximum width: 3-1/4"

(Unless otherwise approved by the ADMINISTRATOR)

2. Nailing: Shall be as recommended by flooring manufacturer. Blind nail T & G flooring, driving nail at an approximate 45degree angle.

06060 FINISH LUMBER

1. Finish lumber shall be of a species suitable for its intended use, free from tool marks and other objectionable defects.
2. Interior Trim: Shall match, as closely as possible, existing adjacent work in design and dimension. If matching trim is not available, written approval from the ADMINISTRATOR is needed to substitute materials.

06070 CABINET WORK

1. Requirements for all cabinets: Provisioned hardwood veneer face, solid hardwood frame and drawers, aluminum rails, self-closing hinges, brass hardware, nylon drawer guides, adjustable shelf heights, assembled.
2. All cabinets to meet NKCA Cabinet Certification Standards.
3. Counter tops and backsplash (minimum 4" high) shall be 1/2" thick particle board, 1-1/2" front edge, 25" wide. Cover all exposed surfaces and edges with laminated plastic (Formica or equal). Butt internal and external comers. Fabricate all elements of cabinets which abut walls to permit a scribe fit.
4. Cabinet fabricator shall cut opening for sink from template obtained from plumbing contractor.
5. Prefinished cabinet finishes or cabinets finished on site shall match existing woodwork or shall be oak where existing woodwork is painted, unless otherwise noted. Homeowner to select color and finish.
6. Cabinet finishing shall be responsibility of contractor performing interior construction.
7. When counters and/or cabinets are specified, the removal and reinstallation of any built-in fixtures shall be included.
8. Any interfaces with pre-existing surfaces shall be treated so as to leave a finished appearance when the new cabinets have been installed, i.e., paint shall match, brick veneer or tile shall fit, voids filled up or covered or with soffit work in case ceiling height cabinets pre-existed.

06080 EXTERIOR SURFACES

1. Exterior surfaces, such as cornices, walls, soffits, rake board and molding, shall be repaired, removed and/or replaced to match existing.

2. Surfaces to be repaired shall have all decayed or deteriorated parts removed and replaced with new parts matching original work. Back-up framing shall be repaired to permit this work.
3. Where cornices, roofs, porches or other building parts are to be removed, treatment of the wall exposed by such removal shall restore its appearance to original.
4. New fascia or frieze shall be #2 white pine, spruce or redwood or pressure-treated. Nail with rust proof nails. Renail all remaining loose fascia and/or freize where required.

06090 REPAIR INTERIOR STAIRS

Renail all loose, springy or squeaking treads, risers and stringers. Restore to tight, sound and safe condition. When replacement is required, use same species and size as original.

06100 EXTERIOR WOOD STAIRS

Treads to be 2" x 10" fir or pressure-treated; stringers to be 2" x 12" fir or pressure treated, resting on sound concrete footings. All work shall conform to Uniform Building Code.

06110 REPLACE CELLAR STEPS

Remove existing cellar steps, install new wooden open riser steps at required width and height. Treads to be 2" x 10" fir or pressure-treated, resting on sound concrete footing. All work shall conform to all applicable Codes.

06120 ATTIC STAIRWAY

1. Construction to be housed out pine stringers, 1-1/8" pine treads, 3/4" pine risers. Provide solid bearing at top and bottom. A center stringer shall be installed when the distance between stringers is greater than 2'6".
2. Factory built stairs having wedged and glued treads and risers may be supported by two (2) stringers, provided width of stairs does not exceed 3'6". Furnish and install all stock fir handrail and hanger brackets. Installation shall be in conformance to all applicable Codes.

06130 MAIN INTERIOR STAIRS

Furnish and install shop made or site built interior stair system. Construction to be oak or fir treads and risers, stringers to be housed out pine. Provide solid bearing at top and bottom. A center stringer shall be installed when the distance between stringers is greater than 2'6". Factory built stairs having wedged and glued treads and risers may be supported by two (2) stringers, provided that the width of stairs does not exceed 3'6".

01640 2 X 4 WOOD HANDRAIL AND RAILING (EXTERIOR/BASEMENT)

New handrail and railing shall be constructed of 2" x 4" redwood or pressure-treated lumber with intermediate rails. Heights shall be according to Uniform Building Code for rails at steps and for rails at porch. Where posts are required, use 4" x 4" redwood or treated lumber. All work shall conform to Uniform Building Code. For properties located within historic district, conformance to Historic Preservation Commission standards will be required.

06150 ROUND WOOD HANDRAIL

Stock fir handrail on existing stairway. Installation shall be complete with brass plated handing hardware spaced not more than 5'0" apart. Stock to be dressed free of tool marks and other objectionable defects. Finish stock with (2) coats of quality varnish or paint applied according to manufacturer's directions. All work shall conform to all applicable codes.

06160 CUSTOM MADE HANDRAIL

Handrail shall be custom made rail system including starting newel, birch handrail, newel cap and pine balusters, placed 5" on center. Installation shall conform to all applicable codes.

06170 WOOD PARTITIONS

Partitions shall be 2' x 4' studs at 16" on center with base plate, single top plate for nonbearing, double plate for bearing and 1/2" drywall on each side. Tape, sand and finish ready to accept paint unless otherwise specified. In locations where required by Code, use 5/8" Type "x" gypsum board.

06180 NEW ADDITION

1. This specification is meant to include a complete enclosed watertight structure, ready except for mechanical or electrical equipment, for habitation. Cost shall include, but not necessarily be limited to:
 - a. 2' x 4' stud walls, 16" on center.

- b. 1/2" drywall, interior, taped, sanded and finished, ready to accept paint or other finishing materials.
 - c. 1/2" plywood or fiber board (with proper bracing) sheathing exterior.
 - d. Building paper.
 - e. Fascia, soffit, downspouts, gutters and gutter apron.
 - f. Siding as noted.
 - g. Ceiling joists with 5/8" drywall, taped, sanded and finished, ready to accept paint or other finishing materials.
 - h. Roof rafters with 1/2" plywood sheathing. Approved truss roof may be used.
 - i. Shingles as noted.
 - J. Attic vents.
 - k. R-38 insulation (minimum) in ceiling with vapor barrier.
 - l. 3-1/2" batt insulation in wall with vapor barrier. R-13 minimum.
 - m. Floor joists, plates and sub-flooring.
 - n. Underpayment and floor covering as noted.
 - o. Base and all trim.
 - p. Windows as noted. (To include screens)
 - q. Doors, combination doors and frame as noted. (To include screens)
2. 8" concrete block foundation. 8" x 16" footings with 1 #4 rebar, 10" lap at joints and set 42" below grade (or as noted).
 3. Reinforced concrete foundation walls for brick veneer or wood frame dwellings of 1/2 stories or less shall be a minimum of 8" wide, must be designed with sufficient rebars to give wall adequate strength to resist lateral pressure from adjacent earth or vertical loads.
 4. Foundation walls shall be set on a concrete 8" x 16" footing, or greater as may be required.
 5. All flashing as required.

