

LOT 71R VILLAGE HOUSE

REVISION 1

REVISIONS ARE MARKED **BOLD AND UNDERLINED**



00. PROCUREMENT AND CONTRACTING REQUIREMENTS

- A. All materials, processes, and workmanship must be in full compliance with applicable laws, codes, regulations, and instruction for authorities having jurisdiction.
- B. Work shall comply with requirements of International Residential Code.
- C. All work shall be carried out in accordance with the Utah Occupational Health & Safety Act.
- D. Contractor is responsible for obtaining all required permits including final occupancy permit.
- E. Liability insurance for subcontractors to be supplied by subcontractors.
- F. Liability insurance for all others to be supplied by Contractor.
- G. Worker's Compensation for all workers to be provided by Contractor as required by law and regulations.
- H. Builder's Risk Insurance (fire, theft etc.) to be provided by Contractor.

01. GENERAL REQUIREMENTS

- A. The Contractor and all subcontractors shall provide the Owner with written guaranties and warranties for all materials and workmanship for a period of not less than one year.
- B. Material or work found defective or in distress at that time will be replaced by the Contractor or subcontractor at no additional cost to the Owner.
- C. Material and work replaced will receive the same warranty and guarantee as original material and work.
- D. On-site storage of materials shall protect against deterioration by weather or other atmospheric conditions.
- E. SUBMITTALS
 - 1. All products, materials, and systems requiring submittal to the Owner and/or Architect shall be submitted with adequate time for review and revision if necessary.
 - 2. No work related to submitted products, materials, or systems may commence until approved by the Architect.
 - 3. Mockups for approval shall be provided where indicated.
- F. COORDINATION OF STRUCTURAL REQUIREMENTS
 - 1. Refer to structural contract documents for detailed specifications and drawings or related work.
- G. DISCREPANCIES WITHIN DOCUMENTS
 - 1. The Contractor shall examine all drawings, check all dimensions, and report any discrepancies before proceeding with the work.
 - 2. In the event discrepancies or contradictions are discovered within the contract documents, both within the architectural documents and between architectural and other discipline documents, the Contractor shall inform the Architect. The Architect shall advise the Contractor regarding the applicable requirements.
 - 3. Where discrepancies or contradictions are noted, work shall not proceed until the Architect has rendered an interpretation.
- H. WASTE MANAGEMENT
 - 1. The project is located within a community that requires development and compliance with a waste management plan. The contractor shall fully comply with those requirements, and submit the plan to the owner for review and comment.

02. EXISTING CONDITIONS

- A. This project is located within a planned community, with applicable regulations related to construction. Contractor shall comply with all such regulations.

03. CONCRETE

- A. FOUNDATION LOCATION

SPECIFICATIONS
AND OTHER REQUIREMENTS

1. The Contractor shall meet with the Architect on site prior to excavating to ensure proper location.
- B. FOUNDATION WALLS AND FOOTINGS
 1. Refer to structural drawings and specifications for specification.
 2. All concrete walls to be reinforced as shown on structural drawings.
 3. Footings shall be placed on undisturbed soil, at a depth complying with local codes and ordinances.
 4. Refer to "Cast-in-Place Architectural Concrete" requirements below for all concrete exposed to view.
 5. Use clean forms, free of irregularities, with tight joints, and provide adequate vibration to ensure minimal defects and honeycombs.
 6. All finished, exposed surfaces to be free of voids and defects.
 7. Form Ties: Removable or snap-off stainless steel metal ties, fixed or adjustable length, free of devices leaving holes larger than 1 inch diameter in concrete surface.
 8. Location of control joints and construction joints as per structural drawings, coordinate and confirm with Architect before proceeding with any work.
 9. Approvals
 - a. Meet with Architect on site prior to concrete pour to ensure proper formwork.
 - b. Provide mock-up test panel with all surface finished included for approval by the Architect prior to completion of foundation walls.
- C. FOUNDATION DRAINAGE
 1. Supply and install 4" weeping tile drainage at footings and grade beams of all perimeter foundation walls as indicated in architectural drawings.
- D. CONCRETE, REINFORCING STEEL, FOOTINGS, DRAINAGE
 1. Refer to structural drawings and specifications for specification.
 2. All concrete walls to be reinforced as shown on structural drawings.
 3. Structural engineer shall approve the placement of all reinforcing bar on site prior to pouring concrete.
 4. Set sleeves, ties, pipe hangers, and other inserts, and openings as indicated or specified elsewhere. Sleeves and openings greater than 102 mm x 102 mm not indicated on structural drawings must be approved by consultant.
 5. No sleeves, ducts, pipes, or other openings shall pass through joists, beams, column capitals, or columns, except where expressly detailed on structural drawings or approved by Architect or consultant.
- E. CAST-IN-PLACE ARCHITECTURAL CONCRETE
 1. Work shall comply with latest standards of American Concrete Institute "Guide to Cast-in-Place Architectural Concrete Practice" ACI-303.
 2. BOARD-FORMED CONCRETE
 - a. All walls specified as architectural board-formed concrete shall have Class 1 board formed finish and to be clean and free from defects.
 - b. Board-formed concrete shall be formed with authentic wood boards approved by the Architect. Board-form liners are not acceptable.
 - c. Form work should be constructed with 4" boards, placed horizontally.
 - d. Boards shall have square edges, no bevels, tight joints, and no gaps at corners (square corners), no chamfers.
 - e. Nailing pattern to be equally spaced vertically and horizontally (continuous) for all wall surfaces.
 - f. Extend board-formed concrete to 2' below grade, where applicable.
 - g. Use forms free of irregularities and provide adequate vibration to ensure minimal defects and honeycombs.
 - h. All concealed concrete below board formed concrete to be standard construction grade.

