

**Detroit Land Bank Authority
Renovation Project Manual
July 26, 2023**



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DIVISION 01 - GENERAL REQUIREMENTS

001010 Overview

Project

The project, as defined in the Agreement and the applicable Scope of Work, consists of exterior and interior repairs and/or modifications necessary to provide a "quick turnaround" of residential properties either to return them to a habitable condition or to prepare them for final renovation, as set forth in the applicable Scope of Work.

Site Supervisor Capacity

Contractor must provide a site supervisor/manager for each project. A site supervisor/manager can only be assigned to manage 3 Full Rehabs (or 5 partial rehabs) at the same time.

001020 Schedule – General Contractors

The approved Scope of Work shall be conducted in four (4) phases with a single final completion date.

The DLBA requires all Contractors to complete the Services and Scope of Work by the completion date provided in the Agreement, and failure to do so is subject to the penalties set forth in the Agreement.

DLBA will schedule a pre-Notice to Proceed (NTP) meeting to conduct an on-site inspection of the project area, comprehensively assess the full scope, and proactively address any potential challenges that may arise. In the event that unforeseen elements emerge during the pre-Notice to Proceed meeting, the contractor may submit a change order for proper review and consideration.

Following the approval of any necessary change order, DLBA will promptly solicit the contractor to furnish all estimated start and completion dates to the PM via email within 14 days of receiving the request. Subsequently, DLBA will issue the Notice to Proceed (NTP) to the contractor a minimum of three (3) days ahead of the agreed-upon start date for each phase.

Contractor shall have access to the property between 7:00AM and 6:00PM to complete work (Monday – Saturday).

Schedule – Trade Service Providers

DLBA will schedule a pre-Notice to Proceed (NTP) meeting to conduct an on-site inspection of the project area, comprehensively assess the TSP scope, and proactively address any potential challenges that may arise. In the event that unforeseen elements emerge during the course of the project, the contractor may submit a change order for proper review and consideration.

Following the approval of any necessary change order, DLBA will promptly solicit the contractor to furnish a start date to the PM via email, which must be communicated within a maximum of five (5) days from the date of the request.

For the duration of the project, the contractor shall be granted access to the property between the hours of 7:00 AM and 6:00 PM, from Monday through Saturday, to effectively carry out their work.

001030 Contractor Pre-Bid Site Visit

Contractor is strongly urged to inspect the interior and exterior of the property. Dimensions given are approximate. Contractor is strongly urged to conduct a pre-bid inspection to field-verify all measurements and dimensions. The DLBA's acceptance of a bid will be based upon the assumption that the Contractor has completed this visit and no change orders will be entertained based upon information that could have been ascertained during that visit.

001040 Verify Quantities and Measurements

All measurements provided by DLBA (i.e., LF, SF of drywall) are for Contractor's convenience. All dimensions given are approximates. No claim for changes in the price due to discrepancies in measurements or quantities will be honored if they were not submitted as part of the Contractor's initial proposal.

001050 Code Compliance

In the execution of the Services and the Scope of Work, Contractor shall facilitate inspections and comply with all applicable laws, rules, regulations, codes and ordinances of the City of Detroit, The County of Wayne, the State of Michigan, and the Federal government, including but not limited to building construction, zoning, historic preservation, environmental protection, energy efficiency and worker safety.

All DLBA homes must be up to current building code, as evidenced by approved permits from the City of Detroit's Buildings, Safety, Environmental and Engineering Department ("BSEED"). This includes compliance with:

- 2015 Michigan Building Code
- 2015 Michigan Residential Code
- 2015 Michigan Rehabilitation Code for Existing Buildings
- 2015 Michigan Energy Code

Contractor shall apply for, pay for, obtain, and forward copies of all required permits.

001060 Interpretations

Oral proposals or modifications to the Scope of Work will not be considered unless confirmed in writing before the time set for the termination of the bidding, by utilizing the DLBA's Alternative Product/QTY Template. Should any Contractor-bidder find any discrepancies in the work description, drawings, or standards, or be in doubt as to their meaning, they shall at once notify the DLBA who will issue an interpretation thereof. Written instructions will be sent to all bidders.

001070 Substitution of Materials

No substitution of specified material(s) shall be permitted without the prior written authorization of the DLBA. Any request for substitution of materials must be submitted in writing along with all pertinent information to the DLBA for approval prior to installation.

001080 Utilities

The DLBA shall be responsible for having all utilities (gas, water, and electricity) turned on at the property. If they are not active, Contractor shall make a request to the DLBA to activate these utilities. The DLBA will be responsible for the payment of all charges made by the utility companies during construction.

If electric service is not immediately available, Contractor shall submit change order covering the cost of using a portable generator and/or propane heater until services are made available.

001090 Security

Electrical Panel

- There should be a dedicated circuit for the exterior lighting.
- There should be a dedicated outlet in the basement for the alarm installation.

Exterior Door Installation:

- At least one screw at each door hinge shall be 3-inches long.
- All doors are installed with a Strike Master plate.
- All back and side doors shall be installed with a security door with SmartKey technology double cylinder locks and/or security cup and barricaded from the inside with 2x4s to prevent kick-ins. All locks shall be keyed alike.

Alarm Installation:

- Power, Windows, and Doors must be adequately installed.
- There should be a dedicated outlet in the basement for the alarm panel (send picture with request).
- The Alarm Company employed directly by DLBA will make sure all motion detectors and doors are responding adequately while they perform the alarm installation.

The following will be observed at ALL times:

- If Contractor or any sub-contractor removes any Secure View at any time, they must reinstall it before the end of the workday AND inform the Contractor's site supervisor to inspect the re-installation.
 - If the window or door size will be changed such that the existing Secure View will not be able to be reinstalled, the Contractor must advise the DLBA 48 hours in advance, prior to removing the Secure View for "new" window and door installation, so the DLBA can submit a Secure View work order to be scheduled before the existing Secure View is removed. .
 - If DAWGS is installed, the Contractor will need to advise the DLBA 48 hours in advance so an up/down service can be requested.
- Any sign of unauthorized entry, theft or attempted entry must be reported to the Contractor's site supervisor before any activity is allowed to take place by Contractor or any sub-contractor at the property. The Contractor shall immediately report this to DLBA, including pictures of damages.
- No uninstalled product should be visible from the outside of the structure. This includes covering basement windows if products (mechanicals included) are in the basement.
- No empty product boxes will be left visible – including in the dumpster.
- No house or garage keys are to be left onsite at any time.
- Every day, the last contractor to leave must ensure:
 - All tools and materials are out of view.

- All interior lights are turned off.
- The exterior porch light is turned on.
- The thermostat is properly set.
 - If wintertime, 55 degrees.
- Every window is closed and locked.
- The entry door is closed and locked.
- All door barricades are set in place.
- The alarm is set.
- *As part of its usual construction inspections, the DLBA Security Team will check the property daily and any findings will be reported to the Property Rehabilitation Team.*

Breach in Security

The DLBA will not be responsible for loss of Contractor, subcontractor or any of their agents or employee's equipment or materials. It is the Contractor's responsibility to secure their own and their subcontractor's materials and equipment.

In the event there is a security event, DLBA's Security Consultant should be immediately contacted. Contact information will be made available during the pre-Notice to Proceed meeting. P.

001100 Window/Door Guard Coordination

Contractor should submit a request via Smartsheets prior to window installation, so the metal DAWGS can be removed, and Secure View installed.

001110 Removal of Debris and Final Clean-up –Contractor

The contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by construction operations.

- The contractor to provide daily cleanup of the site.