06190 INSULATION

As per illustrations (refer to Appendix).

06200 BOX IN FLUE

Box around flue pipe using 2' x 4' studs, 16" on center maximum. Allow air space around pipe to meet code requirements. Cover with 1/2" drywall, taped, sanded and finished ready to accept paint or other finishing materials. Patch any scarring or holes resulting from removal of chimney.

06210 CLOSET SHELF AND ROD

1. Shelf shall be 1" x 12" with metal or wood rod with required holders. Minimum clearance above shelf should be 8".
2. All unfinished wood to receive one coat of stain and two coats of urethane.

06220 WOODEN BEVELED SIDING

1. Replace with kiln dried cedar or redwood siding to match existing on required areas of structure.
2. Installation shall follow manufacturer's specification and codes regarding surface preparation, nailing, lap and joint staggering, etc.
3. If siding is to be natural finish, treat with approved preservative, per manufacturer's directions.
4. If siding is to be painted, apply one coat of primer and one coat of exterior paint, as per Section 09080.
5. Allow for replacing and/or repair of sheathing and/or studs in areas where new sheathing and siding will be installed as needed.

06230 VERTICAL SIDING

1. Furnish and install according to Bid Documents.
2. Match to existing as closely as possible.
3. Installation shall follow manufacturer's directions and Code requirements regarding surface preparation, nailing, etc.

06240 MINERAL FIBER

1. Furnish and install mineral fiber shingles to replace all broken and missing shingles.
2. Match to existing as closely as possible.
3. Installation shall follow manufacturer's directions and Code requirements regarding surface preparation, nailing etc.

06250 CLOSET CONSTRUCTION

1. Closet construction shall extend from floor to ceiling unless otherwise noted in bid documents and shall include shelf and closet rod.
2. Provide necessary wood framing required for a closet. Closet walls shall match existing walls in material and finish unless otherwise noted in bid documents, complete with moldings, trim, etc., to leave closet in a complete and finished state.
3. Door construction shall be sliding bypass or bifold as noted in Bid Documents. Install per hardware instructions.

DIVISION 0700 - MOISTURE PROTECTION

07010 ROOFING

1. Materials
 - a. Roofs with slopes of 3/12 or greater: 20 - year warranty, organic-based asphalt, 3-tab self-sealing shingles. Roofs with slopes of 2/12 or less: 90# rolled roofing or 19-inch double coverage salvage edge rolled roofing as noted in Bid Documents. (Section 07070).
 - b. Base sheet underpayment : 15# asphalt saturated felt (Section 07010.2.B below).
 - c. Edge strip: Pre-painted galvanized starter strip or pre-painted aluminum drip edge.
 - d. Rolled roofing may only be applied if the temperature is 45 degrees Fahrenheit or warmer, or if a “concealed nail” manner unless otherwise specified. All weights and colors of roofing must be specified in Section 07070.
 - e. Flashing: Flashing shall be 26 gauge galvanized, or .032 inch aluminum. On roof over 5/12 pitch, having open valleys, use the center raised pre-formed metal valley flashing. Counter flashing with siding or shingles required.
 - f. Nails: Galvanized roofing nails of proper length to penetrate into sheathing.
 - g. Plastic cement: Barrets “Elastigum” or equal. (For edge seal before nailing flashing).
 - h. All roofing materials must be new and fulfill the requirements of the Uniform Building Code.
2. Installation
 - a. Examine roof sheathing, cornice and eave edges, prior to starting work. Notify the Project Manager of any defects, and do not proceed until a change order is authorized. The term “RE-ROOF” shall include all porches, additions, and

structures attached to the main structure (house). Vents shall be installed as stated in Section 05060.1.

- b. One layer of 15" felt shall be installed over thoroughly dry deck, lapped 2-inch. Tack sufficiently to hold in place. Place starter strips and edge strips. At eaves, lay starter shingles projecting over roof sheathing.
- c. Install metal drop edges.
- d. Nail each shingle with 5" exposure with four (4) galvanized large head roofing nails in accordance with manufacturer's directions for location nails.

07020 REPAIR ROOFING

1. Repair existing roof. All replacement materials shall match existing as closely as possible, and shall be installed according to manufacturer's directions and all applicable codes.
2. This includes any broken, damaged, missing or rotted sheathing, fascia, rake, cornice, soffit, as required.

07030 METAL WORK AND GUTTERING

1. Materials: Unless otherwise specified, all sheet metal work on exterior of building shall be galvanized metal and shall be at least 26 gauge or .32 aluminum. Screws, bolts and other accessories shall also be galvanized or aluminum.
2. Finish: Treat all chimney galvanized metals with rust preventive primer, (Rustoleum or approved substitution) according to manufacturer's directions. Follow with one coat of first quality paint as specified in Section 09080.2.A. Aluminum metals, where approved, shall be treated with Zinc Chromate Primer.
3. Gutters shall be installed having 5" minimum width at the top and shall be supported with 1" x 3/16" hanger or spikes at a maximum spacing of 2'0". Place a gutter a minimum of 1/2" below slope line in roof. Slope to downspouts at a rate of 1/16" per foot.

Do not allow contact between galvanized and copper or aluminum, this includes dissimilar nails. partial replacement or repair shall match existing as closely as possible as to materials, finish, size and shape.

4. Downspouts shall be a minimum of 2" x 3" aluminum or galvanized, secured to building with aluminum metal straps at a maximum of 6'0" spacing. Fit with elbows to divert water into concrete splash blocks or fold-up extensions.
5. Unless otherwise specified, pre-painted, aluminum or galvanized gutter, downspout and accessory will be provided.

07040 CAULKING

1. Material:
 - a. Caulking compound shall consist of materials which will not harden, crack or flow under extreme weather conditions. It shall be free of oils or other ingredients which will strain.
2. Preparation and application:
 - a. Joints, spaces and surfaces to be caulked, shall be dry, clean and free from dust.
 - b. Prime according to manufacturer's directions.
 - c. Pack deep joints and cracks with backup filler within ½" of surface before caulking.
 - d. Apply caulking with gun having proper size nozzle; fill joints and spaces solid, remove excess compound; leave surface smooth and clean.
 - e. Apply caulking before final coat of paint.
 - f. Set thresholds in full bed of caulking.
 - g. Caulk ¼" bead around all bath tubs with tub caulk.

07050 WATERPROOFING

All foundation walls shall be waterproofed to meet all applicable codes with approved materials installed per manufacturer's instructions.

07060 TEAR OFF ROOF

1. Tear off existing roof, removing all shingles and felt.
2. Make repairs to the existing roof rafters where required to provide adequate strength and a true level surface.
3. Remove all warped and deteriorated sheathing and replace with like kind.
4. Fill in all spaces between boards with securely nailed wood strips of the same thickness as the old deck, OR, if necessary, resheath over existing roof boards with CDX plywood or exterior grade OSB flake board, ¾" minimum.
5. Sink all protruding nails and renail sheathing securely at all locations.