- i. Construct forms to produce finished concrete conforming to shape, dimensions, locations and levels indicated within tolerances required by American Concrete Institute standards.
 - j. Provide mock-up of test panel.
- F. SLAB ON GRADE
- 1. Reinforced slab on grade as noted in architectural drawings.
 - 2. Provide slab depressions where noted on architectural drawings
 - 3. Refer to structural and architectural drawings for specification.
 - 4. Provide control joints for interior structural slabs as per structural and architectural drawings, coordinate and confirm with Architect before proceeding with any work.
 - 5. Interior slabs to be absolutely level, without slope for drainage, unless otherwise noted on the drawings.
 - 6. FINISHES
 - a. POLISHED CONCRETE FINISHING
 - i. Contractor shall achieve a Level 3 - Semi Polished classification, following recommendations of the Concrete Polishing Association of America.
 - ii. Apply sealer/hardener as approved by the Architect.
 - b. SMOOTH TROWELED FINISH
 - i. Required for areas where floor slabs are exposed to view that are not called for polished concrete finish.
 - ii. Smooth troweled finish floors shall have applied sealer/hardener as approved by the Architect.
 - c. ROUGH TROWELED FINISH
 - i. In areas where concrete slab is scheduled to receive mortar-set tile, polished concrete, or gypsum cement underlayment, the finish may remain rough, to permit bonding with the floor finish assembly.
- G. GYPSUM CEMENT UNDERLAYMENT
- 1. Product: Gyp-Crete Therma-Floor Underlayment as manufactured by Maxxon Corporation, Hamel MN.
 - 2. Install in thicknesses indicated in strict accordance with manufacturer's recommendations.
 - 3. Install with Maxxon Reinforcement.
 - 4. Seal gypsum cement underlayment as recommended for final floor finish product.

05. METALS

- A. GENERAL
- 1. Refer to structural drawings for structural steel specification.
 - 2. All exposed interior steel to be AESS 4, shop-primed and painted unless otherwise noted. Paint color to be selected by Architect. No exposed fasteners are acceptable.
 - 3. Weld and grind flush all nuts and bolts where their position affects continuity of interior finish.
 - 4. No sleeves, ducts, pipes, or other openings shall pass through joists, beams, column capitals, or columns, except where expressly detailed on structural drawings or approved by Architect or consultant.
 - 5. Shop drawings are required.
 - 6. Submit for review by Architect prior to fabrication and installation.
- B. STAINLESS STEEL PLATE
- 1. Applies to steel stair treads & risers.
 - 2. Stainless steel plate shall be minimum 12 gauge.
 - 3. Where indicated, plate shall be perforated with 3/16" diameter holes, 1/4" staggered centers.
 - 4. Where perforated, plate shall be 51% open.
 - 5. Stainless steel shall have a satin, non-directional finish, as approved by the Architect.
 - 6. Submittal: 12"x12" sample of finished material for approval prior to fabrication.
- C. TEMPERED GLASS RAILING SYSTEM

1. Stand-Offs
 - a. Basis of Design: Adjustable - Flat Face ST503T, as manufactured by Stella Glass Hardware, Burnaby, BC.
 2. Stainless Steel Components: Conforming to ASCE 8-02, Specification for the Design of Cold-Formed Stainless Steel Structural Members.
 3. Glass Components: Conforming to GANA Glazing Manual, Tempered Glass Engineering Standards Manual and Laminated Glazing Reference Manual.
 4. Submittals Required prior to fabrication:
 - a. Product Data: Submit Manufacturer's technical product data for railing components and accessories.
 - b. Shop Drawings: Dimensioned drawings of railing assemblies indicating the following:
 - i. Elevations; include joint locations, transitions, and terminations.
 - ii. Glass light fabrication plans with dimensions, holes and finishes.
 - iii. Point support layout, details and attachment to support structure.
 - iv. Manufacturer's installation and maintenance instructions.
 - v. Engineering Design Report: Calculations showing point support reactions and glass stresses.
 - vi. Samples of manufacturer's finishes (As selected by Architect.)
- D. METAL RAILING ASSEMBLY
1. Metal Railing material shall be Titanium Zinc Alloy whose base is electrolytic high grade with a 99.995 % Zn degree of purity and alloying additives of 0.08% - 1.0% copper and 0.07% - .12% titanium, .001% - .015% aluminum in accordance with ASTM B69-13 – Architectural Rolled Zinc - Type 1 and Type 2.
 2. Approved Zinc Manufacturer: Rheinzink America, Inc., Woburn, MA.
 3. Color: Blue-Grey (BG) or Graphite Grey (GG), as selected by Architect.
 4. Maximum Light Reflectance value of 32%.
 5. Minimum Panel Thickness: 1.0mm (20 gauge).
 6. Minimum Flashing Thickness: 0.7mm (24 gauge).
 7. Fabrication and Installation
 - a. Flat-Lock Tile Panels: Form flat-lock tile panels from continuous metal sheets, with two hooks (hems) turned under and two hooks (hems) turned over. A minimum of a ¾" hook (hem) is required. Relief cuts are recommended for ease of installation as recommended by Rheinzink America.
 - b. Material shall have an offset array of circular openings as approved by the Architect, with 60% of the face area of the material to be open.
 - c. Back-up wall construction of metal railing assembly shall be as detailed in structural drawings of hot dipped galvanized steel. Cutting or welding of galvanized steel in the field is not permitted. All fasteners shall be stainless steel.
 - d. Fabricate panels to comply with details shown and recommendations in SMACNA - Architectural Sheet Metal Manual and RHEINZINK recommendations.
 8. Mock-up
 - a. Provide mock-up for Architect approval of no less than 4'x8' dimensions at a location where the Architect can closely inspect all intended details prior to the installation of roofing on building.

06. WOOD, PLASTICS, AND COMPOSITES

- A. GENERAL
1. Refer to structural drawings for specifications and other requirements.
 2. Refer to structural drawings for framing requirements.
 3. No sleeves, ducts, pipes, or other openings shall pass through joists, beams, column capitals, or columns, except where expressly detailed on structural drawings or approved by Architect or consultant.
 4. Refer to architectural drawings for wall assemblies.