At the final clean-up of a property, the Contractor shall:

- Not leave food inside the home.
- Remove all protective floor covering prior to final inspection.
- Provide final cleaning after receiving notification from the DLBA that all Punch List items have been completed and accepted by the DLBA.

- Clean all concrete slabs, porches, and sidewalks of any adhering plaster, or concrete. Rake all yards and remove any accumulated debris.
- Place all downspout extensions so that they extend at least 3 feet from building.
- Remove all trash, dirt, dust, and debris remaining on the premises.
- Provide new furnace air filter.
- Clean dehumidifier filter
- Clear condensation pump if equipped on furnace
- Remove waste materials, debris, and rubbish from the premises, and legally dispose of it away from the site.
- Cover the floors, in all finished rooms, with a heavy non-staining building paper AFTER the final inspection. The Contractor SHALL NOT TAPE building paper to any surfaces.
- A scrap piece of carpet or building paper shall be placed at the entrances to eliminate the tracking of dirt, dust, or other foreign matter onto the finished surfaces.

001120

Removal of Debris and Final Clean-up – Cleaning Contractor

The Cleaning Contractor shall:

- Clean built-in appliances, both inside and out, of all residue.
- Clean aluminum windows, doors, storm doors, and screens not already cleaned, with plain water, or a non-phosphate detergent.
- Wash all glass, both inside and out, and remove any paint spatters or putty marks remaining on the glass, with razor blades.
- Polish all mirrors.
- Clean lighting fixtures as follows:
 - Wash exterior and interior surfaces of glassware.
 - Clean electrical face plates, and door chimes.
- Carefully remove all dirt and stains from the ceramic tile. Remove paint spatters with a razor blade. Difficult to remove cement film on the grout, can be cleaned with TC-50 Ceramic Tile Cleaner or an approved equal, and a nylon scrubbing pad, or stiff brush. An acid solution shall not be used for washing ceramic tile.
- Thoroughly clean and polish all plumbing fixtures.
- Clean all laminated plastic surfaces with a cleaner approved for laminated surfaces.
- Wipe clean all shelving and cabinet work (inside and out) in the closets, kitchens, and other rooms. Remove all debris from the drawers, and storage bins.
- Clean concrete basement floors, remove paint, plaster, or other foreign materials that have dropped onto, and/or spattered the surfaces.

- Clean all wood, and resilient floors, and apply a coat of wax. Clean all carpeted floors with a vacuum cleaner.
- Wipe down toe kicks on the steps.
- Clean walls as needed.
- Remove trash produced during cleaning from the premises and legally dispose of it away from the site.

001130 Project Closeout Procedures

Operating and Maintenance Manual

Organize and submit to the DLBA, with submission of the final invoice, a binder containing the final Scope of Work, warranties, operation, and maintenance manuals.

Plumbing Systems Test

Contractor shall be required to wet test all plumbing systems at the expected working pressure of the system after all repairs and or replacements have been made and prior to the ordering of inspections. Evidence of this test shall be submitted to the DLBA.

Gas Line Pressure Test

Cap all gas lines prior to filling the distribution system with 120lbs of compressed air. Maintain pressure for 24 hours. Locate and seal any leaks in the system. Evidence of this test shall be submitted to the DLBA.

Sanitize and Clean Duct Work

If included in scope of work, clean all existing supply and return ductwork and grilles. Apply negative air pressure to prevent airborne particles from blowing out vents. Use high compressed air to clean registers and an air whip to clean ductwork. Apply antimicrobial treatment to all ductwork to deodorize and inhibit growth of bacteria, mildew, and mold. Contractor shall provide proof of service from a professional duct cleaning service to DLBA.

Chimney Cleaning

If included in scope of work, scrub the inside of all unpainted fireplaces with an acid bath. Clean all surfaces, brickwork, stonework, tile, etc.

Pest Control

Seal all cracks, holes and crevices on interior surfaces and exterior surfaces with low VOC caulks to prevent access by pests. Cover all pipe penetrations with escutcheon plates. All escutcheon plates shall be installed tight, caulk if necessary.

Key Turn-Over

All exterior doors and security doors shall be keyed alike. Include any garage, gate and/or mailbox keys. One set of keys shall be provided to the DLBA with the submission of the final invoice.

Project Assessment Process

- Each awarded project will have an assessment score within 30 days of project completion.
- Contractor needs to maintain an average score of 60 to be able to bid on full rehabs. Anything less, Contractor can only bid on partial rehabs until average score is back at 60.
- This score is being generated and averaged over the last five projects (if Contractor has undertaken fewer than 5 projects, the DLBA will only count those that have been completed).
- Points will decrease by 5.
- All Contractors will start at 0. Current DLBA General Contractors will not be graded on any work they've done under previous Agreements.

Evaluation Criteria & Description		Points
Timeliness	Determined by their ability to adhere to the timelines and milestone completion dates set at the beginning of the project.	60 pts (Max) by estimated completion date
Communication	The proper utilization of our communication systems, providing estimated start and completion dates via email or by using forms/documents provided, responding to emails within a reasonable timeframe.	20 pts (Max)
Quality	Based on the number of Punch List items.	20 pts (Max) 10 items or less (GC) 5 items or less (TSP)

001140 One Year General Warranty

Contractor shall execute the one-year Warranty Letter attached to this Agreement and deliver it to the DLBA with the final invoice. Further, Contractor shall furnish the DLBA with all manufacturers' and suppliers' written warranties covering items furnished under this Agreement prior to release of the final payment.

001150 Hazardous Materials

DLBA contracts for any necessary abatement of asbestos-containing materials “ACM” from the property prior to the Contractor receiving a Notice to Proceed (“NTP”). A post-abatement clearance will be obtained by the DLBA. All Contractors are required to have an asbestos awareness certificate to be able to recognize ACM. If ACM is found after the NTP is issued, Contractor is NOT TO DISTURB THE ASBESTOS, but rather shall notify the DLBA immediately.

The DLBA requires all Contractors to use the EPA’s Lead Renovation, Repair and Painting (RRP) Rule throughout the entire construction period and obtain a clearance at the end of construction to ensure the property is safe for occupancy.

001160 Temporary Fencing

Contractor shall provide temporary fencing as selected by the DLBA at the front of the property. Fencing shall prevent access to the property by the public. Fencing shall be maintained by the Contractor and removed upon completion of the final inspection.

001170 Payment Procedures

All payments will be made via ACH wire. In addition to submitting the required Financial Forms, an EFT form will also be required to be on file with the DLBA.

All invoices should be submitted using the DLBA’s Smartsheet Contractor Invoice [form](#).

001180 Contract Modification Procedures

Change Orders

If unforeseen conditions require modifications to the Scope of Work, the DLBA will review the condition with the Contractor. If the DLBA agrees that the condition could not have been identified at the time of the initial site review, the DLBA will authorize the Contractor to submit a request for a change through Salesforce for official approval. The request shall include:

- A statement outlining the reasons for the change.
- The effect of the proposed change on the final project cost.
- The effect of the proposed change on the estimated completion date.
- A list of quantities of products required and/or eliminated.
- Unit costs, with total amount of purchases and credits to be made.

Contractor will submit a Change Order Request for DLBA review using the DLBA's Smartsheet Contractor Change Order [form](#). The DLBA will review all Change Order Requests within 7 days.

001190 Project Management, Coordination and Clarification

Questions/Clarification Needed During Construction

Requests for Information (RFI)

Immediately on discovery of the need for additional information or interpretation of the Scope of Work, Contractor shall prepare and submit an RFI to the DLBA using the DLBA's Smartsheet Contractor Request for Information (RFI) [form](#). The DLBA will review each RFI, determine any action required, and respond. The DLBA will respond to each RFI within 7 days.

