**PROJECT SPECIFICATIONS GALLAS RESIDENCE ADDITION & RENOVATION**

# DIVISION 1: GENERAL REQUIREMENTS

## 01.01! PROJECT DESCRIPTION:

In conjunction with Architectural, Structural, Mechanical, Electrical and Plumbing Drawings issued by AHMANN LLC, these Specifications describe the scope of Architectural, Structural, Mechanical, Electrical, Plumbing and other requirements for an Addition and Renovation Project at the house of Brandon and Emily Gallas at 4430 9th Street, N.W. in Washington, DC.

## 01.02! CONTRACT FOR CONSTRUCTION:

The Contract between the Owner and the Contractor shall be AIA Document A107, “Standard Form of Agreement Between Owner and Contractor for a Project of Limited Scope,” 2007 edition. All discrepancies and ambiguities in the Contract Documents shall be interpreted as that which results in the most complete performance. All architectural, structural, mechanical, plumbing, electrical and other requirements necessary for the Work to comply with local, state and federal regulations shall be supplied without additional cost to the Owner.

## 01.03! CODES, PERMITS & INSPECTIONS:

All work shall be done in strict compliance with the District of Columbia Building Code, including the currently adopted IRC edition, as well as any and all other applicable codes, regulations and ordinances. The Owner shall provide the District of Columbia building permit, and the Contractor and Subcontractors shall provide all other permits and obtain all inspections required for the Work. Should a “Wall Check” be required by the District of Columbia in conjunction with this Project, the Contractor shall make all arrangements and the Owner shall pay all fees for the Wall Check.

## 01.04! INSURANCE REQUIREMENTS:

The General Contractor shall provide to Owner documentation of all insurance policies required by Article 16 of AIA Form A107.

## 01.05! COORDINATION:

The Contractor shall be responsible for the coordination of the work of all Subcontractors as required to complete the work, and shall verify that all work is done to the highest degree of craftsmanship by journeymen of the respective trades. The Contractor shall verify all dimensions, and shall work to critical alignments as indicated on the drawings, and shall not scale the drawings for measurements. If any discrepancies in dimensions or conditions are found, the Contractor shall contact the Architect for clarification prior to proceeding with that portion of the work.

## 01.06! PROTECTIONS:

The Contractor shall maintain the site clean and free of debris. The Contractor shall maintain the site and job conditions in such a manner as to protect from injury all persons and property. Prior to the start of the Work, discuss job site security measures with Owner.

## 01.07! TREE AND PLANT PROTECTIONS:

The Contractor shall take care to protect the existing trees and plants to remain. Provide protection fencing and avoid storage and operation of equipment inside the tree drip line, except as specifically required to complete the work.

## 01.08! TEMPORARY FACILITIES:

The Contractor shall provide temporary facilities as required by job conditions or local regulations. Temporary facilities include but are not limited to: electrical service; sanitary facilities; drinking water; first aid station.

## 01.09! EPA RRP CERTIFICATION:

Federal law enforced by the EPA under the Renovation, Repair and Painting Rule, requires contractors that disturb lead-based paint in homes built prior to 1978 to be certified, to follow specific work practices to prevent lead contamination, and to use certified renovators who are trained by EPA-approved training providers to follow lead-safe work practices. Contractors must use lead-safe work practices and follow these three simple procedures: 1) Contain the work area; Minimize dust; Clean up thoroughly. These procedures are to be followed per the EPA standards.

## 01.10! WASTE MANAGEMENT:

The Contractor shall manage the waste materials of demolition and construction in such a fashion as to maintain job site safety, and shall maintain a dumpster, or other trash storage devise on site into which all waste materials of the project shall be deposited on a daily basis. As noted above, the dumpster permit is the responsibility of the Contractor.

## 01.11! CUTTING AND PATCHING GENERAL:

Where required to cut into existing construction to provide for the installation or performance of other work and subsequent fitting and patching, all work shall restore surfaces to their original condition or to the adjoining new surface. Except as otherwise indicated, or as directed by Architect, use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal-or-better performance characteristics. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work. Restore exposed finishes of patched areas and where necessary extend restoration into retained adjoining work in a manner which will eliminate evidence !of patching and refinishing.

## 01.12! CUTTING AND PATCHING SYSTEMS:

Patch existing systems which are altered or obstructed by the work. Patch in a manner to maintain proper system operation and performance. Systems include, but are not limited to: structural systems, mechanical systems, electrical systems, plumbing systems, security systems, audio/visual systems, foundation drainage systems, waterproofing systems, rain leader systems, etc.

## 01.13! CUTTING AND PATCHING PRECAUTIONS:

Do not cut and patch structural work in a manner that would result in a reduction of load-carrying capacity or of load-deflection ratio. Do not cut and patch operational or safety related components in a manner that would result in a reduction of their capacity to perform in the manner intended. Do not cut or patch work exposed on the building’s exterior or in its occupied spaces, in a manner that would, in the Architect's opinion, result in lessening the building's aesthetic qualities. Do not cut and patch work in a manner that would result in substantial visual evidence of cut and patch work. Remove and replace work judged by the Architect to have been cut and patched in a visually unsatisfactory manner.