- B. ROUGH CARPENTRY
 - 1. DIMENSION LUMBER
 - a. Comply with PS 20 and requirements of specified grading agencies.
 - b. Species: Douglas Fir-Larch, unless otherwise indicated.
 - c. Grade shall be #2 and better, unless noted otherwise.
 - 2. WALLS
 - a. Framing as per structural drawings.
 - b. Exceptions to standard 2x6 framing shown on structural and architectural drawings.
 - c. Exterior sheathing to be blocked as per structural drawings.
 - d. Provide solid blocking at the underside of all bearing walls.
 - e. Provide solid blocking on all swinging entry doors at lock height, between jambs, and structural framing.
 - f. All posts and lintel supports shall have continuous bearing to top of steel perimeter beam as per structural drawings.
 - g. Pre-drill all lag bolt holes prior to installing bolts.
 - h. Recess bolt heads and nuts into lumber to make flush as per structural drawings.
 - 3. SHEATHING
 - a. Sheathing material and thickness shall be as indicated in structural assemblies.
 - 4. STRAPPING
 - 5. Strapping on exterior walls and roof as per architectural drawings.
 - 6. See details for variation on strapping requirement.
 - 7. Finished ceiling to be mounted on resilient channels or strapping @ 16" c/c when necessary as per architectural drawings.
- C. PRESSURE TREATED LUMBER
 - 1. Provide pressure treated lumber for all lumber in the following locations:
 - a. Lumber in exterior locations
 - b. Lumber in contact with concrete
 - c. Lumber used for cants or other similar transitions below roofing membranes.
- D. LINTELS
 - 1. Refer to structural drawings for lintel locations and sizes.
 - 2. Lintels to be flush with exterior face of framing unless otherwise noted.
 - 3. One full height stud and double jack studs at each end unless otherwise noted. Refer to structural drawings.
- E. FINISH CARPENTRY
 - 1. Use solid wood with wood returns on all visible trim ends.
 - 2. Woods shall be poplar, free of knots and defects, painted in color to be selected by Architect, on all door frames and other locations as per architectural drawings.
 - 3. All gypsum board finished walls to receive synthetic "Wood" PVC baseboard, in thickness to match gypsum board, flush mounted and painted, color to be selected by Architect.
- F. ARCHITECTURAL WOOD CASEWORK
 - 1. Refer to architectural drawings.
 - 2. Refer to "COUNTER TOPS" specification below for countertop requirements.
 - 3. Quality Requirements
 - a. Minimum compliance with Architectural Woodwork Institute (AWI) "Architectural Woodwork Quality Standards" Custom Grade. Specifications or details which exceed AWI Custom grade may be required.
 - b. Fabricator and Installer Qualifications: AWI Certified Compliance Program.
 - 4. Provide European style cabinetry (no face frames).
 - 5. Cabinet "Cases": minimum 3/4" material.
 - 6. Cabinet backs: Minimum 1/2" material.
 - 7. Drawer and drawer fronts:
 - a. 3/4" spray lacquered MDF. Color to be selected by Architect.
 - 8. Cabinet interiors: Paint grade plywood with 3/16" hardwood edges where exposed. Spray lacquered plywood. Color to be selected by Architect.

9. Ski cabinet interior material: 3/4" thickness High Density Polyethylene (HDPE). Color, and surface finish to be approved by the Architect.
 10. Cabinet drawer boxes: 1/2" Baltic birch plywood with painted finish. Color to be selected by Architect.
 11. Cabinet doors over 4 feet high to be solid core anti-warp doors to match cabinet doors or interior finish.
 12. Cabinet and Drawer Hardware
 - a. All concealed, reverse, Blum steel hinges with +/- 110-degree swing.
 - b. All pulls in casework to be Richelieu (#BP39660184) finish #184, or approved equivalent by Architect.
 - c. All bathroom pulls in casework to be Richelieu (#BP39660184) finish #184, or approved equivalent by Architect.
 - d. Double magnetic latches to be Richelieu (#509830) finish white, or approved equivalent by Architect, location to be selected by Architect.
 - e. Drawer boxes shall have Blumotion nylon rollers in a full-extension metal track, or approved equivalent by Architect, color to be selected by Architect.
 - f. Door hinges in floor-to-ceiling millwork doors to be Schlage 4" square hinges (#1020-619) in satin nickel, or approved equivalent by Architect.
 - g. Exterior door hinges to be selected by Architect.
 - h. Alternates will be permitted only if approved by Architect.
 13. Provide shop drawings of all Architectural Wood Casework for review by Architect.
 14. Supply a typical cabinet sample to Architect.
- G. EXTERIOR SHEATHING
1. Typical wall sheathing shall be plywood, as indicated in structural drawings and specifications.
 2. Garage soffit sheathing shall be 5/8" DensGlass gypsum board sheathing, as manufactured by Georgia Pacific Gypsum, or equivalent as approved by the Architect.
 - a. Gypsum board sheathing shall be Type X fire rated.

07. THERMAL AND MOISTURE PROTECTION

- A. FOUNDATION WATERPROOFING MEMBRANE
1. Install spray-applied Liquid TREMproof, as manufactured by Tremco Commercial Sealants & Waterproofing. Install in accordance with manufacturer's recommendations.
 2. Install TremDrain Drainage panel in accordance with manufacturer's recommendations
 3. Provide waterproofing membrane on footing and exterior face of foundation walls of habitable spaces up to 2" below grade.
 4. Ensure continuous seal of waterproofing membrane as per manufacturing specification around all concrete foundation walls below grade and at all connection with footings.
- B. WEATHER BARRIER MEMBRANE
1. WrapShield SA self-adhered WRB/Air Barrier, as manufactured by VaproShield USA, Gig Harbor, WA.
 - a. Install with water-resistive vapor permeable transition and flashing assemblies as recommended by VaproShield USA.
 2. Ensure all seams and corners of entire building membrane are properly sealed to prevent leakage.
 3. Air barrier and flashing assembly at window openings shall lap from wall to throat of curtainwall, as detailed.
 4. Submittals required prior to installation:
 - a. Product literature
 - b. Samples of proposed materials
 - c. Details of installation including joints, laps, and flashing installations.
- C. THERMAL INSULATION
1. Provide moisture protection between all wood and concrete connections.