07080 ROLLED ROOFING

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

2. Make repairs to the existing roof framing as required to provide adequate strength and a true and level surface.
3. Remove all warped and deteriorated sheathing and replace with like kind.
4. Fill in all spaces between boards with securely nailed wood strips of the same thickness as the old deck, OR, if necessary, resheath over existing roof boards with CDX plywood or exterior grade OSB flake board, $\frac{3}{8}$ " minimum.
5. Sink all protruding nails and renail sheathing securely at all locations.
6. Furnish and install new asphalt saturated felt, as required, according to manufacturer's directions.
7. Furnish and install metal edging and new 90# rolled roofing or shelvage edge with a 19" lap according to manufacturer's directions.
8. Where roof changes levels, flash with 26 gauge galvanized metal. All work shall conform with all applicable codes.

DIVISION 0800 - DOORS, WINDOWS, GLASS

08010 WOOD DOORS/METAL CLAD DOORS

1. Doors shall be 1-3/4" minimum thickness for exterior main entrance doors. Exterior flush type doors shall be of mahogany finish (or equal) solid core construction or as noted in Bid Documents.
2. All other exterior panel doors shall be 1-1/4" minimum thickness, white pine or equal. This includes storm doors; these to be installed with closer.
3. Interior doors shall be minimum 1-3/8" thick wood, hollow core or panel, stock sizes and design.
4. Where 20 minute fire doors are called for, they shall be flush type, 1-1/2" thick solid core, or equivalent, equipped with self-closing device and all other necessary hardware.
5. The term door unit shall mean the installation of jambs, casing (both sides) if needed, butt hinges, lock set and the door, including aluminum or wood threshold in exterior openings.
6. The choice of door including glass requirements shall be as specified in Bid Documents.

7. When pre-hung metal clad doors are to be installed, the price shall include all needed modification to opening, trims, moldings, repair to exterior and interior wall surface.
8. All exterior doors shall be weathertight. A watertight threshold shall be provided. Doors shall be weatherstripped to prevent infiltration of dust, snow, and weather.
9. All new door units shall be finished inside and out with 2 coats of paint or stain and varnish at owner's option, unless specified in the painting portion of the Project Specifications.

08020 METAL STORM DOORS (STEEL OR ALUMINUM)

1. Doors, frames, trim, threshold, and hardware shall be extruded metal and shall conform to the following standards:
 - a. Doors shall be equipped with glass and screen inserts and shall match existing opening. Extruded door frame construction shall be a minimum of W' thick with a solid core frame. Door to be Larson Life-core/equal.
 - b. Frames and trim shall be of rigid construction (extruded sections). Set perimeter in caulking.
 - c. Install with closer, latch and check/chain.

08030 GARAGE DOORS

1. Doors shall be product of Overhead Door Company or written approved substitute.
2. Doors shall be stock wooden overhead doors, 4 paneled, $1\frac{3}{8}$ " hemlock, having $\frac{1}{4}$ " exterior grade hardwood panels. Wood shall be guaranteed for life of door against splintering or cracking due to weather conditions. Bottom rails shall include weatherstripping. Furnish with lock and keys.
3. Furnish and install 2" x 6" to side of each jamb and across head, allow for door to overlap 1" on each side. Suspend tracks from overhead framing with metal angles. Brace rigidly and adjust vertical tack to wedge door tightly against rough buck. Apply 1" x 4" stops at jambs and head. Furnish and install additional framing as required to accomplish installation.
4. Door shall be finished, if not bid as part of the painting Division of this contract. The door shall be protected with one (1) coat of primer and two (2) coats of finish exterior paint to match structure and/or trim at owner's option.

08040 THRESHOLDS AND WEATHERSTRIPPING

1. Thresholds for wood doors shall be aluminum or pre-cut hardwood in full bed of caulking, shimmed level and secured with a minimum of four (4) countersunk brass flat head wood screws.
2. Weatherstripping for wood doors shall be extruded bronze with neoprene insert, surface mounted on frame or stop. Spring bronze in door opening is acceptable (refer to Appendix).
3. Thresholds for wood doors shall have rubber or neoprene insert.
4. Weatherstripping for metal doors shall be furnished by the door manufacturer.

08050 REPLACEMENT WINDOWS - WOOD

1. The term “window unit” shall mean the installation of frame, sill, sash, trim, hardware, repair to interior and exterior wall surfaces.
2. All window units shall be set plumb and level, finished and trimmed as required.
3. New window units shall be of acceptable quality, manufacturer at contractor's option, subject to approval of the Project Manager. All frames, sash, stops and exterior casings shall be of clear pine.
4. Exterior side of all wood surfaces shall be painted with one (1) coat or primer sealer and shall be painted with one (1) coat finish coat of type paint to match structure and/or trim.
5. Weather strip each unit as per manufacturer's directions.
6. Units shall have minimum *Yi*” insulated glass with screen.

Note: Single layer of glass is acceptable if unit is furnished with combination windows.

08060 REPLACEMENT WINDOWS - ALUMINUM, VINYL

1. Units shall be set plumb and level. Caulk perimeter of each opening.
2. Unless otherwise specified, all units shall be extruded sections.
3. The term “window unit” shall mean the installation of frame, sill, sash, trim, hardware and repair to interior and exterior surfaces, manufacturer at contractor's option, subject to approval of the ADMINISTRATOR.

4. Weatherstrip each unit as per manufacturer's directions.
5. Units shall have minimum ½" insulated glass with screen.
6. Metal windows shall have a continuous thermal break.

08070 GLASS AND GLAZING

1. Furnish and install window screens on all operable windows. Units to have mortise and tenon wooden frames securely fastened with waterproof glue.
2. Glass shall be sized to set free in wood opening and should be secured with metal glazing points before glazing compound is applied.

08080 WINDOW SCREENS

1. Mesh shall be 16 x 16 or 18 x 14 per inch, aluminum or fiberglass wire.
2. Screening shall be taunt and securely fastened to frame.
3. All wood to be protected with one (1) coat primer and one (1) finish coat of approved exterior paint.

08090 RESCREEN AND REPAIR

1. Remove tom or rusted screening and wooden or neoprene beading strips.
2. Rescreen using 16 x 16 or 18 x 14 mesh.
3. Screening shall be taut and securely fastened to frame.
4. Replace split or broken wooden or neoprene strips and broken framing as required.

08100 CASEMENT WINDOWS

1. Furnish and install casement type windows in existing or new openings of structure, manufacturer at contractor's option, subject to approval of the ADMINISTRATOR.
2. Windows to be factory glazed and secured properly to frame.