## 01.14! ALLOWANCES:

Provide line item material allowances for the following items (installation shall be included in base bid, unless otherwise noted):

* **Allowance Item A1:**
  + **Ceramic Tile.** Flooring and tub/shower surround at Master Bathroom.
  + Material Allowance: $7.50 per square foot.
* **Allowance Item A2:**
  + **Bath Vanities.** For Powder Room and Master Bath.
  + Material Allowance: $1500.00.
* **Allowance Item A3:**
  + **Countertop Slabs.** For countertops and related items at Master Bathroom and Third Floor Hall Bathroom.
  + Material Allowance: $65.00 per square foot.
* **Allowance Item A4:**
  + **Plumbing Fixtures and Bath Accessories.** Master Bathroom and Third Floor Bathroom fixtures and fittings.
  + Material Allowance: $5,000.00.
* **Allowance Item A5:**
  + **Misc. Lighting / Elec. Fixtures.** Refer to the Electrical Drawings for specific allowance requirements.

# DIVISION 2: DEMOLITION & SITEWORK

## 02.01! GENERAL:

The Contract for Construction shall include all demolition and site work required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, equipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 02.02! UTILITIES:

All existing underground utilities shall be physically located by the Contractor prior to the beginning of any construction in the vicinity of these utilities. The Construction Documents do not represent that all existing utilities are shown or that those shown are correctly located. It is the Contractor's responsibility to contact each utility company, dig test pits, and take all and whatever steps are necessary to accurately locate and protect all existing utilities. No construction shall be accomplished until the accurate locations of utilities have been made and it has been determined by the Contractor that construction can be accomplished in accordance with these plans without utility conflicts.

## 02.03! DEMOLITION:

Provide for the demolition of all existing items which will interfere with the Work indicated in the Construction Documents. Except as otherwise indicated, all demolished items shall be hauled from the site and shall be properly disposed of. Provide mechanical, electrical and plumbing demolition as may be required to complete the Work. Note that the Drawings do not account for all items related to these trades which may require demolition, each subcontractor shall make a field visit prior to submitting their bid so as to account for the demolition required to complete the Work indicated in the Construction Documents.

## 02.04! BRACING AND SHORING:

Provide bracing and shoring as required to protect existing construction to remain from damage, as well as to protect persons and property. Verify all bearing conditions prior to beginning demolition.

## 02.05! PROTECTIONS:

Protect existing trees and vegetation which are to remain from physical damage. Do not store materials or equipment within the drip line. Protect structures, utilities, sidewalks, pavements, and other items in areas of work. Provide necessary protection to prevent damage to persons or property. Restore any damaged property to the condition existing prior to the start of the work unless otherwise noted.

## 02.06! ROUGH GRADING:

Re-grade site where indicated in the Drawings and as otherwise required to direct water away from house. Drawings are !approximate and the Contractor shall be responsible for working grading as required for proper site drainage.

## 02.07! EROSION CONTROL:

Follow all applicable regulations and requirements for erosion control during construction. Provide straw bale dikes, silt fences, etc. as deemed necessary or as required by Montgomery County officials. Erosion control barriers shall be placed as required to collect any debris caught in runoff from the construction area.

## 02.08! STORM WATER MANAGEMENT:

Follow all applicable regulations and requirements for storm water management as indicated in the Construction Documents and as may be required by District officials during construction. Tie new rain leaders and new foundation drain lines into storm sewer system at the rear of the property. Note: run rain leaders separately from foundation drain to point of tie-in with sewer.

## 02.09! LANDSCAPING:

Remove vegetation or other obstructions which interfere with the Work and coordinate with Owner for the Owner’s relocation of existing plant which are to be salvaged. Protect vegetation to remain from damage during demolition and construction. Provide grass seeding with protective straw as required to reestablish all portions of lawn damaged during demolition and construction.

## 02.10! TERMITE CONTROL:

Provide soil treatment for termite control at the areas of new construction as recommended by a qualified, registered pest control professional.

## 02.11 ! AREA DRAIN, SUMP PUMP, AND SUB-GRADE RAIN LEADER SYSTEM:

Provide and install a new areaway drain with stainless steel grating at the floor of the areaway. The top of the areaway concrete floor shall be set 4 inches below the adjacent basement floor level. The areaway drain shall be connected to the adjacent sump pit with 4 inch solid PCV piping.

## 02.12 ! SUMP PIT & SUMP PUMP:

Provide and install a sump pit and pump system to be set below the desk area in the Play Room, as indicated in the Drawings. The pit shall receive water from the adjacent areaway drain and from the foundation drainage system for the Existing House as applicable. The pump shall discharge into the adjacent sub-grade rain leader system. The pit shall be formed from a corrugated PVC tube, and shall have a removable lid for access. The pump shall be powered on a dedicated circuit and shall incorporate a back-up battery system.

## 02.13! SUB-GRADE RAIN LEADER SYSTEM:

Downspouts at the rear of the house shall outlet into 4" diameter sub-grade PVC rain leaders as indicated in the Drawings. Note that the sump pump shall discharge into the adjacent leader as indicated above. Furnish drainage pipe, complete with bends, reducers, adapters, collars, and joint materials. Slope piping as required for proper drainage and extend lines to!spill onto the grade. Connect new downspouts into existing rain leaders at existing rain leader locations.

## 02.14! ADDITIONAL REQUIREMENTS:

Refer to Structural Specifications on the Drawings.