2. **Install all thermal insulation products in strict accordance with manufacturer's recommendations.**
 3. Extruded Polystyrene
 - a. Supply and install rigid extruded polystyrene insulation below slab on grade in thicknesses indicated and as detailed in architectural drawings.
 - b. Supply and install continuous extruded polystyrene insulation as part of flat roof assemblies in thicknesses indicated and as detailed in architectural drawings.
 4. Closed Cell Foam
 - a. Supply and install 2lb. closed cell insulation as per manufacturer's specification; thickness as per architectural drawings in all exterior wall assemblies.
 5. Rigid Mineral Wool
 - a. Roxul Comfortboard 110, as manufactured by Roxul, Inc., Milton, Ont.
 - b. Thickness as shown.
 6. Contractor shall verify that final construction conforms with applicable building and energy codes.
 - a. Certification:
 - i. A permanent certificate shall be completed and located in an approved location that lists the predominant R-values of the insulation installed in the ceiling/roof, walls, foundation and ducts outside conditioned spaces, and U-factors for fenestration.
- D. ACOUSTIC INSULATION
1. Supply and install acoustic batt insulation to fill wall and floor cavities as indicated in all interior wall and floor partitions for acoustic privacy.
 2. Regardless of thickness indicated, Contractor shall attain sound ratings as follows:
 - a. Walls around toilets and bedrooms: 50 STC (Sound Transmission Class).
 - b. Floor assembly: 50 IIC (Impact Isolation Class)
- E. METAL CLADDING
1. Titanium Zinc Alloy whose base is electrolytic high grade with a 99.995 % Zn degree of purity and alloying additives of 0.08% - 1.0% copper and 0.07% - .12% titanium, .001% - .015% aluminum in accordance with ASTM B69-13 – Architectural Rolled Zinc - Type 1 and Type 2.
 2. Approved Zinc Manufacturer: Rheinzink America, Inc., Woburn, MA.
 3. Color: Blue-Grey (BG) or Graphite Grey (GG), as selected by Architect.
 4. Maximum Light Reflectance value of 32%.
 5. Minimum Panel Thickness: 1.0mm (20 gauge).
 6. Minimum Flashing Thickness: 0.7mm (24 gauge).
 7. Fabrication and Installation
 - a. Flat-Lock Tile Wall Panels: Form flat-lock tile panels from continuous metal sheets, with two hooks (hems) turned under and two hooks (hems) turned over. A minimum of a ¾" hook (hem) is required. Relief cuts are recommended for ease of installation as recommended by Rheinzink America.
 - b. Fabricate panels to comply with details shown and recommendations in SMACNA - Architectural Sheet Metal Manual and RHEINZINK recommendations.
 8. Mock-up
 - a. Provide mock-up for Architect approval of no less than 8'x8' dimensions at a location where the Architect can closely inspect all intended details prior to the installation of roofing on building.
- F. ROOFING
1. Titanium Zinc Alloy whose base is electrolytic high grade with a 99.995 % Zn degree of purity and alloying additives of 0.08% - 1.0% copper and 0.07% - .12% titanium, .001% - .015% aluminum in accordance with ASTM B69-13 – Architectural Rolled Zinc - Type 1 and Type 2.
 2. Approved Zinc Manufacturer: Rheinzink America, Inc., Woburn, MA.
 3. Color: Blue-Grey (BG) or Graphite Grey (GG), as selected by Architect.

SPECIFICATIONS
AND OTHER REQUIREMENTS

4. Maximum Light Reflectance value of 32%.
 5. Minimum Panel Thickness: 0.8mm (22 gauge).
 6. Minimum Flashing Thickness: 0.7mm (24 gauge).
 7. Mechanical Double Lock seams with panel seam height and pan width as detailed.
 8. Accessories:
 - a. Provide all components necessary for a complete, functional, weatherproof assembly including, but not limited to, trims, copings, fascia, sills, flashings, counter flashings, door frame trim, corner units, clips, wall caps, copings, sealants, closures and fillers. Metal materials shall match panels and be zinc compatible.
 - b. Clips & Fasteners: Provide stainless steel concealed clips and fasteners; supplied in accordance with manufacturer's recommendations and to meet the load requirements as specified by architect and confirmed by engineering calculations. Attachment clips shall permit expansion and contraction of the panel system throughout the specified temperature range. Provide fasteners with watertight washer gaskets (such as self-adhered membrane).
 9. Fabrication and Installation
 - a. Fabricate sheet metal roofing panels to comply with details shown and recommendations in SMACNA - Architectural Sheet Metal Manual and RHEINZINK recommendations.
 10. Mock-up
 - a. Provide mock-up for Architect approval of no less than 8'x8' dimensions at a location where the Architect can closely inspect all intended details prior to the installation of roofing on building.
- G. SNOW GUARDS
1. Guards shall be as manufactured by TRA Snow and Sun, American Fork, UT.
 2. Snow Bracket Type H, steel, with hot-dipped galvanized steel finish.
 3. Contractor shall submit samples for approval prior to installation.
 4. Install in accordance with manufacturer's recommendations, using stainless steel screws at each snow bracket.
- H. ROOFING UNDERLAYMENT
1. Product: SlopeShield SA Self-Adhered as manufactured by VaproShield, LLC, Gig Harbor, WA.
 2. Install in accordance with manufacturer's recommendations.
- I. POLYVINYL CHLORIDE (PVC) ROOFING
1. Required for installation at viewing deck
 2. Product: Sarnafil G410-16, 60 mil, as manufactured by Sika Corporation, Canton, MA.
 3. Install in full accordance with manufacturer's recommendations, including flashings, drains, and perimeter detailing.
- J. SHEET METAL FLASHING & TRIM
1. Flashing abutting roofing, metal cladding, and metal railing assembly shall be as specified in "ROOFING" above.
 2. Flashing abutting curtainwall or aluminum window assemblies shall be clear anodized aluminum to match abutting material, minimum thickness 0.032".
- K. MEMBRANE FLASHING
1. VaproFlashing SA Self-Adhering flashing, as manufactured by VaproShield USA, Gig Harbor, WA.
 2. Fully seal all joints and around all openings in wall and roofing assemblies.
 3. Air barrier and flashing assembly at window openings shall lap from wall to throat of curtainwall, as detailed.
 4. Submittals required prior to installation:
 - a. Product literature
 - b. Samples of proposed materials
 - c. Details of installation including joints, laps, and flashing installations.
- L. ROOF PAVERS