Project Meetings

Progress meetings will be held weekly. Representatives of Contractor and the DLBA shall attend. The DLBA will record minutes and distribute to all participants through Salesforce. Contractor's estimated completion date shall be updated within Smartsheets at each meeting.

001200 Unit Prices

Unit price is a price per unit of measure for materials, equipment, or services, or a portion of the Work. The unit price is used with a quantity to calculate the amount added to or deducted from (i.e., a Change Order) the Contract Amount by appropriate Change Order modification.

All unit prices that add to or deduct from the final project cost shall be taken from RSMeans **Residential New Construction cost data** from Gordian or the Craftman Book Company's **National Renovation & Insurance Repair Estimator** for the current year.

RSMeans is a widely recognized provider of construction cost data and estimating services in the United States. The company was founded in 1946 and has since become an industry standard for construction professionals looking for reliable, accurate, and up-to-date cost data.

Their labor rate is derived from various sources, which can be viewed here.

- Repair Remodeling Labor Rates
- Open Shop Labor Rates

- Standard Union Labor Rates
- Residential Labor Rates

The Craftsman Book Company (originally Cal Pacific Builders (1952-1953)) developed from a partnership between a construction contractor and licensed civil engineer. The first Craftsman book, California Home Estimator, was published in 1953. Since that time, Craftsman has published hundreds of technical and professional references for the construction industry. Their labor rate is usually consistent with union labor wages, more info can be viewed [here](#).

DIVISION 02 – EXISTING CONDITIONS

002010 Demolition and Debris

Contractor shall comply with governing EPA notification regulations before beginning selective demolition. Contractor shall comply with all applicable hauling and disposal regulations. Remove demolished materials from property and legally dispose of them in an EPA-approved landfill. Do not allow demolished materials to accumulate onsite.

The demolished material(s) shall be placed in neat piles and stacks while awaiting disposal. Debris shall be removed from the property as accumulated so that the property will not acquire a disorderly or unsightly appearance. Any debris must be removed prior to the final inspection and all areas shall be left in a neat condition. Contractor shall always take the necessary precautions to minimize annoyance to the surrounding community.

Walkways shall be maintained on the sidewalk in front of the property during construction.

002020 Concrete Removal

Cut or break up and remove concrete slab, footings, walls, drives or walks as scheduled to a depth of 12 inches below grade. If no replacement is scheduled, backfill to existing grade. The entire 12-inch depth shall be topsoil. Reseed the area when the weather conditions permit.

002030 Fences and/or Gates

When scheduled to be removed, sections of fence and gate shall be removed complete with post. Concrete footings shall be removed to a point at least 4 inches below the finish grade. All open postholes shall be filled with topsoil and compacted, and the entire area shall be raked clean and left in a neat condition.

002040 Stripping Interior Surfaces

Strip finish materials from floors, walls and/or ceilings. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering, and chopping, to minimize disturbance of adjacent surfaces.

- a) Remove lath without loosening studs. including drywall, plaster, lath, and plaster base (aka wood grounds).
- b) Remove finish floor surfaces including carpet, vinyl, floating wood flooring or tile from scheduled floor area. Original hardwood to remain. Remove all tacks, nails, staples, tackless edging, padding and cushions from the floor area. Clean up surface sufficiently to allow the underlayment or new finish to be applied in a level, smooth and neat manner. Underlayment shall be removed only when specifically called for in the Work Schedules.
- c) Remove window frames without loosening masonry sills and jambs.
- d) Remove door and window frames from deteriorated or unsound masonry openings with care. Brace existing masonry to prevent further damage to masonry and masonry lintels.
- e) Remove all existing unused joists, studs, framing, nails, hooks, wire, and other extraneous items. Provide a clean, substrate for new construction.
- f) Take care not to damage existing stair components, fireplace mantels or noted historic materials scheduled to remain.
- g) Disconnect, demolish, and remove all plumbing equipment, and components. Items include but are not limited to:
 - a. Plumbing fixtures
 - b. Supply and waste lines
 - c. Hose bibs
- h) Disconnect, demolish, and remove all electrical equipment, and components. Items include but are not limited to:
 - a. Light fixtures
 - b. All interior and exterior wiring
 - c. Electrical panels
 - d. Exterior meter box(es)
 - e. receptacles and switches (include associated boxes)
 - f. Telephone, cable and other low voltage wiring
 - g. Satellite dishes and associated equipment
 - h. Alarm system panels and associated equipment
- i) Disconnect, demolish, and remove all HVAC equipment, and components. Items include but are not limited to:
 - a. radiant heat fixtures
 - b. radiant heat piping
 - c. boilers
 - d. furnaces
 - e. ductwork
 - f. registers diffusers and grilles
 - g. exhaust fans
- j) All windows and exterior doors to remain.

002060 Milk Chute

Refer to Scope of Work to determine if Milk Chute is to remain in place or be removed.

Removal

Contractor shall remove the existing milk chute system completely, including stone or brick sills, and brick or block up opening. Brick shall be laid in full bed of Portland Cement mortar with 3/8-inch to 1/2-inch joint per course. Strike all new joints and clear off excess mortar from face surfaces. Installation of brick/block shall be installed to run true and level with face surfaces to blend with existing surfaces. Key in and match the existing brickwork with brick that is similar in color, style, and texture.

Remain-in-Place

Fix milk chute in closed position. Means and methods of securing may not be visible from the exterior. Air seal and insulate opening from interior. Interior opening may be removed and covered to match adjacent surfaces. Use joint compound. Allow joint compound to dry completely then lightly sand the area until smooth. "Feather" edges onto the surrounding wall surface. Prep wall for painting by wiping away dust.

002070 Garage and/or Accessory Structure Removal

Should removal of a garage or accessory structure be required, Contractor shall take the following steps:

- a) Remove existing wiring or utilities as necessary tying off at established service connections.
- b) Remove all debris from the site promptly.
- c) The slab shall remain and shall be properly protected from damage during the removal work. Contractor shall replace slabs damaged by the Contractor at their own expense.

DIVISION 03 – CONCRETE

003010 Driveways and Walks

Sub-grade shall be well compacted, well drained sand base, uniformly graded 4 – 6 inches below finish grade. New concrete shall be a minimum of 4 inches thick except that concrete at curb and sidewalk crossings shall be 6 inches thick. Finish surfaces shall receive a light brush finish and provide for uniform surface drainage. Concrete shall meet City of Detroit requirements.

Where a driveway or walk fills the space between existing abutting masonry or concrete, suitable expansion joints 1/2-inch thickness shall be provided between new walks and slabs, or other rigid structures. Expansion strip material used shall be pre-molded resilient bituminous fiber and shall be of sufficient depth to separate the newly placed concrete from the abutting slab, masonry, or structure.

DIVISION 04 – MASONRY

004010 Tuckpointing

Tuckpoint all joints and cracks from which mortar has eroded, deteriorated, or fallen out. Remove all loose and disintegrating mortar from all defective joints to a minimum of 1/2 inch, or until a sound surface is reached. Clean out with water pressure. Tuckpoint joints with a non-shrinking cement mortar the full depth of joint. New mortar to match the permeability properties of original construction and shall not be less permeable than adjacent masonry; material and mix ratios to be reviewed by DLBA prior to installation. Strike and tool the joint to reasonably match existing mortar. Clean all fresh mortar from brick face. The appearance of the mortar used for tuckpointing shall match the color and aggregate size of the existing mortar. Remove all excess mortar. Badly spalled, deteriorated, or broken brick shall be replaced with similar brick, that is to be approved by DLBA prior to installation. Do not apply to frozen or frost filled masonry.