# DIVISION 3: CONCRETE

## 03.01! GENERAL:

The Contract for Construction shall include all concrete work required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, equipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 03.02! CODES & STANDARDS:

Concrete work shall conform to all applicable local, state and national codes and standards, as well as those established by the American Concrete Institute as described in its current publications. The products and materials used shall be approved by the American Society for Testing Materials as the most applicable to the work described and the conditions encountered.

## 03.03! CONCRETE MATERIALS:

All concrete to have minimum compressive strength (FC) = 3000 psi in 28 days. All concrete to be poured in accordance with ACI 301-83 specification. Concrete exposed to weather to be air-entrained. All reinforcing steel to meet ASTM-A-615 Grade 60. Furnish support bars and all required accessories in accordance with C.R.S.I. Standards.

## 03.04! CONCRETE FOOTINGS:

Provide concrete footings, grade and edge beams as required for the work indicated. Footings shall have a minimum depth of 2’-6” below grade (to bottom). Provide step down footings as required to meet the level of !the existing foundation at abutting conditions. Refer to the Drawings for other specific conditions.

## 03.05! CONCRETE SLABS:

Unless otherwise indicated, concrete slabs on grade shall be a minimum of 4 " thick and shall be reinforced with welded wire fabric and poured on a 6 mils thick polyethylene moisture barrier over 4 inches minimum of compacted gravel set on undisturbed earth or structural fill. Provide construction, isolation, expansion and control joints as required to maintain strength and appearance, to avoid cracking, and to stabilize differential settlement. Provide trowel finish to interior monolithic slab surfaces that are exposed to view. Consolidate concrete surfaces by finish troweling, free of trowel marks, uniform in texture and appearance.

## 03.06! EXISTING FOUNDATION:

Note that existing foundation conditions are unknown and any reference in the drawings and specifications, and addenda to specific conditions are based on assumptions which are subject to field verification.

## 03.07! ADDITIONAL REQUIREMENTS:

Refer to Structural Specifications on the Drawings.

# DIVISION 4: MASONRY

## 04.01! GENERAL:

The Contract for Construction shall include all masonry and stone work required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, equipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 04.02! CODES & STANDARDS:

Masonry and brick work shall conform to all applicable local, state and national codes and standards, as well as those established by the Brick Industry Association, Concrete Masonry Association, and the Building Stone Institute as described in their current publications. The products and materials used shall be approved by the American Society for Testing Materials as the most applicable to the work described and the conditions encountered.

## 04.03! CONCRETE MASONRY:

Extend the existing parapet party wall at the third floor and roof area abutting the neighboring property to the South as may be required. Concrete masonry units shall meet the requirements of ASTM C90, grade N-1 (moisture cured), lightweight, hollow, with minimum compressive strength of 1500 psi. Masonry mortar shall meet the requirements of ASTM C270, type M. Installation of Concrete Masonry Units shall be per the published specifications and recommendations of the National Concrete Masonry Association, and the product manufacturer(s), as applicable to the work described and the conditions encountered. Provide horizontal joint reinforcement at 16 inches on center vertically, typically.

## 04.04 ! BRICK PIERS:

Provide and install brick piers where indicated or required. Brick texture, size, bond pattern, grouting, and joint tooling shall match the existing brickwork of the house. Coursing shall align, and joint dimensions match, where new brick is set adjacent to existing brickwork. Mortar texture shall match the existing mortar as close as practical. Provide horizontal joint reinforcement at 16 inches on center vertically, typically, and vertical reinforcement as indicated in the Drawings. Installation of brick and brick/CMU walls shall be per the published specifications and recommendations of the Brick Industry Association, the National Concrete Masonry Association, and the product manufacture, as applicable to the work described and the conditions encountered. Brick shall be primed and painted on the exterior, per the requirements of Specification Division 9. Provide samples for brick selection and sample panel with proposed brick and mortar, painted, for field review by Owner prior to the purchase and installation of balance of the brick material.

## 04.05! ADDITIONAL REQUIREMENTS:

Refer to Structural Specifications on the Drawings.

# DIVISION 5: METALS

## 05.01! GENERAL:

The Contract for Construction shall include all metals work required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, equipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 05.02! CODES & STANDARDS:

Metal work shall conform to all applicable local, state and national codes and standards as well as those established by the National Association of Architectural Metal Manufacturer and the American Institute of Steel Construction as described in their current publications. The products and materials used shall be approved by the American Society for Testing Materials as the most applicable to the work described and the conditions encountered.

## 05.03! MISC. METAL:

Provide Miscellaneous metal as required, including loose lintels for masonry walls, bolts, plates, anchors, hangers, and other required items for framing and supporting woodwork.

## 05.04! METAL RAILINGS:

Provide and install metal guardrail and railings at the rear areaway as shown on the Drawings. Guardrail shall be 36” high and handrail shall meet code requirements.

## 05.05! ADDITIONAL REQUIREMENTS:

Refer to Structural Specifications on the Drawings.

# DIVISION 6: WOOD / CARPENTRY

## 06.01! GENERAL:

The Contract for Construction shall include all woodwork required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, equipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 06.02! CODES & STANDARDS:

Woodwork and carpentry shall conform to all applicable local, state and national codes and standards as well as those established by the National Forest Products Association, the American Plywood Association, and the Architectural Woodwork Institute as described in their current publications. The products and materials used shall be approved by the American Society for Testing Materials as the most applicable to the work described and the conditions encountered.