1. Concrete pavers as selected by Architect.
2. Provide "Pedestal Mount Details" as manufactured by Therma-HEXX Corporation, Portsmouth, NH.
3. Submittals:
 - a. Product Data: Data sheets for each product to be used
 - b. Shop Drawings of full installation, including
 - i. Product Installation
 - ii. Sequencing

08. OPENINGS

A. WINDOWS AND ENTRY DOORS

1. All windows and entry doors frames to be extruded aluminum curtainwall frames with Class 1 clear coated finish - structural silicone and pressure plate locations as per architectural drawings. Provide a sample to Architect.
2. All operable windows to have screens unless noted otherwise. Review screen type with Architect prior to installation.
3. All operable windows to be outswing.
4. All window head/sill/jamb flashings to match window frames.
5. All window head/sill/jamb details to be reviewed by window manufacturer prior to fabrication. Coordinate with Architect.
6. Glass to be double paned, insulated, low e, air filled. Color to be selected by Architect. Provide a sample to Architect.
7. Provide shop drawings, and glazing specifications, including solar gain and heat transmission ratings, for review by Architect prior to fabrication.

B. CURTAINWALL

1. Curtainwall assembly shall be Oldcastle Reliance – SS Series, as manufactured by Oldcastle Building Envelope, Terrell, TX.
2. Operable windows within curtainwall assembly shall be Oldcastle Zero Sightline Series 30P
 - a. Provide with insect screens as specified below.
3. Finish: Clear anodized aluminum.
4. Glazing: Double IG, Low-E, Air filled. Color of vision glass and spandrel glass shall be as selected by the Architect.
5. U-factors shall be determined by testing in accordance with NFRC 100 and labeled as such by the manufacturer, per IECC R402.3.
6. Provide shop drawings, and glazing specifications, including solar gain and heat transmission ratings, for review by Architect prior to fabrication.

C. OPERABLE GLAZING WALL

1. NanaWall SL60, as manufactured by Nana Wall Systems, Inc., Corte Madera, CA.
2. Assembly shall include:
 - a. Aluminum frame
 - b. Threshold
 - c. Panels
 - d. Sliding-folding and locking hardware
 - e. Spines
 - f. Weatherstripping
 - g. Glass and glazing
 - h. Insect screen
 - i. Accessories as required for a complete working installation.
3. Glazing: Double IG, Low-E, Air filled. Color as selected by the Architect.
4. U-factors shall be determined by testing in accordance with NFRC 100 and labeled as such by the manufacturer, per IECC R402.3.
5. Exterior Finish: Clear anodized aluminum

6. Submittals:
 - a. Shop Drawings: Indicating Folding Glass Storefront system component sizes, dimensions and framing R.O., configuration, swing panels, direction of swing, stacking layout, typical head jamb, side jambs and sill details, type of glazing material, handle height and field measurements.
- D. INSECT SCREENING
 1. Required at all operable windows and sliding doors.
 2. Aluminum mesh type, with color to be selected to be selected by Architect. Architect to approve prior to installation. Provide a sample to Architect.
 3. Screen control options to be selected by Architect.
 4. Contractor to coordinate requirements and installation with dealer.
 5. Provide shop drawings to Architect for review prior to fabrication.
- E. WOOD DOORS
 1. Wood doors over 4'-0" high to be solid core, MDF face, painted, color to be selected by Architect, unless noted otherwise.
 2. All wood doors to be mounted with premium grade mortised barrel hinges as per manufacturer's instruction, unless otherwise noted. Hinge size and carrying capacity shall be verified by the Contractor prior to installation.
 3. Hardware finish shall be brushed nickel, unless noted otherwise.
 4. Provide shop drawings for review by Architect on all doors and prior to fabrication.
 5. All door hardware types to be verified by Architect.
- F. **INSULATED EXTERIOR DOORS**
 1. **Insulated exterior doors to be of steel construction with Polyurethane core.**
 2. **U-value of 0.09.**
 3. **All doors to be mounted with premium grade mortised barrel hinges as per manufacturer's instruction, unless otherwise noted. Hinge size and carrying capacity shall be verified by the Contractor prior to installation.**
 4. **Hardware finish shall be brushed nickel, unless noted otherwise.**
 5. **Provide shop drawings for review by Architect on all doors and prior to fabrication.**
 6. **All door hardware types to be verified by Architect.**
- ~~G. **GARAGE DOOR**
 1. ~~**Garage doors shall be power-operated remote controlled horizontal single panel doors clad with 4" horizontal boards as directed by the Architect.**~~
 2. ~~**One door shall have operable wicket "Man door", with limited exterior hardware. Exterior finish shall match adjoining surface of garage door.**~~
 3. ~~**Contractor shall submit details, with manufacturer and model number, to Architect for approval prior to installation.**~~~~

09. FINISHES

- A. PAINT
 1. Paint assemblies shall be from same manufacturer (e.g., preparation, primer & finish) in premium quality level.
 2. Painting schedule indicating all proposed applications shall be submitted to the Architect for approval prior to the application of any material.
 3. All colors to be selected by Architect.
 4. Apply primer plus minimum 2 coats of paint to all drywall.
 5. Finish:
 - a. Ceiling flat finish
 - b. Walls eggshell finish
 - c. Trim semi-gloss finish.
- B. FLOORS