If tuckpointing is specified at a property within a local historic district, follow technical guidelines in U.S. Department of Interior's [*Preservation Brief 2, Repointing Mortar Joints in Historic Masonry Buildings*](#).

004020 Brick Masonry Repairs

Before any masonry restoration and cleaning work is started, the contractor is to review the scope of work in the field with the DLBA to determine exactly what is to be completed and to get approval of the methods and materials to be used in the work.

Cleaning Existing Masonry

Removal methods may include water washing, solvent cleaning, and steam cleaning. In all cases, the method to be employed is to be reviewed with the DLBA for prior approval. Sandblasting shall not be used. Pressures in power water washing shall not exceed 1500 lb./square inch.

If masonry cleaning is specified at a property within a local historic district, follow [Masonry Cleaning Guidelines](#) established by Detroit's Historic District Commission.

DIVISION 05 – METALS

005010 Wrought Iron / Aluminum Railings

All railings dimensions are to be installed in accordance with current code. The railings shall be securely anchored to the porches, steps, retaining walls, etc. When installed on new concrete, posts, or post anchors shall be embedded into concrete. For metal railings set on wood decks, additional support shall be provided every 4 feet. The framing members and supports shall safely support uniformly distributed live loads of 100 p.s.f. plus all dead loads. Install all members accurately in location, alignment, and elevation, plumb, level, square, and true. All new railings must have at least one coat of rust inhibitive, exterior enamel paint applied after installation is complete.

DIVISION 06 – WOODS, PLASTICS AND COMPOSITES

006010 **Basement Stairs**

All new stair treads shall be a minimum of 10 inches deep. New treads shall be 2 x fir, or pine base or as specified on scope of work document. All stringers are to be constructed of 2 x 12's. The material used shall be the same as for the step treads. The treads and risers shall be routed or rabbeted to a depth of 1/2 inch into the stringers. No cleats shall be utilized. The rise and run of the steps shall be uniform throughout.

006020 **Main Stairs**

When steps with a riser are specified, the treads shall be of 5/4-inch x 10-inch No. 1 dressed fir or oak stock. The risers shall be of 1 inch stock, and stringers of 2-inch stock. The treads and risers shall be routed or rabbeted to a depth of 1/2 inch into the stringers. No cleats shall be utilized. The rise and run of the steps shall be uniform throughout. The maximum rise shall be according to current code.

006030 **Particleboard Components**

All particleboard components shall meet ANSI A208.1 for formaldehyde emission limits or all exposed particleboard edges shall be sealed with a low-VOC sealant or have a factory applied low-VOC sealant prior to installation. All MDF edges shall meet ANSI A208.2 for formaldehyde emission limits or all exposed MDF edges shall be sealed with a low-VOC sealant or have a factory applied low-VOC sealant prior to installation.

006040 **Sub-Flooring**

Repair sub-floor does not mean placing new sub-floor on top of existing. Remove existing subfloor to joist farthest from damaged area and install new.

006050 **Exterior Decks, Wood Porches, and Steps**

All deck, exterior stair, and railing components shall be built complete using all pressure treated materials.

- Deck boards to be minimum 5/4 inch by nominal 6-inch deck boards, unless otherwise indicated.
- Decking must have a 3/4" reveal (overhang) past all framing, skirt wall, and trim boards.

- Wood columns shall be raised a minimum of 4" above grade or concrete stoops to avoid exposure to water.

The size, and number of the joists, shall be as required for the size of the porch, as listed in the Work Description unless current Code is more restrictive.

Fasteners shall be stainless steel or galvanized screws as required for preservative treated lumber in sufficient length to penetrate not less than 1-1/2 inches into wood substrate.

Porches shall be built on new footings unless existing footings can be shown to be sound and of proper depth. Footings shall be minimum 42" deep and should not be backfilled until inspected and approved by city inspectors.

Porches, balconies, or raised floor surfaces more than 30 inches above a floor or grade, shall have guard rails not less than 36 inches in height.

- Railing system shall consist of nominal 2 x 6 top rail, 4 x 4 posts, and 2 x 2 vertical pickets spaced maximum 4 inches clear between pickets. Provide, and install stair system consisting of handrail, newel posts, intermediate posts, and pickets. Pickets to be installed on deck side of top and bottom rails.
- Stair treads to be minimum 2 x 12 boards.
- 3-foot-wide steps (treads of 2" stock); Risers to be minimum 1 x 8 boards, trimmed to fit, nose of tread to extend 1 inch beyond face of riser. Steps must have equal rise from grade to deck level.
- Steps over 3' wide must have a third stringer.
- Provide two handrails, one on each side.
- Stringers must rest on 4" thick concrete slab the full width of the steps.
- Stringers must be securely fastened to deck framing.
- Skirt wall if scheduled shall be a lattice skirt wall enclosing all open sides of porch and steps, include new 2"x 4" support framing (along perimeter of each lattice panel) and 1" trim stock to conceal all framing (joist framing and 4 x 4 support framing). Provide hinged and latchable access panel.

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

007010 Shingle Roofing

New roofing installations shall carry a minimum 30-year warranty and be of asphalt or asphalt/fiberglass composition unless otherwise specified. All new installations shall be complete with 15 lb. asphalt saturated felt over entire roof, ice and water shield at all eaves and valleys, new flashing at the chimney(s) and vent stacks, T drip edge at all eaves and rakes, bird-proof aluminum roof vents. New metal "T" drip edge shall be at least 2 1/2 inches wide. In all replacement roofing installations, the existing roofing must be stripped down to roof boards. All defective roof boards (up to 150 square feet) are to be replaced as part of the scheduled replacement roofing, in instances where more than 150 square feet of roof board or a complete re-sheet is necessary contact the DLBA for contract change order procedure. If existing roof boards are open spaced, sheathing must be applied. Contact DLBA for contract change order procedure.

007020 Roof Vents

New roof louvers shall be aluminum (bird proof). The minimum thickness of the aluminum shall be .027 inch. New louvers shall be of size, style, and number to comply with the following conditions:

- All separate attic spaces, which are sealed off from the remainder of the house, shall be cross-ventilated.
- Ventilators shall prevent the entrance of rain, and snow.
- The ratio of the total net free ventilating area, to the area of the ceiling shall be not less than 1/150. Exceptions: The ratio may be 1/300, if a vapor barrier is provided on the warm side of the ceiling; or if the ventilators located in the upper portion of the space provide at least 50% of the required ventilating area.
- The attic space that is suitable for future habitable rooms shall have at least 50% of the required ventilating area located in the highest part of the ventilated space.
- Holes cut through roof sheathing must be "saw cut", and they shall be properly sized to match the roof louver.

007030 Vinyl Siding

When a house is scheduled to be resided with vinyl, all openings shall be trimmed out with aluminum coil stock and all existing wood trim (fascia, drop beams, brackets, columns, etc.) shall also be covered with aluminum coil stock unless otherwise noted. Color of aluminum trim to be selected by the DLBA. Vinyl soffit may be used on overhangs and porch ceilings (soffit panels must run perpendicular to dwelling walls).