3. Windows to be prime painted and finished with two (2) coats of exterior paint to match structure and/or trim.

08110 REMOVE WINDOW OR DOOR

1. Remove existing window(s), or door. Complete including frame, sill and trim.
2. Close opening(s) with studding to match thickness of existing wall, 16" on center; plywood sheathing; finish interior and exterior to match existing surface.

08120 REPUTTY

1. Remove all dried, deteriorated, broken and cracked sections of putty from windows.
2. Install glazing compound in strict adherence to manufacturer's instructions.

08130 REHANG DOOR

1. Rehang existing door(s).
2. Restore to sound, free operating condition, cut, plane as necessary. Adjust jambs, head, threshold as required.
3. If required, replace hardware or sections of jamb to assure a proper and secure fit. See Section 11010 for hardware.

08140 WEATHERSTRIP WINDOWS

Install weatherstripping as per illustration (refer to Appendix).

08150 BASEMENT WINDOWS - REPLACEMENT

1. Units shall be set plumb and level. Caulk perimeter of each opening.
2. Unless otherwise specified, all units shall be wood, and if job built jambs, shall be treated lumber.
3. The term "window unit" shall mean the installation of frame, sill, sash, trim, hardware, weatherstripping and any needed modification to wall.

4. Each unit shall be painted inside and out as per Section 09080.

08160 STORM WINDOWS

1. Metal storm combination windows shall be extruded aluminum, double track type with self-storing inserts and shall include screens. Manufacturer at contractor's option, subject to approval of the ADMINISTRATOR.
2. Set frames accurately in correct locations. Plumb, align and brace securely until permanent anchors are set. Build wall anchors into walls or secure to adjoining construction as required.
3. The installation of the window units shall be according to the installation details furnished by manufacturer.
4. All contact points between main frame of the window unit and the existing wood frame shall be made weathertight by means of a recognized top quality caulking compound.
5. Proper water drainage shall be provided for at the sill contact point on each window unit. Operating sash shall be weathertight and operate smoothly in the frame, with adequate weatherstripping between operating sash and frame.

08170 REPLACEMENT SASH AND JAMB LINER

1. Replacement kit shall include all materials, rail lock, weatherstripping, and insulation for a complete and finished installation. Replacement sash and jamb liner kits shall be Marvin, Crestline, Hurd, or equal, manufacturer at contractor's option, subject to approval of the ADMINISTRATOR.
2. Units shall have minimum $\frac{1}{2}$ " insulated glass with screen or with regular glass pre Bid Document.
3. Installation shall be in strict accordance with manufacturer's instructions.
4. Insulate existing weight boxes and window perimeter when trim is removed and exposed.

08180 REPAIR WINDOW

1. Repair window unit to include replacement of all broken, damaged, missing or rotted material to make structure sound and whole.
2. Adjust window unit so all components operate freely as designed.

DIVISION 0900 - FINISHES

09010 LATH, PLASTER AND STUCCO

1. Metal lath shall be diamond mesh, weight as required by Code.
2. Metal edge and corner beads shall be galvanized with expanded type of short flange as required.
3. Plaster and stucco shall be U.S.G., or written approval substitution. Select type for either float or trowel finish.
4. Where existing surface is to be patched, clean out area thoroughly and check back-up as required.
5. Dampen area to reduce absorption from plaster or stucco.
6. Apply scratch and brown coats in portions as recommended by manufacturer.
7. Apply finish coat of factory prepared material, adding water only, and bring plaster to a thickness flush with surrounding surface.
8. Provide a good rigid, slack free backing, taking extra care in developing at least a 1" lap at metal edges, securely wired together and staggered.
9. Stucco mesh must be a minimum of 1.8 pounds per square yard of 16 gauge exterior grade.
10. Flashing must be high grade, rust resisting. Aluminum flashing SHALL NOT be used.
11. All materials must be clean and free from any oil or foreign matter.
12. Where existing surfaces are to be patched, inspect all areas for cracked, bulging loose and/or poor bonded stucco. Remove any such stucco, replace and/or secure lath as required to conform with Code.
13. If existing stucco is painted (other than with a cement base paint), such surfaces must be wire brushed or sandblasted, depending on the existing textures and refinished with new cement base paint or dash paint.
14. A good bonding agent and an air temperature of 40 degrees Fahrenheit or above must be present before any stucco application may be attempted.
15. When nailing gypsum lath, use 12 or 13 gauge lathing nails having approximate $\frac{3}{8}$ " heads with nails to each bearing on the ceiling. Length of nail shall be that which will

provide at least 1" penetration in horizontal supports and $\frac{3}{4}$ " penetration into vertical supports. Metal lath for corner reinforcing shall be provided. The maximum gap without reinforcing not to exceed $\frac{1}{2}$ ".

09020 GYPSUM BOARD (DRYWALL)

1. Gypsum board when applied to ceiling, wood framing or furring, shall be *W'* thick; when applied to existing vertical surface, shall be $\frac{1}{4}$ " minimum thickness when applied as overlay only. $\frac{1}{2}$ " gypsum board shall be used on vertical surfaces when applied directly to studs. $\frac{5}{8}$ " type "X" shall be used when required by Code.
2. All gypsum board shall have tapered or beveled edges.
3. Nails shall be driven with their shanks perpendicular to face of board.
4. All joints and corners shall be taped. Sand and feather edges after each coat. Inside corners shall be reinforced with tape. Outside corners shall be protected by metal molding or metal corner reinforcement.
5. All tape and metal accessories shall be imbedded in thin layer of joint system cement.
6. Cement three(3) coats over all nails and tape. Sand and feather edges after each coat.
7. **INSTALL WATER RESISTANT GYPSUM BOARD IN TUB OR SHOWER AREA ONLY.** Seal edge at butt joint to tub.

09030 ACOUSTICAL TILE

1. Tile pattern, design and color to be chosen by owner.
2. All such tile shall be installed as recommended by manufacturer and in conformance to Code.

09040 CERAMIC WALL TILE

1. Furnish and install standard grade 4-1/4" x 4-1/4" ceramic tile.
2. Caps to be bullnose caps fitted with the stops and cornered angles and up and down angles complete.
3. All tiles shall be laid true and even in plane, and plumb with all joints level. Furring strips shall be installed if and where required.

4. Base shall be of the flush type, cover 4" x 6" base with bullnose external corners and coped internal comers. All surface preparation, setting and grouting shall conform to manufacturer's standards.
5. Starting of tile work implies contractor's acceptance of condition of walls.

09050 PLASTIC COVERED HARDBOARD

1. Hardboard shall be Abitibi or equal.
2. Pattern, design and color to match existing, if applicable, or as per Bid Document.
3. All hardboard shall be installed as recommended by manufacturer.
4. Moldings, edges, fillers, fasteners, and adhesives shall be as recommended by manufacturer.
5. Molding strips for use between panels shall be of same material, color and design as panel.
6. Where wood molding strips are installed, they shall be either painted (color to be chosen by owner) or stained and/or varnished.