SPECIFICATIONS
AND OTHER REQUIREMENTS

1. All floors, except where noted, to be large format ceramic tile. Refer to "CERAMIC TILE ASSEMBLIES".
 2. For "Slab on Grade" requirements, refer to "03. Concrete".
 - a. Confirm control joint locations with Architect prior to cut.
 - b. Control joints in finished concrete surface to be cut prior to the erection of framed walls. All joints to be cut straight through to the edge of the concrete to prevent cracking.
 - c. Finished concrete surface to be protected at all times during the construction process to ensure damage does not occur.
- C. WALLS, INTERIOR
1. Typical interior walls to be 1/2" drywall, taped, filled, sanded, and painted, color to be selected by Architect, unless otherwise noted.
 2. Provide 1/2" aluminum Z reveal molding to finish all end of drywall conditions.
 3. Mold and moisture resistant 1/2" drywall, taped, filled, sanded, painted, color to be selected by Architect, in bathroom where tile is not indicated.
- D. CEILINGS
1. Interior ceilings to have 5/8" drywall, taped, filled, sanded, painted unless otherwise noted, color to be selected by Architect.
 2. Mold and moisture resistant 5/8" drywall in bathrooms, taped, filled, sanded, painted, color to be selected by Architect.
 3. Ceiling drywall shall be suspended or attached to underside of floor joists with resilient furring.
- E. CERAMIC TILE ASSEMBLIES
1. Floor Assemblies
 - a. Large format ceramic tile as selected by Architect.
 - b. Install with thinset adhesive and antifracture membrane as recommended by tile manufacturer **and Maxxon Inc.**
 - c. When installed on Gypcrete assembly, verify that Gypcrete has been properly sealed, as recommended by both Maxxon, Inc. and tile manufacturer prior to installation of floor tile.
 - d. **Provide control joints in tile as recommended by the Tile Council of North America. Provide shop drawings to confirm type and location prior to installation.**
 2. Bathroom and kitchen backsplash assemblies
 - a. Assemblies shall incorporate full components as manufactured Schluter Systems
 - b. Floor tile assemblies in bathrooms shall include mortar beds as recommended by Schluter Systems.
 - c. Systems shall include backer boards, substrates, Kerdi-board components, membranes, and setting materials as recommended by Schluter Systems.
 - d. Tile to be selected by Architect. Tile alignment as per architectural drawings.
 - e. IN-FLOOR RADIANT HEATING
 - f. For bathroom areas only. All other floor areas have embedded radiant piping.
 - g. Assembly shall be Schluter-DITRA-HEAT by Schluter Systems
 - h. Install in strict accordance with manufacturer's recommendations.
- F. STONE TILING
1. Kitchen backsplash
 - a. Minimum 3/4" thick marble to match adjacent countertop material as specified in "COUNTER TOPS" below.
 - b. Marble selection, finish, and color to be approved by the Architect.
 2. Fireplace surround
 - a. Wall surface material shall be minimum 3/4" marble as selected by the Architect.
 - b. "Frame" material shall be 1-1/4" solid marble as selected by the Architect.
 3. Adhere materials to back-up construction with thinset adhesive material, as recommended by stone tiling fabricator.
 4. Submittals required prior to installation:

- a. Installation details
- b. Installation materials
- c. 12" x 12" samples of finished materials.

10. SPECIALTIES

- A. BATHROOM ACCESSORIES
 - 5. Provide one toilet paper holder in each bathroom, type, location, and finish to be selected by Architect.
- B. SHOWER ENCLOSURE
 - 1. All hardware to be provided by C.R. Laurence Co., Inc. or approved equivalent by Architect.
 - 2. All hardware to have a brushed stainless steel finish unless otherwise noted on architectural drawings.
 - 3. Glass to be minimum 3/8" thickness clear, tempered.
 - 4. Provide shop drawings to Architect for review prior to fabrication.
- C. FIREPLACES
 - 1. Gas Fireplace
 - a. Fireplace shall be Stûv B.Fire 100, as manufactured by Stûv America, Saint-Laurent, Quebec.
 - b. Air supply option to be selected by the Architect.
 - 2. Submittals: Manufacturer's product literature and recommended installation details.
- D. CHIMNEYS AND STEEL FLUES
 - 1. Provide ExcelDirect flue continuous to exterior wall, as per architectural drawings and details.
 - 2. Flue shall terminate in horizontal termination (HT or RHT as selected by the Architect) painted to match adjoining wall material.
 - 3. Products as manufactured by Industrial Chimney Company, Jerome, Quebec.
 - 4. Spark Arrestors:
 - a. Spark arresters shall be installed that meet the requirements of International Wildland-Urban Interface Code IWUIC 605.
 - 5. Submit shop drawings for review prior to installation.
- E. STAIR ACCESSORIES
 - 1. Refer to architectural drawings for stair details.
 - 2. Handrails to be selected by Architect. Refer to architectural drawings.
- F. ROOFING HEAT TRACE ASSEMBLY
 - 1. Metal roofing shall be provided with self-regulating heating cables for snow and ice melting as manufactured by Thermon Manufacturing Company, San Marcos Texas, or equivalent approved by the Architect.
 - 2. Contractor shall submit all installation details to Architect prior to installation.

11. EQUIPMENT

- A. RESIDENTIAL APPLIANCES
 - 1. All appliances to be selected by Architect, supplied ~~by Owner~~, and installed by Contractor.
 - 2. Installation shall comply with manufacturer's recommendations.
 - 3. Verify all dimensions, electrical requirements, water supply requirements, and exhaust requirements prior to construction. Coordinate with Architect.
 - 4. Washer to be **Maytag MHW8200FC**.
 - 5. Dryer to be **Maytag MGD8200FC gas dryer**.
 - 6. Dishwasher to be **Thermador DWHD440MPR**, must be panel ready.
 - 7. Refrigerator to be **Thermador T36BB920SS 36-inch built-in 2-door bottom freezer**, must be panel ready.
 - 8. Oven to be **Thermador ME301JS 30-inch built-in single oven**.