## 06.03! FRAMING MATERIALS:

Provide and install all framing lumber as required to complete the Work. Refer to Structural Specifications on the Drawings for specific material and installation requirements. Unless otherwise indicated or required, all new exterior stud walls shall be framed with 2 x 6 lumber. All framing material in direct contact with concrete, masonry, or within 8 inches of grade shall be preservative treated.

## 06.04! SHEATHING / SUBFLOORING:

Exterior wall sheathing shall be standard grade plywood , exterior glue, 1/2 inch thick. Roof sheathing shall be interior plywood with exterior glue, 5/8 inch thick. Floor sheathing (subflooring) shall be 3/4 inch tongue and groove. Plywood shall be installed per APA specifications, requirements and recommendations.

## 06.05! EXTERIOR PVC TRIM & PANELING:

Provide and install PVC Trim Board and Panel Board material, Azek or approved equal, in sizes and shapes as indicated, or Required, for band boards, window casing, rakes, soffits, pilasters, panels, and other trim at the exterior of the Addition. Installation shall be per the product manufacturer’s written specifications, requirements and recommendations for the installation indicated and the conditions encountered. PVC Trim Boards and Panel Boards shall be primed and painted in accordance with the requirements of Division 9 these Specifications. Coordinate Trim Boards and Panel Boards installation with flashing requirements, and stucco installation as required for a complete and weather tight installation.

## 06.06! INTERIOR WOOD TRIM:

Provide and install standing and running trim in the shapes and sizes to match the existing house trim profiles, or as otherwise indicated in the Drawings. Trim shapes shall be as milled by Smoot Lumber Company, Alexandria, Virginia, or approved equal. The material, its fabrication, and its installation shall conform to the Custom Grade Specifications and Requirements of Section 300 of the Architectural Woodwork Institute's Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program manual, most current edition, as applicable to the work indicated and the conditions encountered. Unless otherwise noted, all wood used for interior standing and running trim shall be paint grade pine, and shall be painted in accordance with Division 9 of the Specifications.

## 06.07! BATH VANITY CABINETS:

Allowance Item. Provide and install Bath vanity cabinets and related items as indicated in the Drawings, and as selected by the Owner. Provide coordination as required in placing cabinet order, verifying all field conditions and requirements with final cabinet dimensions. Installation of cabinets shall be coordinated with plumbing fixtures and fittings as required, and with all surrounding and abutting materials, surfaces and conditions. Installation shall be per the specifications, requirements and recommendations of the cabinet manufacturer. Provide blocking in walls for securing cabinets. Installation shall be per the specifications, requirements and recommendations of the cabinet manufacturer.

## 06.08! SOLID SURFACE COUNTERTOPS:

Allowance Item. Provide and install solid surface countertops with 3 inch back and side splashes at Master Bathroom and Third Floor Bathroom, as selected by the Owner, with edge detail selected by the Owner.

## 06.09! WOOD STRIP FLOORING:

Provide and install new wood strip flooring at the Third Floor Addition, except for the Bathroom. Provide patching of existing wood flooring in other portions of the house as required by the Work. New wood strip flooring shall match adjacent flooring in type, size, graining, grade and appearance. Comply with flooring manufacturer’s general instructions and recommendations for the preparation of substrates to receive wood flooring, including the application of primers, vapor barriers, and adhesives. Do not proceed with wood flooring work until the addition is enclosed and humidity has stabilized at approximately the level anticipated for occupancy. Deliver flooring in advance of installation as recommended by manufacturer, but not less than 7 days before installation, in order to permit natural adjustment to moisture content.

## 06.10 ! WOOD STAIRWAY & BALUSTRADE:

Provide and install new wood stairway from the Second Floor to the Third Floor as indicated in the Drawings. The material, its fabrication and its installation shall conform to the Custom Grade specifications and requirements of the Architectural Woodwork Institute's Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program manual, most current edition, as applicable to the work indicated and the conditions encountered. The construction of the stair and shall meet or exceed all code requirements and regulations as set forth in the currently adopted International Residential Code. Stair treads and risers shall match the flooring as close as close as practical, and shall be stained and finished to match the flooring finish. Handrail shall be selected by the Owner from Stair Fabricators standard stock components.

## 06.11! CLOSET RODS & SHELVING:

Provide and install wood clothes rods and supports in all clothes closets. Provide braces as required for proper support, with wood blocking properly placed in stud walls for the attachment of rods and braces. Provide and install painted wood shelving above each rod. Provide five adjustable shelves at all linen closets. Shelving shall be birch veneer plywood with a 3/4" edge band. Provide support standards and clips as required.

## 06.12! BALCONY RAILING SYSTEM:

Provide and install Durarail welded picket railing system as indicated in the Drawings. Railing system shall be field fabricated from components supplied by the Duradek roofing system manufacturer. Installation of the railing system shall be per the specifications, requirements, and recommendations of the railing system and roof product manufacturer(s), as required for a complete, code compliant, and weather-tight installation.

# DIVISION 7: THERMAL AND MOISTURE PROTECTION

## 07.01! GENERAL:

The Contract for Construction shall include all thermal and moisture protection work required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, equipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 07.02! CODES & STANDARDS:

Thermal and moisture protection work shall conform to all applicable local, state and national codes and standards as well as those established by the National Roofing Manufacturer’s Association and the Sheet Metal and Air Conditioning Manufacturer’s Association. The products and materials used shall be approved by the American Society for Testing Materials as the most applicable to the work described and the conditions encountered.