09060 RESILIENT FLOOR COVERINGS

1. Sheet vinyl shall meet minimum FHA requirements, in 6' or 12' wide sheets, as manufactured by Armstrong or equal manufacturer, the sheet vinyl shall be selected by the homeowner with an allowance of \$18.00 per square yard maximum installed excluding sales tax.
2. Vinyl tile shall meet minimum FHA requirements and be 12" x 12" square tile as manufactured by Armstrong or manufacturer.
3. Adhesive shall be waterproof type as recommended by manufacturer.
4. Vinyl base shall be 4" high, .085" gauge with curved top and covered base. Furnish with pr-formed inside and outside corners.
5. Install solid core plywood, hardboard or equal underpayment as set forth in Section 06040.
6. Fill minor voids with a patching compound recommended by manufacturer.

7. Final job shall have smooth and even finished surfaces, tightly joined and accurately formed. All work shall be done in accordance with manufacturer's installation directions.
8. Maintain a temperature of 650 Fahrenheit during installation and for a minimum of 24 hours after installation.
9. All surfaces must be clean and dry and free of excess adhesive. Clean with cleaner as recommended by floor covering manufacturer.
10. Undercut doors as necessary.
11. When necessary for proper installation, all existing floor covering and underpayment shall be removed before installation of new underpayment and floor covering.
12. When existing quarter round, shoe molding or base are removed to install floor covering, the same style shall be installed.
13. If quarter round, shoe molding or base are missing before installation, new of the same style shall be installed. Vinyl base may be installed in lieu of base with the written approval of the homeowner and the ADMINISTRATOR.
14. When replacing bathroom floor, the contractor shall include in the cost of the new floor the cost to pull and reinstall all plumbing fixtures necessary to install the new floor. Except when the bid calls for replacement or pulling and resetting or plumbing fixtures as a separate line item.

09070 CARPETING

1. Carpet pad shall meet FHA minimum requirements, cut to fit room, with allowance for nailing strips. Pad shall have as few seams as possible.
2. The contractor shall furnish a written certification from the supplier that the carpet and rubber cushion supplies each meet FHA requirements.
3. The carpet selected by the homeowner shall allow a maximum of \$20.00, installed with pad excluding sales tax.
4. Color and pattern: As selected by the homeowner, more than one color and pattern may be required on each job.
5. MANUFACTURER AND INSTALLER: MUST BE APPROVED BY THE PROJECT MANAGER.
6. The finished carpet shall be clean, evenly woven, true to required colors, and free of defects which might affect appearance and serviceability.

7. Floor carpet installation:
 - a. Work shall include furnishing and installing all necessary installation accessories, as necessary, to meet the installation conditions of each location so as to produce a first-class workmanlike secure installation.
 - b. Before installing carpeting, the carpet subcontractor shall remove from the surfaces supporting the carpeting all dust, dirt, debris, oil, grease, or other substances which may in any manner affect the satisfactory execution and serviceability of the carpeting.
 - c. Carpet shall be installed only after all other work in a given location has been completed. Carpets shall be laid with the seams running in the same direction. All seams shall be made so that pile of adjoining pieces has the same directional run so to be as non-visible as possible.

09080 PAINTING

1. General Information:
 - a. Inspect all surfaces before starting work and report deficiencies to the Project Manager. Starting work implies acceptance of surfaces.
 - b. All new plaster surfaces must be thoroughly clean, dry and completely cured.
 - c. Paint material shall be applied in consistency adequate to give thorough and acceptable coverage.
 - d. Paint material shall be completely free of all lead bases, as according to HUD publication: "Watch Out for Lead Based Paint" (refer to Appendix).
2. Materials - Interior and Exterior
 - a. All materials shall be best quality of Mautz, Glidden, DuPont, Diamond, Vogel, Pratt-Lamber, Benjamin Moore, Sherwin-Williams, Pittsburgh, or equal.
 - b. Deliver all materials in original containers bearing manufacturer's label.
 - c. Follow manufacturer's label instructions.
3. Interior Work:
 - a. Keep premises clean and orderly as possible, well ventilated; remove waste daily. Protect all adjoining surfaces by covering or moving. Remove all paint from surfaces where inadvertently applied.
 - b. Sand enamels and varnishes with 00 sandpaper between coats.
 - c. Coat all knots, sap streaks or stains with one (1) coat of shellac or other approved sealer before painting.
 - d. Putty nail holes, cracks and blemishes before primer coat has been applied.
 - e. All coats are to be thoroughly dry before applying succeeding coats.
 - f. Where painting is required on concrete and masonry surfaces, it shall be done on a clean, dust and scale free surface (wire brushed) and in full compliance with specifications of manufacturer of finishing material.
 - g. Paintings shall include one coat primer and one finish coat.

- h. Unless otherwise specified, all woodwork shall be painted with semi-gloss.
 - i. Unless otherwise specified, all ceilings are to be painted a flat, "ceiling white" color.
 - J. All bathroom and kitchen surfaces shall be painted with semi-gloss.
4. Exterior Work:
- a. Wash off heavy dirt accumulations.
 - b. Clean up and remove all debris daily and at completion of job .
 - c. Allow solvent-thinned paints to dry 24 hours or longer between coats.
 - d. Coat all knots, sap streaks or stains with one (1) coat of shellac or equal sealer before painting.
 - e. Putty nail holes, cracks, and blemishes before primer coat has been applied.
 - f. Where storm windows exist, the contractor shall remove the storm windows, prepare surface, putty as required, replace broken glass, paint main window and trim and reinstall storm window. Re-caulk.
 - g. Remove scale or rust from metal surfaces by wire brushing, or scraping down to bright metal and prime as soon as possible with rust preventative paint. Remove oil and grease with mineral spirits.
 - h. Old painted surfaces on wood, where scaling, chipping, or peeling, shall be wire brushed, sandpapered, or scraped to remove loose paint. Hard, glossy and non-chalking surfaces should be dulled and surfaces washed and rinsed.
 - i. Exterior painting is not to be done during or immediately following foggy, rainy or frosty weather, OR WHEN TEMPERATURE IS LIKELY TO DROP BELOW 40 FAHRENHEIT WITHIN 24 HOURS. Avoid painting surface while they are exposed to the hot sun.
 - J. All coats are to be thoroughly dry before applying succeeding coats in accordance with manufacturer's recommendations.
 - k. Where painting is required on concrete and masonry surfaces, it shall be done on a clean, dust and scale free surface (wire brushed) and in full compliance with specifications of manufacturer of finishing material.
 - l. All painting shall include one (1) coat primer and one (1) finish coat or two (2) finish coats to achieve good cover and hide.

09090 NATURAL FINISHES

- 1. All new wood surfaces to be natural finished must be smooth sanded and cleaned.
- 2. Apply one coat of good quality stain; spread evenly.
- 3. Fine sand before applying urethane.
- 4. Apply two (2) coats of good quality interior satin urethane; use fine steel wool between coats, and clean with tack rag.