007040 Roof Flashing

New roof flashing must be installed at all vent stacks, chimneys, walls, and dormer walls. Metal flashing must be bent at crisp angles. Flashings hammered into shape or poorly bent are unacceptable. Base and step flashing must extend up vertical surfaces a minimum of 4 inches and cover or be woven into shingles a minimum of 4 inches. On wood, vinyl, aluminum, etc. sided structures vertical portions of metal flashing must be placed behind siding material. On masonry surfaces vertical portions of metal flashing must be counter flashed with counter flashing, let into raked or saw cut mortar joints 1 inch, and the mortar joint refilled with mortar. Note: Saw cuts in brick face are unacceptable.

007050 Rim Joist Insulation

After cleaning the area thoroughly, apply expanding foam to the rim joist at the entire perimeter of the basement and/or crawl space exterior walls. Install to R-19 at a minimum. Use a foam product that meets International Residential Code (IRC), Section R314.5.11, and Underwriters Laboratories, Inc. (UL) classification Certificate R7813. Insulate from the subfloor for the first floor to the top of the foundation wall and seal all penetrations and the top of the foundation. Seal all openings within the area of the rim joist created by plumbing, gas lines, electrical boxes, or any other penetrations.

007060 Insulation

Refer to scope of work for type of insulation to be installed at walls, ceilings, rafter spaces, and floors. When floor insulation over unheated spaces is specified, it shall be R-25. Whenever wall cavities are opened in rehabbing of existing structures, insulation shall be minimum R-13 in frame walls. When insulation is specified for attic spaces, a minimum of R-38 should be achieved in existing structures. For new construction insulate attics to a minimum R-49 value, cathedral ceilings to R-38, total wall value to a minimum R-21 and floors over unheated, uninsulated spaces to a minimum of R-25. Fiberglass batt, or blanket insulation, adjacent to exterior surfaces, shall be combination insulation with a vapor barrier. The vapor barrier shall be installed to the warm side. Install insulation as per manufacturer's recommendations. If specified, a 4-mil (minimum) continuous vapor barrier may be installed.

When eave vents are installed, adequate baffling of the next opening must be provided, to deflect the incoming air above the surface of the installed blown or poured insulation. The baffles shall be installed, at the soffit, on a 60-degree angle from the horizontal.

Ceiling insulation shall maintain the integrity of the insulation by fitting the insulation materials around pipes, conduits, and equipment penetrating the ceiling. The edges, and ends shall be tightly butted.

007070

Air Sealing

Seal all accessible cracks, gaps, and holes in the building envelope (the barrier between the indoor conditioned space and the outside) with low VOC caulk (if less than 1/4 inch) or expanding foam (if greater than 1/4 inch). Seal all top plate and bottom plate penetrations. If the foundation masonry wall is open core concrete block seal the tops of the block with expanding foam. Seal all penetrations created by plumbing, gas lines, electrical boxes, and outlets. Seal large accessible gaps around windows between house framing and window frame – use special care on large sliding-glass doors and vinyl-framed windows: do not use high expansive foam on these. Take care to seal all joints without excess sealant. Seal any gaps in the building envelope adjacent to flues with carefully cut to fit sheet metal that is securely fastened to framing sealing all seams and gaps with fire rated caulk. Seal recessed light fixtures in ceilings that are part of the building envelope and are not rated for insulation contact with an airtight box made of drywall sealed to the ceiling and seal IC rated recessed fixtures with caulk. Seal any entries to attic space using weather stripping on attic doors or hatches. Air sealing must be done prior to the installation of insulation.

007080

Damp-Proofing Foundation Walls

Excavate to a point 8 inches below the bottom of basement floor. All walls scheduled to be dampproofed shall be prepared as necessary prior to the application of the damp-proofing material. Repair all loose or defective mortar joints and cracks in the exterior foundation walls. Exterior foundation walls of masonry construction shall be damp proofed by applying not less than 3/8 inch of Portland Cement parging to the exterior side of the walls from the footings to the finish grade. The parging shall be covered with one coat of an approved bituminous material applied at the manufacturer's recommended rate, and a 6-mil plastic membrane.

Exterior foundation walls of concrete construction shall be damp-proofed by applying one coat of an approved bituminous material at the manufacturer's recommended rate with 6-mil plastic membrane.

Install new plastic drain tile. Where none exists, new 4-inch drain tile shall be properly placed at the perimeter of the footing, on a 2-inch bed of "pea stone", and connected, as required by the local code, to a storm sewer system, natural outlet, or drywell. Cover drain tile with a minimum of 6 inches of "pea stone".

Backfill material placed against newly damp-proofed surfaces shall be an appropriate sand-gravel mix for proper soil drainage. Where applicable, the top 8 inches shall be topsoil suitable for plant growth, with finish grade sloped away from the dwelling. When concrete will be placed over newly backfilled areas, backfill must be put down in nine-inch lifts and tamped.

007090 Sealants and Caulks

All caulks and sealants, including floor finishes, must comply with Regulation 8, Rule 51, of the Bay Area Air Quality Management District and may not exceed 250 grams of VOC per liter of coating as thinned to the manufacturer's maximum recommendation, excluding the volume of any water, exempt compounds, or colorant added to the tint bases.

007100 Adhesives

All adhesives must comply with Rule 1168 of the South Coast Air Quality Management District.

DIVISION 08 – OPENINGS

008010 Exterior Doors and Frames

Doors shall be installed complete with new entrance lockset hardware and dead bolt lock, keyed alike. Only thumb turn locks on interior side are acceptable. The doors shall be fully weather-stripped including at threshold, and they shall be hung with three, 4-inch butt hinges of brass or galvanized steel. All exterior door locksets shall use SmartKey technology so that security door and exterior door locksets can be keyed alike.

Jambs at the strike area at all exterior doors shall be reinforced with a StrikeMaster or equivalent product.

008020 Metal Garage Doors

The door shall be installed complete with latch lock and hardware. The hardware shall be galvanized, or zinc plated (See Vehicle Door Hardware). The counterbalance spring may be extension, or torsion type. The bottom edge of door shall have a vinyl weather seal. When the door is closed, the gap at the top and sides shall be no larger than 1/2 inch.

The door shall be overhead or roll-up type, as selected by the DLBA. The metal shall have a corrosion resistant finish applied to both exterior and interior surfaces. The steel shall be 26 gauge galvanized and bonderized steel panels, or it shall be standard sheet aluminum of a gauge, as recommended by the manufacturer.

008030 Interior Doors

All doors shall be installed complete with new passage set hardware, and shall be hung with two, brass or steel, 3 1/2-inch butt hinges. Hinge bumpers are unacceptable on hollow core doors. All hardware within a room shall be similar in style and finish.

008040 Windows and Hardware

A new window and assembly shall include the: sash, jamb, stops, casing, mullions, frame, stiles, sill, stool, apron, screen insert, and all trim appropriate to the type. All sashes shall be fully weather-stripped. Existing storm windows and their frames must be removed. Caulk interior and exterior of perimeter frame of replacement unit.

All egress or rescue windows from sleeping rooms shall have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches. Where windows are

provided as a means of egress or rescue, they shall have a finished sill height not more than 44 inches above the floor.

Glass within windows located within hazardous locations as defined by the Michigan Building code shall meet the code's safety glazing standards and bear a visible designation indicating the type of glass used.

Glass within windows at bathrooms shall have obscure glass. The lower sash for double hung, and the lower 2/3 for casement shall be obscure.

Provide vinyl (PVC) or aluminum clad wood windows, conforming to the most recent ANSI/AAMA/NWDA 101/I.S.2/A440 specification for residential performance class and performance grade 15 or higher windows.

Windows to be NFRC-labeled and certified by the manufacturer. Windows shall meet or exceed current Energy Star standards for northern areas.