## 07.03! INSULATION:

Provide and install high density mineral fiber batt insulation, and/or closed cell foam insulation at all new exterior stud wall areas, at existing exterior stud walls open during construction, at new ceiling/roof areas and at floors over unconditioned areas or open space. The insulation value to be provided shall be as indicated in the Energy Conservation/Building Envelope Chart in the Drawings. Provide and install foamed-in-place urethane insulation as required to fill small gaps between joints and around penetrations in exterior wall framing where the installation of batt insulation is impractical. Provide sound attenuation batt insulation at all new bathroom or powder room walls, ceilings and floors, or those opened during construction. Comply with the insulation manufacturer's printed instructions and recommendations for the installation of all insulation. Vapor barrier shall face conditioned space typically.

## 07.04! SILL SEALER:

Provide and install "Sill Sealer" air infiltration barrier between the sill plate and foundation wall typically. "Sill Sealer" shall be as manufactured by Certainteed, or approved equal. Provide in six inch width typically, using 3 5/8 inch width only in areas of limited dimension. The material and its installation shall conform to the manufacturers specifications, requirements, and recommendations as required for the installation indicated and the conditions encountered.

## 07.05! VAPOR BARRIER:

Provide 6-mil polyethylene film vapor barrier under all slabs on grade. Provide properly placed and installed moisture / vapor barriers in new construction as required to prevent condensation in walls, ceilings and floors adjacent to the exterior, or where otherwise required. Note: at floor of crawl space provide vapor barrier and gravel with perimeter insulation.

## 07.06! INFILTRATION WRAP:

Provide infiltration barrier, Tyvek Housewrap or equal, on all exterior wall sheathing installed or exposed during construction. The house wrap product(s) shall be installed in strict conformance with the product manufactures requirements, specifications and recommendations, including procedures for proper wrapping at window and door openings and coordination with related flashing system(s).

## 07.07! WINDOW AND DOOR FLASHING SYSTEM:

Provide and install Tyvek Flashing System, or approved equal, at windows and doors. The Flashing system shall be coordinated with installation of housewrap as well as the window and door installation conditions. Flashing components and their installation shall meet the specifications, requirements, and recommendations of the product manufacturer.

## 07.08! FIBERGLASS SHINGLE ROOFING:

Provide and install 40 year of better, architectural grade dimensional fiberglass roofing shingles for roofing of the Mansard at the 3rd Floor Addition. Follow specific installation instructions for steep sloping/mansard conditions. Install fiberglass shingle roofing over two layers of 15# roofing felt. Coordinate the installation and flashing of the new roofing with all surrounding and abutting conditions as required for a complete, neat appearing, weather-tight installation. Shingle material shall match the existing roofing as close a practical.

## 07.09! EPDM ROOFING:

Provide and install an EPDM roofing membrane, Firestone or equal, for the low pitch roof area above the mansard roof areas. Installation shall be per the published details, written specifications, requirements and recommendations of the product manufacturer(s), as applicable to the work described and the conditions encountered. Parapet, edge and gutter details shall be as required by the manufacturer. Provide all flashings, accessories, adhesives and sealants as required for a complete weather tight installation. Provide a min. 10 year manufacturer’s warranty for roofing system. Contractor shall coordinate and interface with the mansard roof as required for a complete and weather-tight installation.

## 07.10! SOLAR ROOF PANELS:

Contractor to coordinate proposed solar roof panels by Solar Solution LLC, as outlined in their drawings, with new EPDM roofing membrane. Roofing shall meet all specifications as detailed in Section 7.9, and shall be coordinated for a complete and weather-tight installation.

## 07.11! WALKABLE MEMBRANE ROOFING:

Provide and install a walkable roofing membrane, Duradek Ultra or equal, for the floor of the Balcony as indicated in the Drawings. Installation shall be per the published details, written specifications, requirements and recommendations of the product manufacturer(s), as applicable to the work described and the conditions encountered. Wall abutment and other details shall be as required by the manufacturer. Provide all flashings, accessories, adhesives and sealants as required for a complete weather tight installation. Provide a minimum 10 year manufacturer’s warranty for roofing system. Contractor shall coordinate and interface with all adjacent conditions as required for a complete and weather-tight installation.

## 07.12! ROOF VENTS:

Provide and install continuous Cor-a-vent S-400 polypropylene eave vent at trim detail above mansard roof as intake vent. Provide two 24 inch x 24 inch “mushroom” exhaust vents at flat portion of roof. Provide baffling of insulation as required to maintain 1 inch minimum vent space at all rafter bays. Coordinate roof vents with proposed solar roof panels.

## 07.13! GUTTERS & DOWNSPOUTS:

Provide white baked aluminum gutters and downspouts at all drip lines of the addition. Coordinate all drainage work with roofing, flashing, trim, and construction of eaves, walls, or other adjoining work to provide a leak proof, secure, and non-corrosive installation.

## 07.14! MISC. FLASHING:

Provide flashing where indicated or required in roof and exterior wall construction. Flashing material shall be pre finished aluminum in baked white at wall construction, and color to match roofing color at roof areas. Coordinate and sequence the flashing work with the work of other trades as required for a complete, neat appearing, weather-tight installation. Coordinate flashing material with surrounding materials or existing colors as applicable. Flash at all wall projections and at all roof penetrations, roof abutments and changes in roof pitch.