9. Cooktop to be Thermador CIT365KM 36-inch induction cooktop.
10. Range hood to be Thermador VCIN36JP 36-inch custom insert.
11. Microwave to be Thermador MBES built-in microwave.

12. FURNISHINGS

A. COUNTER TOPS

1. Kitchen counter tops to be 1-1/4" honed marble, square edge, typical, or equivalent alternate, as approved by Architect.
 - a. Marble selection, finish, and color to be approved by the Architect.
2. Bath countertops to be 30mm Caesarstone quartz, square edge, typical, or equivalent alternate as approved by Architect and Owner.
 - a. Caesarstone selection and color to be approved by the Architect.
3. Prepare all counter tops for under-mount sinks (see plumbing fixtures).
4. Submittals: 12" x 12" samples of finished countertop material.

B. CLOSETS

1. Provide (1) fixed 3/4" spray lacquered paint grade plywood with 3/16 hardwood edges where exposed shelf and (1) 1 5/16" chrome rod with flanges in all closets.
2. Rod to be Richelieu 122208140, or approved equivalent by Architect.
3. Flanges to be Richelieu 1223140 and 1225140, or approved equivalent by Architect.

13. SPECIAL CONSTRUCTION

A. SPA / HOT TUB

1. Spa shall be custom designed and constructed stainless steel assembly manufactured by Diamond Spas, Frederick, CO.
2. Install in strict accordance with manufacturer's instructions.
3. Submit all details for Architect approval prior to fabrication and installation, including:
 - a. Construction details
 - b. Sample materials
 - c. Installation instructions
 - d. Maintenance requirements

14. CONVEYING EQUIPMENT

A. DUMBWAITER

1. Dumbwaiter shall be Homewaiter, as manufactured by Inclinator Company of America, Harrisburg, PA, Phone 800-343-9007
2. Finishes shall be stainless steel, unless indicated otherwise.
3. Options:
 - a. Bi-parting hoist way doors and cab gates.
 - b. Weight capacity 200 lb.
 - c. Size as indicated and required.
4. Install in strict accordance with manufacturer's instructions.
5. Submit all details for Architect approval prior to fabrication and installation, including:
 - a. Construction details
 - b. Confirmation of all finishes and options
 - c. Installation instructions
 - d. Maintenance requirements

22. PLUMBING

A. GENERAL

SPECIFICATIONS
AND OTHER REQUIREMENTS

1. Supply and install all plumbing lines, fixtures, fittings and equipment as required in drawings, and as required by authorities having jurisdiction to connect to municipal sources within 5 feet of building.
 2. Acoustically isolate plumbing and mechanical from habitable spaces.
 3. Insulate hot water lines.
 4. Location of all control devices (valves, faucets, mixing devices, etc.) shall be approved by the Architect prior to installation.
 5. Provide all cut sheets for final approval by Architect.
- B. WATER EFFICIENCY**
1. The Contract shall ensure that the following water efficiency requirements are fully complied with:
 - a. Indoor hot water usage
 - i. The maximum volume from the water heater to the termination of the fixture supply at furthest fixture is 64 ounces (0.5 gallons)
 - b. Water-conserving appliances
 - i. ENERGY STAR or equivalent water conserving appliances shall be installed.
 - ii. Dishwashers shall be high efficiency dishwashers using no more than 6 gallons per cycle.
 - iii. Washing machines shall be high efficiency front loading with an energy star water factor (WF) of no more than 5.
 - c. Shower Heads
 - i. The total maximum combined flow rate of all shower heads controlled by a single valve at any point in time in a shower compartment is 1.6 to less than 2.5gpm.
 - ii. Maximum of two valves are installed per shower compartment.
 - iii. The flow rate is tested at 80psi in accordance with ASME A112.18.1.
 - iv. Shower heads are served by an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the shower head.
 - d. Lavatory Faucets
 - i. Water-efficiency lavatory faucets with maximum flow rate of 1.5 gpm tested at 60psi in accordance with ASME A112.18.1 shall be installed.
 - e. Water closets and urinals
 - i. Water closets shall have an effective flush volume of 1.28 gallons or less when tested in accordance with ASME A112.19.2/CSA B45.1 or ASME A112.19.14 as applicable, and is in accordance with EPA Water Sense Tank-Type Toilets.
- C. WATER HEATER**
1. Heating Contractor to determine size of domestic hot water heater for domestic hot water.
 2. Determine and, if necessary, supply and install water softener.
- D. PLUMBING FIXTURES**
1. The plumbing systems are to be installed in accordance with the latest edition of applicable codes.
 2. Kitchen sink to be under mounted to be selected by Architect.
 3. Kitchen faucet to be selected by Architect.
 4. Bathroom sinks to be selected by Architect.
 5. Bathroom faucets to be selected by Architect.
 6. Bathroom showerheads to be selected by Architect.
 7. Bathroom shower volume/temperature controls to be selected by Architect.
 8. Bathroom hand showers to be selected by Architect.
 9. All toilets to be selected by Architect.
 10. All fixtures provided by an allowance, approved by Architect, installed by Contractor.
 - a. Installation by Contractor shall be full and complete, including
 - i. Plumbing all bathroom and kitchen fixtures and drains.
 - ii. Plumb for all appliances as required including, but not limited, to dishwasher and refrigerator in kitchen.

- iii. Supply and install supplies and drain for washer.

23. HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

A. HEATING DESIGN

- 1. Heating design by HVAC Contractor.