- Air infiltration at 25mph – 0.30 cfm or less.
- Overall effective thermal transmittance coefficient (U-value) - 0.30 or less.
- Visible Transmittance between 0.51 or greater.
- Solar Heat Gain Coefficient 0.22 or greater.

Lock: High pressure zinc die-cast cam lock and keeper. Two locks on units 36 inches and wider.

Insect Screen: Factory installed full screen, outside-mounted, aluminum-framed, fiberglass or coated-aluminum screen removable from inside.

008050 Glass Block

Where basement windows are scheduled to be replaced with new glass block windows, all windows shall be installed with an operable fresh air vent. Glass block windows installed in laundry areas shall be equipped with a dryer vent in lieu of fresh air vent.

If glass block replacement is specified at a property within a local historic district, follow [Glass Block Guidelines](#) established by Detroit's Historic District Commission.

008060 Wood Windows

Coordinate and cooperate with the Historic Commission on the repair or replacement of existing wood windows. Confirm all repairs comply with the Historic Commission's Certificate of Appropriateness.

Verify window openings by field measurements before fabrication.

Prior to removal of existing windows or sash, have materials in place and ready for erection of temporary closures and protection of existing openings.

Hardware:

Maintain existing hardware in place unless it interferes with repairing window in place. Replace missing hardware to match existing at other windows.

Repair all damaged sash as required to restore soundness and integrity to the unit. Replace all sashes having rotten corners and missing muntins with matching sash. Finished windows to be fully intact, structurally sound, and weathertight.

Rails and Stiles:

Replace rotted or structurally unsound rails or stiles with new members matching the profile of existing components.

Replace all cracked, broken and missing lights with clear sheet glazing-quality glass, or glass to match existing, thickness as recommended by manufacturer for size of light. Install glass using glazier points and glazing compound in accordance with the standards of the Flat Glass Marketing Association.

Bathroom sash, when scheduled for replacement, shall have obscure glass. The lower sash for double hung, and the lower 2/3 for casement shall be obscure. Other types of bathroom sash shall have obscure glass as is appropriate to their design. All new shall comply with the appropriate Michigan Code.

If both sashes are replaced, remove weights and chains, insulate sash weight cavity with non-expanding foam, and install new spring balances, appropriately sized for weight of sash. Remove parting bead and install new vinyl or aluminum sash track. Assure smooth and proper operation of both sashes.

Weather-stripping shall be installed to prevent the infiltration of dust, water, and wind. The sash shall be fully weather-stripped at the: head jamb; bottom rail; checkrail; and side jambs or mullion jambs.

Clean and prepare all surfaces for painting. Scrape off excess and loose paint, and sand to smooth condition.

All openings between the wood, masonry, and metal shall be caulked with a silicone sealant. Should an opening be deeper than 1/4 inch, it shall be first packed with a backing (flexible polyurethane, polyethylene, polyvinyl chloride, cured polysulfide, sponge rubber, neoprene or butyl rod manufactured for this purpose) to within 1/4 inch of the face surface, and then filled with silicone sealant.

Cleaning and Protection:

Clean interior and exterior surfaces immediately after installation. Exercise care to avoid damage to protective coatings and finishes. Remove excess glazing materials, sealant, dirt, and other substances.

Clean glass after installing windows.

The Contractor shall be responsible for protection of the windows during construction. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during the construction period.

008070

Steel Windows

Coordinate and cooperate with the Historic Commission on the repair of existing leaded windows. Confirm all repairs comply with the Historic Commission's Certificate of Appropriateness.

Remove all existent sealant between steel window frames and masonry.

Hardware:

Maintain existing hardware in place unless it interferes with repairing window in place. Replace missing locks and pulls with material, profile and finish matching existing as closely as possible.

Replace all cracked, broken and missing lights with clear sheet glazing-quality glass, or glass to match existing, thickness 3/16 inch or to match existing thickness.

Remove all existing paint, oil, grease, rust, and scale from all steel window surfaces, exterior and interior, including undersides and hidden locations, using mechanical and chemical methods, as necessary.

Repair moderately damaged and deteriorated components by welding or brazing new pieces to existing. Replacement sticking profiles are to match existing.

Repair all holes, cracks, and minor damaged deterioration with approved epoxy metal filler following manufacturer's instructions. Finish all filled areas by sanding exposed epoxy smooth and flush with surrounding surface, after curing time has elapsed. All repairs shall be as inconspicuous as possible.

When metal repairs are complete, prime all exposed metal surfaces within two hours of complete cleaning down to bare metal surface. Finish color for interior and exterior of steel windows to be selected by DLBA.

Provide spring-metal weatherstripping with an integral friction fit clip. Apply weatherstripping after the repaired window is painted.

Provide backer rod and sealant around steel window frame assembly to isolate metal window frames from adjacent masonry.

Adjust operating sash and hardware to provide smooth operation and weatherproof closure.

The Contractor shall be responsible for protection of the windows during construction.

DIVISION 09 - FINISHES

009010 Drywall Repair

Quantities listed in the Scope of Work are relative and are only intended to lead the Contractor to the areas needing repair. Small quantities of drywall (example: 2 square feet) can hardly be repaired. Therefore, the Contractor shall replace as much drywall as is necessary to make satisfactory repairs.

Screws shall be used to secure drywall to ceilings in order to prevent pops.

Nail pops, blistering in tape joints, protruding or uneven joints, or other visible blemishes on gypsum wallboard visible from 5 feet under normal lighting conditions are considered excessive and will be corrected by the contractor.

009020 Mold and Moisture Resistant Drywall

Paperless (fiberglass faced) mold resistant drywall shall be used in areas subject to moisture (i.e., in bathrooms, in laundry areas, kitchen areas adjacent to sinks, and basements). All edges, holes, and joints shall be treated with a mold resistant setting type joint compound designed for this purpose. Conventional wallboard tape shall not be used. Two-inch fiberglass tape shall be used. In the tub and shower area locations, set the edge of the wallboard 1/4 inch above the fixture. In tub and shower wall locations, where ceramic tile is to be installed, drywall is not to be used. An approved tile backer substrate is required. Drywall in basements shall be held a 1/2 inch above the floor.

009030 Ceramic Tile

All new floor tile installations in bathrooms shall include a new threshold, using natural, or synthetic (manufactured) marble. The new threshold shall fit the opening, and set tightly between doorjamb, so that a watertight seal is made. The Contractor shall make sure that the finished floor level of the new floor matches the level of adjacent floors.

009040 Carpet

New carpet shall confirm to HUD UM-44D. Carpet cushion shall comply with UM 72 – Class 1. Carpet and pad must meet the Carpet and Rug Institute's Green Label certification.

009050 Painting

Use paints and primers meeting Green Seal G-11 Environmental Standards. All interior woodwork, including access panels etc., shall be painted with semi-gloss, gloss, or satin sheen finish. Ceilings shall be painted with flat sheen finish. Walls shall be painted in an eggshell or satin sheen finish.

Touch up paint color to match adjacent surface. Repaint entire wall if touch-up patch is identifiable from 5 feet under normal lighting conditions.

009060 Repair Wood Flooring

Remove broken, decayed, worn, or otherwise defective members of the existing wood floor, to a point of undamaged material. Care shall be taken, during the removal, to not rip or break the tongues from the flooring strips, or the pieces that are intended to be retained. Match the existing species, grade, size, thickness, type, pattern, and finish. Remove all plaster, mortar, paint drippings, dirt, and debris from the sub-surfaces. Inspect the surfaces to receive flooring to assure that they are sound, level, even, and dry. The flooring shall be shimmed, where necessary, and be properly secured at the points of bearing. Tighten all loose floorboards. Install new wood to the area to be repaired, blind nailing through the tongue at 12-inch centers. The last board may be face nailed using finishing nails. The entire floor area shall be inspected for popped, or protruding nails. All nails shall then be countersunk, and wood filled. The area shall be sanded smooth and free of roughness, ready to accept the final finish coat.