## 07.15! SEALANTS:

Provide sealants as required at windows, doors, and in conjunction with all trim work as required for a complete weather-tight construction.

## 07.16! ADDITIONAL REQUIREMENTS:

Refer to Structural Specifications on the Drawings.

# DIVISION 8: DOORS AND WINDOWS

## 08.01! GENERAL:

The Contract for Construction shall include all doors and windows work required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, euipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 08.02! CODES & STANDARDS:

Doors and windows work shall conform to all applicable local, state and national codes and standards, as well ! as those established by the Door and Hardware Institute, the American Woodwork Institute, and the National Woodwork Manufacturer’s Association as described in their current publications. The products and materials used shall be approved by the American Society for Testing Materials as the most applicable to the work described and the conditions encountered.

## 08.03! WINDOWS AND FRENCH DOORS:

Provide and install new windows and exterior doors as indicated in the drawings. The windows and doors shall be Jeld Wen Tradition Plus Clad Wood Units, or approved equal. Windows and exterior doors shall be provided with insulated low-e, argon filled full view glazing. All operable units shall be provided with screens. Clad color, jamb liner color, screen frame color, and hardware color/options shall be selected by the Owner. All operable windows six feet or greater above grade or surface below shall be provided with a sash limiter meeting the requirements of the 2012 International Residential Code when the sill of the window is within two feet of the floor. Window and French door interiors shall be factory primed and field painted in accordance with Division 9 of these Specifications. Install windows and doors according to the manufacturer’s specifications, requirements and recommendations as required for a complete weather-tight installation. The Contractor shall field verify all masonry opening, rough opening and jamb dimensions prior to ordering units.

## 08.04! GLAZING:

Window and door fabricator shall supply glazing meeting or exceeding the test requirements of CSPC 16-CFR, part 1201 for glazing in "Hazardous Locations" as specified in the applicable IRC Code.

## 08.05! INTERIOR DOORS:

Provide and install new doors and frames as indicated in the Drawings. All new interior doors shall match existing interior doors as close as practical. Doors at new locations shall be pre-hung with three hinges per leaf in color and finish to be selected by the Owner. Doors and frames shall be primed and painted in accordance with Division 9 of these Specifications. The contractor shall field verify all jamb requirements - conditions may vary.

## 08.06! FINISH HARDWARE:

Provide allowance for finish hardware at all new interior doors. Hardware shall match existing interior door hardware as close as practical. The Contractor shall verify all cutout requirements, and shall supply all necessary accessories and trim for complete hardware sets, including items not listed but required for proper operation and installation of sets specified. The Contractor shall coordinate quantities and locations of all door hardware as well as handing of doors.

# DIVISION 9: FINISHES & ACCESSORIES

## 09.01! GENERAL:

The Contract for Construction shall include all finishes work required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, equipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 09.02! CODES & STANDARDS:

Finishes work shall conform to all applicable local, state and national codes and standards, as well as those established by the Gypsum Association, and the Tile Council of America as described in their current publications. The products and materials used shall be approved by the American Society for Testing Materials as the most applicable to the work described and the conditions encountered.

## 09.03! GYPSUM WALLBOARD:

Gypsum wall board shall be glued and screwed into place on wood framing. Unless otherwise noted, all wallboard shall be of 1/2 inch thickness. Finish gypsum wallboard surfaces as required for a smooth and even appearance. Provide Durock board under all tile and moisture resistant “green board” at all other surfaces in the Kitchen and Bathrooms. Gypsum wallboard products shall be U.S. Gypsum. National Gypsum, Georgia Pacific, or approved equal.

## 09.04! WOOD FLOOR FINISHING:

Wood flooring shall be installed as specified in Division 6 of the Specifications. Sand, stain and finish the new wood flooring, as well as all wood flooring and wood stair treads and risers of the existing house, with three coats of water based polyurethane.

## 09.05! EXTERIOR PAINTING & STAINING / ADDITION:

Exterior paint shall be low VOC Benjamin Moore premium grade semi-gloss latex applied in a minimum of two finish coats over one coat of primer/undercoat. The scope of exterior painting shall include all siding and trim work, as well new brickwork. Colors shall match the existing colors, or shall be as selected by the Owner. Paint and stain shall be applied per the product manufacturer’s specifications, requirements and recommendations. Stain for the rear stair, landing and railings shall be Cabot’s Semi-Solid Decking stain in two coats. Paint and stain shall be applied per the product manufacturer’s specifications, requirements and recommendations.

## 09.06! INTERIOR PAINTING:

Interior paint shall be low VOC Benjamin Moore premium grade low luster latex on wood surfaces and matte latex on gypsum wallboard surface, applied in a minimum of two finish coats over one coat of primer/ undercoat. Interior painting scope includes all gypsum wall board surfaces, trim, window and door surfaces of the additions, as well as portions of the existing house impacted by the Work. Paint shall be applied per the product manufacturer’s specifications, requirements and recommendations.

## 09.07! PAINT PREPARATION:

Interior and exterior priming, painting and required preparation shall be per the specifications, requirements and recommendations of the paint manufacturer for the installation indicated and the conditions encountered.

## 09.08! TILE:

**Allowance Item**. Provide and install ceramic, stone or porcelain tile for the Master Bathroom and the Third Floor Hall Bathroom as indicated in the Drawings. Include tile for floor, base shower floor and walls and tub surround, as applicable. Tile material shall be selected by the Owner. Tile work shall conform to the written specifications, requirements and recommendations the Tile Council of America, AIA Masterspec, and the product manufacturer, as applicable to the work described and the conditions encountered.