5. Nail holes shall be filled to match basic color of wood. Tint with oil base color as required.

09100 PAINT PORCH FLOOR

1. Scrape all loose paint from porch floor. Sand to feather edges. Sweep area free of dirt, dust and debris.
2. Paint with two (2) coats of quality oil based exterior floor and deck enamel.
3. First coat to be thinned according to manufacturer's directions. Second coat to be applied 24 hours later, or longer, from 1st application unless otherwise specified by paint manufacturer .

09110 WALLPAPER REMOVAL

Remove wallpaper from walls and/or ceilings using a commercial steamer, if necessary. Protect floors and other surfaces from water or dye damage. Room to be vacated of all furniture and movable objects. Surfaces are to be stripped to plaster. Wash walls with a solution of Trisodium phosphate in warm water to remove all paste residue. Remove all water from area at the close of each work day and upon completion of job. Allow area to dry thoroughly and patch plaster using Bondex or equal prepared patching plaster according to manufacturer's directions. If surfaces are to be painted, allow patch to cure and seal with an approved sealer as manufactured by Sherwin-Williams, Dutch Boy or equal.

09120 WALLPAPER

1. Paper walls and/or ceilings as follows:
 - a. Surface Preparations:
 - 1) If plaster: Plaster to be thoroughly dry, neutralized with zinc sulfate solution if necessary. Coat wall with sizing.
 - 2) If gypsum board (drywall): Seal entire surface of drywall with a coat of latex, oil or varnish base sealer as manufactured by Sherwin-Williams or equal.
 - 3) If plywood: Apply a smooth wall liner of blank wallpaper stock or smooth % pound deadening felt to prevent grain from showing through wallpaper.
2. Wallpaper color shall be sunfast and waterfast.
3. Colors, patterns to be owner's choice.
4. Wallcovering in kitchen and bathroom shall be vinyl.

5. Wallpaper selected by homeowner shall have a maximum price of \$12.00 per double roll, cost of installation not included.
6. All walls shall be repaired as required, prior to installation of wall covering.
7. Adhesive for wall fabric shall be that recommended by fabric manufacturer.

09130 SUSPENDED CEILING

1. Furnish and install suspended ceiling system.
2. Grid system to be interlocking "T" bar type, installed to manufacturer's printed directions.
3. Hanger wires to be installed and be of a type as recommended by grid manufacturer, and shall be installed level and free of defects. Hanger wires to have a matte type finish.
4. Ceiling panels installed in high moisture area shall be scrubbable vinyl coated type.
5. Finished ceiling height, installation and materials shall conform to code.
6. Fill any holes in plaster with sheetrock or plaster before installing suspended ceiling. Remove all loose plaster.

09140 CEILING TILE

1. Furnish and install 12" x 12" ceiling tiles.
2. Tiles to be T & G type. Staple onto wooden furring strips, installed and shimmed to provide a true and level surface.
3. Tiles in high moisture areas to be scrubbable vinyl faced. All work shall conform to code.
4. Fill any holes in plaster with sheetrock or plaster before installing ceiling tile. Remove all loose plaster.

09150 PANELING

1. Furnish and install pre-finished paneling, as per Bid Documents. Masonite Royalcoate hardboard or equal. contractor to allow a maximum of \$16.00 per sheet excluding sales tax.

2. Furnish all appropriate molding. Moldings shall have wood veneer facings to be stained to match paneling or be pre-finished to match.

DIVISION 10000 - VINYL PRODUCTS

10010 VINYL SIDING

1. To be installed according to manufacturer's directions.
2. To be composed of polyvinyl chloride compound, minimum thickness .042", extruded manufacture.
3. Recommended NOT to be installed with drop in insulation backer.
4. To be installed over a minimum 3/4" extruded polystyrene insulation board with minimum R rating of 3.8.
5. Color and pattern type as per Bid Document.
6. Contractor shall provide the homeowner with a minimum 5-year (non-prorated) material and labor warranty from the manufacturer. The contractor shall protect the homeowner against violation of the manufacturer's warranty due to improper installation.

10020 VINYL SOFFIT

1. To be installed according to manufacturer's directions.
2. To be composed of PVC compounds, minimum thickness .035" extruded.
3. Color and pattern type to be chosen as per Bid Document.

DIVISION 11000 - SPECIALTIES

11010 HARDWARE

1. Where noted in Bid Documents, all existing hardware must be removed. Voids or blemishes caused by the removal of hardware, which are not covered by new hardware, shall be patched and finished to match adjacent surfaces.

2. All door and miscellaneous hardware items shall be Wiser, National Lock, Schlage, Russwin, Corgin, or equal. Kitchen cabinet hardware shall be Washington, Amerock or Colonial or equal.

11020 FIRE WARNING SYSTEM

Furnish and install approved smoke detection alarm(s) as per Uniform Building Code or State Fire Code, as applicable.

1. The smoke detection alarm(s) shall be UL approved, battery-operated, properly installed next to sleeping areas, Smoke detectors shall be properly maintained.
2. If sleeping areas are located in more than one floor, each floor shall be equipped with at least one smoke detector, located adjacent to sleeping areas.

11030 MEDICINE CABINETS

1. Recessed cabinets shall be a minimum of 14" wide, 3" deep and 18" in height.
2. surface mounted will not be larger than 30" x 36" or as described in the building specifications.
3. Mirrors will be break resistant.
4. No surface mounted outlet will be allowed on the cabinet, but may include a light. NEL code applies to all electric installations.
5. a maximum cost limit will be defined in the Bid Documents.

DIVISION 12000 PLUMBING

12010 PLUMBING

GENERAL: ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES

1. All plumbing work performed under this contract SHALL BE INSPECTED, tested and approved as required by local or state plumbing codes.

2. Cuttings, patching and cleaning shall be done as necessary by the contractor performing the work, however, special permission shall be obtained from the ADMINISTRATOR before cutting structural members or finished construction.
3. The plumbing contractor shall clean away all debris caused by his/her work at the close of each work day and upon completion of the job. Labels must be removed from all fixtures only after inspection by the ADMINISTRATOR.
4. All new plumbing fixtures shall be American Standard, Kohler, Crane, Gerber, Elger or equal manufacturer. All fixtures shall be white and have shut-off valves unless otherwise noted in the bid.
5. Upon removal of old fixtures, contractor shall inspect all cleats, supports and floor joists to assure a solid and secure installation. If unforeseen repair or replacement is needed, contractor shall notify the ADMINISTRATOR.
6. The contractor shall further determine if a change in the location of any plumbing fixture and/or pipes is necessary for proper functional replacement of the unit, and to meet Code.
7. Pop-off valve and drain pipe for water heater: Provide with a resetting type temperature and pressure relief valve, constructed, listed and installed to within 6" of the floor in accordance with Uniform Mechanical Code.
8. GAS WATER HEATER shall have a minimum 30 gallon capacity, and be installed in accordance with Uniform Mechanical Code. Warranty issued by manufacturer shall be given to the homeowner and cover a 5-year period.
9. REPLACEMENT WATER CONNECTIONS: Furnish and install hot and cold supply with shut offs. Waste piping shall be properly installed and vented to exterior.
10. DRYER CONNECTIONS: All dryer connections shall be directly vented to the exterior and be furnished with an exterior cap. Use aluminum damper fittings and 4" plastic tubing with a minimum of two (2) clamps.
11. RESEAT TOILET: Remove toilet and old seating gasket. Clean area and reset toilet. Make all connections and leave free of any leaks. Installation shall meet all local and state plumbing codes.
12. REPLACE FLUSH MECHANISM: Remove deteriorated flushing unit and install a suitable adaptable unit. All new seals to be installed with new unit. After replacement, unit shall function properly with moderate pressure and completely shut off when optimum water level is reached.
13. REPAIR FAUCET: Repair existing defective faucet(s). Restore to a watertight condition in accordance with Code. Any replacement handles or equipment shall