009070 Sanding and Refinishing

Prior to sanding, the Contractor shall check that the floors have been re-nailed to eliminate squeaking. Re-nail as needed to eliminate squeaking. All nails shall be countersunk, and their holes shall be filled. The floors shall be swept clean, and vacuumed before, and after sanding. The floors shall be machine sanded, beginning with No. 2 paper, and graduating to No. 00. Where machine sanding is impossible, they shall be hand scraped, and hand sanded to give a smooth, even finish. A minimum amount of wood surface shall be removed. All sanded, and refinished floors shall require shoe moldings. All new, or existing shoe moldings shall be set flush to the floor.

009080 Wood Floor Finish

Do not begin installing finish until the DLBA inspects and approves all floor repair and sanding work. Wood Floor finish shall comply South Coast Air Quality Management District Rule 1113, Architectural Coatings. Before performing work, select test area with DLBA for approval.

009090

Transitions

Provide transition strips where there is a finish floor difference of $\frac{1}{4}$ " or greater. Aluminum or oak transitions shall be approximately one inch wide. A transition strip for vinyl floor covering may be a standard preformed vinyl strip, cemented to the floor.

DIVISION 10 – SPECIALTIES

010010 House Numbers

When not specified within Scope of Work, provide a clear white pine board approximately 20 inches, by 7 inches, by 1-inch nominal thickness. Dress the edges, sand smooth, prime and paint with two coats of exterior house paint to match existing trim of the house. Provide numbers 3 inches high, by 1/4 inch thick of: 11-gauge galvanized steel, plastic, or aluminum, evenly spaced on the finished board. Mount the board to the front exterior wall of house in a suitable location that then can be read from the street, or sidewalk, in the DLBA's estimation. Use "A & J", or other appropriate anchoring inserts for masonry, or stucco houses. Mount with wood screws, for frame houses. The numbers shall not be applied with adhesive, or staples.

DIVISION 11 – EQUIPMENT

011010 Appliances

Refer to Kitchen Layout Plan for required clearances in Kitchen:

Ranges – 30 inches wide

Refrigerators – 36 inches wide

Dishwashers – 30 inches wide (includes 24" clear width with 3" fillers on each side)

DIVISION 12 – FURNISHINGS

012010 Cabinetry

All new cabinets must meet the minimum standards of the Kitchen Cabinet Manufacturer Association (K.C.M.A). Contractor shall verify, in the field, all cabinet and countertop dimensions listed in the Scope of Work.

Base cabinets, if designed to rest directly on the floor, shall provide a toe space at least 2 inches deep, and 3 inches in height. A shoe molding shall be placed over the joint between the toe space and the floor; vinyl base can be used.

New upper cabinets shall be attached with wood screws. Nailing these cabinets to the wall is not acceptable.

All particleboard components shall meet ANSI A208.1 for formaldehyde emission limits or all exposed particleboard edges shall be sealed with a clear low VOC sealant or have a factory applied sealant prior to installation. All MDF edges shall meet ANSI A208.2 for formaldehyde emission limits or all exposed MDF edges shall be sealed with a clear low-VOC sealant or have a factory applied low-VOC sealant prior to installation.

012020 Countertops

Provide smooth, clean exposed tops and edges in uniform plane free of defects.

Samples

Submit samples of countertop to DLBA for approval. Samples shall show anticipated range of color, texture, and finish to be expected in the final installation.

Field Measurements

The Contractor shall verify, in the field, all countertop dimensions. Field measurements shall be taken once all cabinets have been installed in their permanent positions. The following related components must also be available at time of measurement (templating):

- Cabinet Doors
- End Panels
- Cabinet Hardware
- Sinks (and Manufacturer-supplied templates)
- Plumbing Fixtures
- Electrical Outlets (roughed in)

Edge Profiles

Edge profile shall be radius unless otherwise noted.

Stone Countertops

In designs where part of the countertop is spanning between supports, the length of the span shall be limited to 2'- 0" (600 mm) for $\frac{3}{4}$ " stone thicknesses and 3'- 0" (900 mm) for $1\frac{1}{4}$ " stone thicknesses. In designs where the countertop is cantilevered or overhanging the supports, the cantilever shall be limited to 6" (150 mm) for $\frac{3}{4}$ " thick countertops and 10" (250 mm) for $1\frac{1}{4}$ " countertops, but in no case may the cantilevered portion represent more than $\frac{1}{3}$ of the width of the countertop. Cantilevered countertops exceeding these dimensions will require corbelled supports beneath the stone. The exposed underside of cantilevered portions of countertops will be sawn or otherwise unfinished surfaces.

Butcherblock

Wood should be FSC certified renewable resource. Include with sample the wood type. Standard thickness shall be 1-1/2". Solid wood construction with no veneers or mdf cores. Grain-Pattern shall be Edge Grain with Butt joints. Wood surface shall be protected by an environmentally friendly finish. Finish shall be approved for contact with food, 100% VOC free, resistant to stains, cleaning products, and solvents. Apply the same amount of finish to all surfaces, sides, and ends. Provide product information on the finish to the DLBA for approval.

In cases where the countertop is cantilevered or overhanging the supports, the cantilevered portion shall not represent more than $\frac{1}{3}$ of the width of the countertop. Cantilevered countertops exceeding these dimensions will require supports.

DIVISION 22 – PLUMBING

022010 Wall, Floor and Ceiling Plates

In finish spaces and within sink and vanity bases, furnish a chromium plated sectional escutcheon on each pipe or hanger roof penetrating the wall, floor, or ceiling. Plates shall fit snugly.

022020 Water Heater

Water Heaters shall be 90% efficient power vented, insulated to R-7, with a minimum 10-year warranty.

022030 Hose Bibbs

Hose bibbs shall be located at the front and rear of the property for proper servicing of the yards (when existing) or located within 6 feet of the area when penetration of front or rear wall is impossible. The hose bibbs shall be frost-proof type. Hose bibbs shall have vacuum breakers.

022040 Fixture Requirements

Toilets: Water Closets shall be WaterSense Certified. They shall be “Dual Flush,” 2-piece, close coupled, white, vitreous china commode with flow rates of 1.6 and .9 GPF for its respective high and low flushes.

Showerheads: Shower heads shall be WaterSense Certified. They shall have a maximum flow rate of 2.0 gallons per minute.

Bathroom Faucets: Bathroom sink faucets shall be WaterSense Certified. They shall have a maximum flow rate of 1.5 gallons per minute.

Kitchen Faucets: Kitchen faucets shall be WaterSense Certified. They shall have a maximum flow rate of 1.5 gallons per minute.

022050 Drain, Waste, Vents

All trenches shall be backfilled evenly and be thoroughly compacted using acceptable fill materials. In no case shall the excavation for trenches undermine or disturb the stability of the building foundations or concrete located in the public or easement areas.

If the scope of work includes replacement of sanitary sewer piping, an inspection by DLBA must be made before the new line is backfilled. The Contractor shall provide the DLBA with a fiber optic video tape of the new sanitary sewer piping with their request for a DLBA inspection. The Contractor shall provide the DLBA a minimum 48-hour advance notice. The Contractor shall secure the site with temporary fencing to prevent access to the area to be backfilled prior to DLBA inspection.