## 09.09! BATH ACCESSORIES:

**Allowance Item**. Provide and install Owner selected bath accessories and medicine cabinets at Master Bathroom and 2nd and 3rd Floor Hall Bathrooms. Bath accessory finish shall match the Owner selected finish of bath fittings. Bath accessories include, but are not limited to: toilet paper holder; towel bars; robe hooks; soap dishes; and toothbrush holders. Provide all required blocking for a secure and proper installation.

## 09.10! MIRRORS:

Provide and install mirrors at bathroom in size(s) as indicated in the drawings (where sizes are not indicated, assume that mirror width shall match the vanity width and the height will be 4 feet 4 inches.

## 09.11! SHOWER DOOR SYSTEM:

Provide and install custom frameless shower doors at Master Bathroom shower. Shower door shall be 3/8" thick clear tempered glass, custom sized. Provide Shop Drawings and cut sheets for review. Provide a watertight installation per manufacturer’s specifications, requirements and recommendations. Hardware finish shall match the Owner selected finish of bath fittings.

# DIVISION 10-14: NOT INCLUDED

# DIVISION 15: PLUMBING & MECHANICAL

## 15.01! GENERAL:

The Contract for Construction shall include all plumbing and mechanical work required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, equipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 15.02! CODES & STANDARDS:

Plumbing and mechanical work shall conform to all applicable local, state and national codes and standards, as well as those established by the American Society of Heating, Refrigeration and Air Conditioning Engineers and the Sheet Metal and Air Conditioning Manufacturer’s Association in their current publications. The products and materials used shall be approved by the American Society for Testing Materials as the most applicable to the work described and the conditions encountered.

## 15.03! GAS FITTING:

Provide gas fitting as required for the gas appliances and equipment specified or as otherwise required to complete the Work. All gas fitting work shall be per the requirements of the International Mechanical Code as well as the any and all other applicable codes, ordinances and standards.

## 15.04 ! PLUMBING SYSTEM:

Design, provide and install a complete plumbing system, including all necessary equipment, devices, material, labor, permits and inspections, for the supply of hot and cold water and for the sanitary disposal of waste water as required to complete the work. All work shall conform to District of Columbia Water and Sewer Authority Plumbing Code, the IRC Plumbing Code, and all other applicable codes regulations, and requirements. Advise the Architect of modifications to, or deviations from, Construction Documents as required to comply with codes and regulations and to provide a complete and proper installation. Hot and cold supply piping shall be copper with wrought copper sweated fittings. Hot water supply piping shall be insulated for temperature. Sanitary lines shall be PVC, insulated for sound.

## 15.05! PLUMBING FIXTURES & FITTINGS:

**Allowance Item**. Provide and install plumbing fixtures and fittings for the Master Bathroom and Third Floor Hall Bathroom as indicated in the Drawings. Final fixtures, fittings, colors and finishes shall be selected by the Owner.

## 15.06! MISC. PLUMBING HOOKUPS:

Provide plumbing hookups as required for residential appliances. !

## 15.07! HOSE BIBS:

Provide and install two frost free hose bibs at locations to be determined by the Owner.

## 15.08! IN-FLOOR RADIANT HEATING:

Design, provide and install a two zone in-floor hydronic radiant heating system for the heating of the new Third Floor, and Second Floor Master Bath. One Zone shall service the new work on the Third Floor and one Zone shall service the Master Bath. This shall be designed using the Warmboard Radiant Subfloor system, or approved equal, and each Zone shall have a thermostatic control. Provide all equipment necessary for the proper installation and operation of the heating system(s), as well as all zoning manifolds, valves and misc. accessories. Radiant Subfloor system manufacturer shall provide design and specification for panel layout, tubing layout and manifold requirements. The heating contractor shall provide room by room heat loss calculations, proper design of flow rates and required water temperatures, sizing of circulation and distribution lines, interface with existing boiler system, and design of and electronic control strategy coordinated with AC controls.

## 15.09! AIR CONDITIONING SYSTEM:

Design, provide and install a conventionally ducted air conditioning system to service the Sunroom on the First Floor, existing and new Second Floor and entire Third Floor of the Expanded House. The air handler shall be located on the Third Floor as indicated in the Drawings. Include all necessary equipment, devices, material, labor, permits, and inspections, for the supply of cooled air, for the cleaning of the air, for proper air exchange, and for return air as required to complete the work. The existing condensing unit shall be located in the rear yard as shown in the Drawings, and the Contractor shall coordinate the location with the Owner.

## 15.10! MECHANICAL EQUIPMENT AND DUCTING:

Existing mechanical equipment is Carrier Performance Series, which shall be reconnected to meet the specifications, requirements and !recommendations of the manufacturer for the installation required. All HVAC equipment and duct sizing shall follow ACCA Manuals D, J and. If any mechanical equipment is to be replaced, provide the following, as applicable: high efficiency air handler; 20 SEER or better condensing unit and evaporator coil; electronic air cleaner microelectronic programmable thermostat. All trunk lines and main run-outs shall be hard ducted, flex ducting shall be limited to final runs not to exceed six feet in length. All miscellaneous materials and anchoring devices shall be provided and all equipment shall be installed in accordance with the manufacturer's specifications, recommendations and requirements for a complete !installation. Coordinate with plumbing and electrical sub-contractors as required for equipment hookups. Isolate all equipment as required to properly reduce noise transmission.