conform to original style as closely as possible. Contractor shall take all necessary precautions to prevent tool scarring or damage to fixture or other accessories.

14. KITCHEN FAUCET: Furnish and install new Delta or equal manufacture, as per Bid Document, kitchen faucet, complete with all accessories. New unit must cover all existing openings in the present sink. Unit shall be securely fastened and watertight.
15. BATHROOM FAUCET: Furnish and install new Delta or equal manufacture, bathroom faucet, complete with all accessories. New unit must cover all existing openings in the present sink. Unit shall be securely fastened and watertight.
16. TOILET SEAT: Furnish and install chrome plated bathroom accessories as follows: paper holder and stainless steel towel bars. Furnish proper anchorage in wall for all fixtures.
17. VENT TRAP: Furnish and install required trap and vent pipe. Installation shall meet all local and state plumbing codes. Stack shall extend through roof and be made waterproof. Repair all scarring.
18. WATER CONNECTIONS: Furnish and install water and waste piping for an automatic washer. All piping, fittings and venting shall conform to Code.
19. SILLCOCK: Furnish and install new frost proof sillcock. This includes copper cold water feeder lines if applicable.
20. KITCHEN SINK: Furnish and install double will, stainless steel with sound dampening, as per Bid Document. Replace all waste piping to the wall, new single lever faucets.
21. SUMP PUMP: The electric pump shall be a minimum of HP (pedestal or submersible) and placed in a polyvinyl sumpjy.
All water shall be brought to the sump jar by the use of either drain tile or water channel system. The pump shall be piped to discharge water away from the house as per city code.

DIVISION 13000 - HEATING-MECHANICAL

13010 HEATING-MECHANICAL

GENERAL: ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES.

1. Gas fired force air furnaces, when replaced, shall be minimum 80% AFUE rating, electronic ignition, and installed in conformance with Uniform Mechanical Code, as per Bid Documents.

2. If unit is in basement and no pad exists for new heating unit to be set on, pour concrete pad so that unit sets three inches above floor.
3. Wherever heat ducts must be installed inside a room, the location of those ducts or runs shall be OK'd by the homeowner, and the ducts shall be boxed in and finished to match the existing room decor, at no extra cost.
4. Existing duct work may be used with approval of the Project Manager, provided all of the following are met:
 - a. All duct work is in operable condition.
 - b. Return air from any living unit shall not be recirculated and delivered to any other unit, except as allowed by City Mechanical Code.
 - c. New supply ducts shall be on exterior walls where possible.
 - d. Insulate supply ducts in unheated attic spaces, unheated crawl spaces, and other exposed locations to prevent excessive heat loss.
5. All piping and electrical hook-ups shall be included in the price quote.
6. All furnaces shall be equipped with thermostat located on any inside wall, responsive to changes in outside temperatures and properly sealed behind to prohibit drafts through interior wall.
7. Gas piping shall be steel or black iron piping with malleable screw type fittings. It shall conform to all local codes and ordinances and utility requirements and restrictions. Gas line shall be properly supported with approved hangers and be of sufficient size to feed supply lines.
8. For gas fired units, if a shut-off valve is not presently in place on the gas line to the heating unit, install one.
9. Provide for outside combustion air if location of heating unit does not comply with air supply requirements of Chapter 6 of the Uniform Mechanical Code.
10. When installing a new gas furnace, inspection of the chimney shall be required to insure chimney liner is in good repair and the type to be in compliance with applicable codes for use with gas-fired furnaces. Remove existing liner if deemed essential by the product Manager and verified by inspection. Install new Class B liner for entire length of flue, sized according to which gas appliances will be attached to it. Connect liner at bottom with gas appliances. Installation shall comply with Chapter 9 of the Uniform Mechanical Code and Section 05050 of the Rehabilitation Specifications.
11. NEW FLUE PIPE:
 - a. Furnish and install new 30 gauge galvanized smoke pipe servicing appliances.

- b. Installation shall comply with the requirements of all applicable codes and have all joints where sections meet, fastened with sheet metal screws.

12. FURNACE MOTOR:

- a. Replace existing electrical motor of furnace with new 110-120 V, AC motor, having an automatic reset overload protector.
- b. Installation shall be in accord with manufacturer's directions and shall be complete with all electrical connections as required by Code.

13. ELECTRICAL WALL HEATER:

- a. Furnish and install wall heater, installed in conformance with National Electrical Code.
- b. Thermostatic control shall be provided in each heated room or built into unit.

13020 FURNACE - CLEAN AND TUNE

- 1. Clean and tune furnace. All furnace work shall be performed by a qualified furnace technician. Furnace clean and tune shall be performed in accordance with ANZI Z223.1 Appendix H and include the following as a minimum:
 - a. Lubricate all moving parts.
 - b. Calibrate and adjust the thermostat and seal the thermostat wire penetration.
 - c. Replace or clean the furnace filter.
 - d. Furnaces without a filter shall be fitted with a filter, if possible.
 - e. Check and adjust the conditioned air flow.
 - f. Check and adjust the high limit control.
 - g. Check and adjust the fan control.
 - h. Inspect the venting system for the proper size, horizontal pitch, and evidence of flue restrictions.
 - l. Remove, inspect, and clean the burners.
 - j. Clean and vacuum the blower, return cabinet and filter rack so that they are free of dirt, grease, and any foreign matter.
 - k. Inspect the pilot and safety switch.
 - l. Clean and adjust the pilot light.
 - m. Inspect and test the heat exchanger for cracks, openings, or excessive corrosion.
 - n. Clean the furnace cabinet.
 - o. Check and adjust the temperature rise.
 - p. Check belt condition and replace if necessary.
 - q. Inspect and adjust the belt tension.
 - r. Inspect and adjust the burner flame.
 - s. Inspect all electrical connections.
 - t. Check and repair gas leaks in furnace and immediate supply lines.