Sanitary sewers scheduled to be routed shall be cleaned all the way to the main sewer connection(s). Drains when routed shall be free of all miscellaneous debris to allow the free and unobstructed flow of liquids and solids.

Clean outs shall be provided at the base of each stack.

DIVISION 23 - HEATING VENTILATING AND AIR CONDITIONING

023010 **Furnaces**

All gas fired furnaces must meet Energy Star Program Requirements and must have minimum 90% AFUE rating.

New units shall have ratings sufficient to ensure proper heating of all habitable rooms within the living unit they are intended to serve. Use the Air Conditioning Contractors of America (ACCA) Manual J for heat loss calculation (calculate manual J based on the post rehab building envelope) and Manual S for equipment selection. Provide both Manual J & S reports with first Draw documents. Heating systems shall be designed, installed, and balanced, or adjusted to provide for the distribution of heat to all habitable rooms, and other spaces in accordance with the calculated heat loss of the spaces to be heated.

Owner's manual and warranty documents shall be left for the new homeowner, with copies to DLBA at final approval.

023020 **Duct Sealing**

Seal joints, collars, flex duct connections and seams in ductwork and plenums with fiberglass mesh and a 1/16-inch coating of duct mastic (about the thickness of a nickel).

023030 **Humidifier**

The humidifier shall be of proper size to provide adequate humidity (38% @ 10 degrees F.) for the size of the dwelling unit.

023040 **Bathroom Exhaust Fans**

All Bathrooms shall be equipped with a wall switched exhaust fan, exhausted to the exterior. Refer to scope of work for size of fan and controls. The fan shall be Energy Star approved, no less than 70 CFM operating at 1 sones or less. The fan shall provide a minimum of 8 air changes per hour of bathroom air. The fan switch shall be separate from the light switch. Undercut the door, if necessary.

DIVISION 26 – ELECTRICAL

026010 General

Contractor shall provide lump sum to provide new electrical systems. Lump sum shall include demolition of any existing wiring and boxes. Lump sum shall include installation of new:

- 200-amp panel (up to 20 circuits) to code (Label breaker panel).
- 220 Volt lines for dryer and stove
- Dedicated circuits for electrical appliances, dryer, range, microwave, and dishwasher to code.
- Junction boxes for smoke detectors and CO2 detectors necessary to meet code,
- Receptacles and switches. Receptacles must be properly grounded. Install new GFCI receptacles per code.
- Wiring for 5 pull chain lights in basement.
- Receptacle and switch covers.
- Labor and material for one dedicated circuit for receptacle above fireplace.
- All lighting shall be LED

026020 Doorbell

Doorbells shall be hardwired and shall include new doorbell button, mounting screws and cover, wiring, chimes or bell, housing, mounting screws and brackets, transformer, etc. Doorbell button and chime or bell shall be installed in accordance with the manufacturer's instructions. The unit shall be installed at the main entry to the structure.

026030 Exterior Light Pole

If existing pole is to be salvaged, remove the existing wiring back to new electrical equipment. Install new code approved wiring in accordance with the NEC and the local code.

If the scope of work specifies, replace the existing light fixture. The new fixture shall be energy-star rated, contain a built-in photocell, and rated for wet locations.

DIVISION 32 - EXTERIOR IMPROVEMENTS

032010 Fences and Gates

Fencing shall be rigid, straight, and plumb, following grade levels where practicable.

Verify layout information for fences and gates shown on the Drawings in relation to the property survey and existing structures. Verify dimensions by field measurements.

Stake locations of posts, gates, and terminal posts. Notify DLBA before fence posts are installed.

Lay out fence posts at equal spacing not exceeding eight feet.

Post holes

Terminal, corner, and gate posts shall be set in 12-inch diameter, 36-inch-deep concrete footings. Line posts shall be set in 9-inch diameter, 36-inch-deep concrete footings.

Keep surface of concrete footing 2 inches below grade unless post is set in paving, where concrete shall meet surface of paving.

Excavation

Drill or hand-excavate (using post-hole digger) holes for posts to diameters and spacing indicated, in firm, undisturbed or compacted soil.

Unless otherwise indicated, excavate hole depths approximately 3 inches lower than post bottom, with bottom of posts set not less than 36 inches below finish grade surface.

Setting Posts

Center and align posts in holes 3 inches above bottom of excavation. Space a maximum of 8 feet unless otherwise indicated.

Protect portion of posts above ground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment and hold in position during placement and finishing operations.

Brace Assemblies

Install diagonal wood braces as required at end and gate posts and at both sides of corner posts, in accordance with manufacturer's written instructions.

Vehicle Gates

Gates shall be swing type with a latch. All hardware shall be galvanized. Vehicle gates shall be of a width appropriate to their intended use and shall also include a drop-rod assembly, an appropriate latch that secures both halves together and swivel gate caster wheels. All gates shall operate easily and properly. A hole shall be drilled 2 inches into the concrete to accept the drop rod. A metal sleeve sufficient in diameter and depth shall be provided to receive the drop-rod assembly.

Man Gates

Hinges shall be 180-degree inward swing. Latches permitting operation from both sides of gate with provisions for padlocking accessible from both sides of gate. Man-gate shall include spring closer.

After repeated operation of completed installation equivalent to 3 days' use by normal traffic, readjust gates for optimum operating condition and safety. Lubricate operating equipment and clean exposed surfaces.

032020 Lawns

Minor corrections to the grade shall be a part of this Contractor's work as required to complete the proper installation of the lawn work. The lawn shall be seeded or sod only during the appropriate seasons, when the soil is frost free and weather conditions are favorable. All areas to be seeded or sodded shall be properly graded and free of existing grass, weeds, debris, and rocks.

032030 Seed Lawn

Seed shall be Pennlawn red fescue. Fertilizer shall be commercial type known as 10-6-4. When the soil has the proper moisture content, spread fertilizer over the prepared area to be planted and rake it into the soil. Apply fertilizer at a rate of 3 pounds per 100 square feet of area. Lightly roll the ground in two directions before seeding. Seed shall be broadcast at a rate of one pound per 200 square feet of area. Rake the seed in gently and again roll the entire area. Cover the newly seeded section with a one-inch mulch of peat moss, well-rotted manure, or native organic material. After mulching, thoroughly water all seeded areas with a fine spray.

032040 Sod Lawn

Sod shall be nursery grown, fresh cut, free of noxious weeds and seeds and well rooted. It shall be cut and then laid as soon as possible, weather conditions permitting. Sod shall be at least one inch in uniform thickness. The type shall be best quality Kentucky Blue Grass or equal. Fertilizer shall be commercial type known as 10-6-4. When the soil has the proper moisture content, spread fertilizer over prepared areas to be covered, and rake it into the soil. The sod shall be installed in a regular pattern starting at the base of any slopes and paralleling contours. Strips shall be tightly butted, and the end joints shall be staggered. Sections shall be heavily watered following placement and again when the entire installation is completed. A few days after installation, the sod shall be rolled lightly and again watered thoroughly.

032050 Tree Trimming and Stump Removal

When limbs larger than 2 inches in diameter are removed, the butt end of the branch remaining on the tree shall be sealed. Neither branches nor limbs shall obstruct the use of sidewalks or driveways, nor project to within 2 feet of structure(s) located on the property.

When a tree stump is to be removed, all visible traces shall be removed to a point at least 6 inches below the finish grade and the hole backfilled with topsoil. The entire area shall be raked smoothly and broom-swept clean. Reseed area, weather conditions permitting.