## 15.11! MECHANICAL DESIGN CRITERIA & BID SUBMITTAL:

Mechanical (heating and cooling) design shall meet or exceed all requirements of the 2012 International Energy Conservation Code as applicable to a residential installation. Provide provisions for make-up air, coordinating with high CFM range hood exhaust system. Cooling: 20 degree cooling differential; 70 degrees indoor DBF, 50% relative humidity/outdoor 90 degrees DBF and 78 degrees WBF, with 24 hour automatic operation. Assume shades to direct light; a clean filter; normal occupancy; normal !cooking; doors to remain closed during cooling season. Heating: 70 degrees indoor/17 degrees outdoor. In conjunction with bid submittal, provide a written description of the proposed mechanical system(s) including cut sheets for all proposed equipment including registers and grills. Prior to project demolition, submit two complete sets of proposed duct layout drawings (Shop Drawings) for review by the Owner and Architect. The drawings shall include proposed locations for all trunk and branch ducts (supply and return), all registers and grilles, all mechanical equipment and controls.

## 15.12! MISC. MECH. HOOKUPS:

Provide and install ducting and wall/roof caps as required for all exhaust fans.

# DIVISION 16: ELECTRICAL

## 16.01! GENERAL:

The Contract for Construction shall include all electrical work required to complete the Work indicated and described in the Construction Documents. Provide all facilities, labor, materials, equipment, and services required. The General Contractor shall provide for the coordination of the work of this division with the work of any and all other divisions as required.

## 16.02! CODES & STANDARDS:

Electrical work shall conform to all applicable local, state and national codes and standards, as well as those established by the National Fire Protection Association as described in its current publications. The products and materials used shall be approved by the American Society for Testing Materials as the most applicable to the work described and the conditions encountered, and shall be UL (Underwriters Laboratory) approved.

## 16.03 ! PANEL/LOAD CENTER:

Verify the capacity of the existing electrical service as related to the addition proposed. Provide Electrical Service Upgrade if deemed required. !Provide new main panel and/or sub-panels(s), as required. All circuit breakers shall be full !module size. Provide Ground Fault Circuit Interrupt breakers as required for all outlets requiring GFCI !safety cutoff where indicated and where otherwise required. The Electrical Contractor shall circuit all devices, !fixtures, and equipment as required for a complete service. All loads shall be connected for the best possible phase balance.

## 16.04! PRE WIRING WALK-THRU:

Include provisions for a pre wiring walk-thru by the Contractor or Project Manager, Owner and the Architect. This walk-thru shall take place after all rough-in kits, j-boxes, switch and outlet boxes have been installed, !and prior to the installation of all wiring. At this walk-thru, the Owner and the Architect maintain the right !to make minor adjustments in fixture and device locations as required for aesthetic effect. All labor and !material costs for such minor adjustments shall be included.

## 16.05! WIRING:

Provide all wiring required to complete the Work indicated. All wiring shall be with copper conductors full rated for the loads served. Circuits shall be connected with loads not to exceed 60% of the breaker trip rating. All electrical wiring shall be run by experienced electricians accurately and in accordance with the requirements of the drawings. All misc. materials and anchoring devices shall be provided and all wiring shall be installed in accordance with the manufacturers specifications, recommendations and requirements for a complete installation. All wiring shall be routed concealed.

## 16.06! LIGHTING & ELECTRICAL FIXTURES:

Provide and install all lighting and electrical fixtures as indicated in the Drawings. Field verify required clearances prior to procuring fixtures - coordinate with structural items and mechanical ducting as applicable. All electrical fixtures shall be installed by experienced electricians accurately and in accordance with the requirements of the drawings. The exact location of all fixtures shall be determined by the Architect. All misc. materials and anchoring devices shall be provided and all fixtures shall be installed in accordance with the manufacturers specifications, recommendations and requirements.

## 16.07! SWITCHES AND OUTLETS:

Provide and install all switches and outlets scheduled in the drawings or as otherwise required. Unless otherwise indicated, all switches and outlets shall be as manufactured by Lutron, or approved equal. Device colors shall be white. The exact location of all switches and outlets shall be determined by the Architect. Dimmer switches shall be Lutron Ariadni preset dimmers (verify with Owner). The electrical contractor shall properly size dimmers for the lighting loads indicated.

## 16.08! EQUIPMENT HOOKUPS:

Provide all electrical hookups as required for all equipment scheduled in the drawings or otherwise required to complete the Work, including but not limited to Mechanical Equipment and Residential Appliances. All electrical hookups shall be made by experienced electricians accurately and in accordance with the requirements of the drawings. The exact location of all equipment shall be determined by the Architect. All misc. materials and anchoring devices shall be provided and all equipment shall be installed in accordance with the manufacturer’s specifications, recommendations and requirements for a complete installation.

## 16.09! SECURITY SYSTEM, TELEPHONE OUTLETS, CABLE TV & SOUND SYSTEM:

Coordinate with the Owner for installation of Owner provided security system, telephone system, and for installation of Owner provided Cable TV and sound system.

## 16.10! SOLAR ROOF PANELS:

Contractor to coordinate electrical requirements for a complete installation of the proposed solar roof panels by Solar Solution LLC as outlined in their drawings.