DIVISION 14000 - ELECTRICAL

14010 GENERAL

1. All products supplied and work performed shall conform to the requirements of the National Electrical Code.
2. A minimum of 100 ampere service is required. It shall be the responsibility of the electrical contractor to split the load in compliance with the National Electric Code.
3. All replacement duplex receptacles installed shall be of a grounded type.
4. Kitchen outlets shall be placed on grounded individual circuits. Any outlet within 6 feet of the kitchen sink shall be of GFI type.
5. All kitchens shall have a minimum of two (2) ampere circuits.
6. All bathrooms shall contain one separate GFI type convenience outlet, not attached or connected to any lighting fixture. The control for the lighting fixture shall be a wall switch. Any outlet in a bathroom shall be a GFI convenience outlet.
7. Separate circuits shall be installed, as necessary, for washers, dryers, electric stoves, air conditioners and other such high-amperage appliances.
8. Basements shall have minimum one duplex outlet and one light for each 200 square feet.
9. Receptacle outlets installed in or on open porches, breezeways, garages and utility rooms shall be of the GFI type. All exterior entrances to the residence shall be lighted in accordance with the National Electric Code.
10. The electrical contractor is responsible for all permits and inspections required for his/her work.
11. Electrical contractor is responsible for repairing and patching holes in walls and ceilings created by rewiring. Rough work will be rejected.
12. All rooms, except as otherwise noted, shall contain a minimum of two separate and remote wall-type electric convenience outlets. Habitable rooms of 120 square feet shall have three separate and remote wall-type electric convenience outlets. Temporary wiring, extension, or zip cords shall not be used or allowed as permanent wiring.
13. Every habitable room shall have at least one ceiling or wall-type electric light fixture, controlled by a wall switch, or a wall-type convenience outlet controlled by a remote switch. Every bathroom, laundry, furnace room, and if applicable, hallway, shall contain

at least one supplied ceiling or wall electric light fixture, controlled by a wall switch and one wall-type grounded electric convenience outlet.

14020 EXISTING EQUIPMENT

1. Existing electrical equipment throughout the building which is not required and becomes superfluous shall be disconnected and removed.
2. Existing materials found to be in good condition and complying with the National Electric Code may be left in service.

14030 WIRING

1. All wiring shall be installed according to methods approved by the National Electrical Code. Service shall be a minimum 100 ampere when service is changed.
2. Minimum wire size shall be No. 14 AWG copper.
3. Minimum wire size shall be 10 AWG copper for feeders to panels.
4. Wire size shall be of the type and size as required by the National Electric Code. No wire smaller than #14 AWG for 15 ampere and #12 for 20 ampere shall be accepted.
5. Receptacle requirements shall be in accordance with the National Electrical Code.

14040 WIRING DEVICES

1. Where new receptacles and switches are required, provide any brand which is UL approved.
2. Plates for all switches and receptacles shall be of standard materials.

14050 SERVICE, FEDERAL AND SAFETY SWITCHES

1. Service feeder and safety switches shall be UL approved.
2. Provide type "s" fuses as required in all disconnect switches.

14060 PANEL BOXES

1. Panel boxes shall be enclosed code required gauge sheet steel cabinets with doors and catches.
2. Panel circuits shall be protected by automatic circuit breakers.
3. It is the electrician's responsibility to label the panel box with a circuit plan.

14070 LIGHTING FIXTURES

1. The contractor shall provide all lighting fixtures complete with amps, glassware, mounting hardware, frames and trim, stems, ballasts and sockets, to provide a complete operating fixture at each location.
2. A lighting fixture allowance shall be incorporated in the base electrical bid. Use the table below to determine the allowance:

Living Room	\$35.00
Dining Room	\$35.00
Kitchen	\$30.00
Bedroom	\$20.00
Bathroom	\$20.00
Hallway/Foyer	\$15.00
Exterior	\$15.00

Fixtures shall be approved by the property owner prior to installation. If the property owner desires a fixture costing over the allocated amount, she/he shall bear the excess cost.

DIVISION 15000 - ENERGY CONSERVATION

15010 MATERIALS

1. **LOOSE FILL INSULATION:** Loose fill insulation blown into attics and sidewalls shall meet applicable Federal specifications. Each bag or other container of insulation must carry a label stating the insulation material meets minimum Federal flammability standards.

All manufacturers and private labelers of insulation are required to furnish a certificate of compliance with Federal standards to each distributor or retailer to whom the product is

2. CRAWL SPACE VENTILATION

There shall be 1 square foot of free area for each 300 square feet of floor area.

3. BATHROOM VENTILATION

- a. Vents shall be able to change the air supply in the room at a rate of no less than 5 air changes per hour.
- b. Installation shall be according to the manufacturer specifications.
- c. Venting may be plastic flex pipe or solid aluminum vent pipe. Venting shall be by the shorter possible route.
- d. Any combination may be used, such as vent, vent light, vent-light-heater, and will be purchased at a rate defined in the building specifications.

15030 VAPOR BARRIER

1. When side walls are opened or covered over, a vapor barrier rated at least 1 perm shall be installed.
2. Ceiling need not have a vapor barrier if proper ventilation is provided.

15040 GENERAL ENERGY CONSERVATION

Refer to Appendix for “Energy Conservation Standards Requirements” for additional clarification and installation illustrations.

APPENDIX

ENERGY CONSERVATION STANDARDS REQUIREMENTS

1. INSULATION

- ATTIC: To achieve R-38.
Note: In floored attics, blow in beneath floor boards, to capacity.
- BOX SILL: To capacity (3-6” if possible).
- CRAWL SPACES: Either 6” batts between floor joists, secured by wire grid; or batts secured to interior of crawl space walls, hung

vertically and extending over interior ground surface 24".
In either application, install 4-6 mil Visqueen over all
ground area.

WALL: Optional.
However, in vertical walls adjacent to heated rooms, and
where wall stud cavities are open, 3" batts are to be
installed.

SCUTTLE/ACCESS DOORS: affix 6" batts.

HOT WATER HEATERS: Install insulation blanket (except "High
Efficiency" units).

HEAT DUCTS/HOT WATER HEATING PIPES: Insulate/wrap in unheated
spaces only.

2. WINDOWS:

All openings to have 2 layers glazing (either prime window plus
storm/combination window; or thermally glazed prime windows). Glazing
compound to be intact.

3. DOORS:

Door way openings to living areas to have storm/combination doors: core-type
aluminum or wood.

4. VENTING:

As required by code for attics and crawl spaces.

5. CAULKING AND WEATHER STRIPPING:

At all doors and windows, as needed. Use metal and vinyl bulb-type weatherstrip
at doors, with sweeps at interior and storm/combination doors, use thin spring
metal in window jamb channel. Caulk perimeter of all door and window openings
to make weathertight.

All openable sash to have meeting rail locks.

6. HEATING SYSTEMS:

All furnaces when replaced to be minimum 80% AFUE, electronic ignition.