B. SPACE HEATING

- 1. Space heating shall be primarily provided by in-floor radiant hot water PEX piping embedded in gypsum cement underlayment.
- 2. Bathroom areas of ceramic tile flooring shall be heated with electric heating systems. Refer to "CERAMIC TILE ASSEMBLIES, IN-FLOOR RADIANT HEATING" requirements above.
- 3. Submit all design documents and drawings to Architect for review. Documents shall clearly indicate all system components, including any outdoor equipment and/or propane storage tanks.
- 4. Design and installation of heating system shall be in accordance with the latest edition of applicable codes.
- 5. Supply and install propane-fueled furnace, located as indicated in architectural documents.
- 6. All pipes below grade shall conform to all applicable codes, be carefully supported and every precaution taken against injury to pipe and joints.
- 7. Provide accurate as-built documentation of complete installation.
- 8. All thermostats to be Nest Thermostats (**white**) or approved equivalent by Architect. Color and finish to be selected by Architect. Location to be coordinated with Architect.
- 9. Provide shop drawing and heat-loss calculations for review prior to installation.

C. VENTILATION & EXHAUST

- 1. Design and installation of heating system shall be in accordance with the latest edition of applicable codes.
- 2. All visible grills and registers to be specified by Architect.
- 3. **Provide automatic or gravity dampers on all outdoor air intakes and exhaust.**
- 4. All ducts to be air-tight.

25. INTERGRATED AUTOMATION

A. HOME AUTOMATION

- 1. **Provide Home Automation system capable of controlling interior and exterior lighting, automated window shades, temperature controls, building access, smoke/carbon monoxide detection, and audio systems. Lutron RadioRA 2 or alternate approved by Architect.**
- 2. **Final automation package to be selected by Owner and Architect, and installed by contractor.**
- 3. **Provide cut sheets and shop drawings for approval prior to construction.**

B. ACCESS CONTROLS

- 1. **Provide remote, wirelessly controlled lock with keypad, and assignable PINs at main entry door.**
- 2. **Provide remote, wirelessly controlled lock with keypad, and assignable PINs on all cabinets and storage rooms indicated as lockable on Architectural plans.**

26. ELECTRICAL

A. SERVICE

- 1. Electrical design by Electrical Contractor.

2. The electrical systems are to be installed in accordance with the latest edition of applicable Codes.
 3. Provide underground electrical service from within 5 feet of building.
 4. Electrical Contractor to determine proper amperage for electrical service.
 5. Rough-in pre-wiring and supply installation of electrical fixtures and equipment.
 6. **Architect and contractor to review requirements of home automation system prior to execution of work.**
 7. Architect to review location of all electrical units with electrical Contractor prior to execution of work.
- B. SWITCHES/OUTLETS
1. Typical switch boxes to be mounted at 3'-6" (center of box) above finish floor.
 2. Use toggle dimmer switches for all lighting fixtures except in storage areas.
 3. Use 'Lutron Diva Series' switches (white) and cover plates (white) or approved equivalent by Architect.
 4. Floor duplexes to be Hubbell Flush Round Multi Service Non-Metallic Concrete Floor outlets w/ one piece crass cover and carpet flange (#SF3925), or approved equivalent by Architect, location as per architectural drawings.
 5. Typical outlet boxes to be mounted at 8" (center of box) above finished floor. White finish.
 6. Install ground fault interceptor (GFI) outlets in bathrooms, kitchen and exterior outlet locations or where close to water.
 7. Install stainless steel exterior grade electrical boxes and connectors at all exterior applications. Seal around all penetrations in cladding. Seal all fittings.
- C. FIXTURES
1. All fixtures selected by Architect, supplied and installed by Contractor.
 2. All exterior fixtures shall have Energy Star ratings.
 3. Where possible, lighting shall have high efficiency LED lamps that are user replaceable.
 4. Contractor shall submit lighting fixture schedule, showing manufacturer and model number prior to any installation.
 5. Contractor to verify location and sizes of all blockouts in concrete to receive light fixtures.
 6. All luminaires to be on dimmers.
 7. Contractor shall make provisions for undercabinet lighting in kitchen.
 8. Exterior wall mounted lights to be selected by Architect.
 9. Interior ceiling mounted dining space pendant lights to be selected by Architect.
 10. Interior wall mounted lighting to be selected by Architect.
 11. All pot lights to be standard LED PAR-Type Open Downlights with true light trim as manufactured by Philips Lightolier or equivalent as selected by Architect.
- D. SMOKE AND CARBON DETECTORS
1. Devices shall be combination smoke and carbon **monoxide** detectors to meet building code.
 2. Devices shall be Nest Protect (white), hard wired with battery backup, or approved equivalent. Coordinate location with Architect.

27. COMMUNICATIONS

- A. COMMUNICATIONS SYSTEMS
1. To be selected by Owner, supplied and installed by Contractor.
 2. Contractor shall indicate proposed locations for the following:
 - a. Telephone Service entry
 - b. Internet Service entry
 - c. Television Service entry
 - d. Telephone outlets
 - e. Internet of network outlets
 - f. Television outlets
 3. Locations shall be approved by the Architect prior to installation.

4. All distribution wiring shall be completed prior to installation of finishes.

B. AUDIO VISUAL SYSTEMS

1. Provide a four-zone Sonos audio system with recessed ceiling mounted speakers.
2. Provide cut sheets and shop drawings for approval prior to installation.

28. ELECTRONIC SAFETY AND SECURITY

C. SECURITY SYSTEM

1. To be selected by Owner, located approved by Architect, supplied and installed by Contractor.

31. EARTHWORK

A. EXCAVATION/BACKFILL

1. Where excavation is necessary, excavate and store material with minimum disturbance to existing site drainage pattern.

B. PROTECTION OF STORED MATERIAL

1. Store topsoil and cover in area designated by Owner.
2. Material protection shall be adequate to prevent erosion or other deterioration.

C. ROUGH GRADING/SITE DRAINAGE

1. Grade building perimeter and foundation exposure in accordance with civil and architectural drawings.
2. Maintain surface drainage away from building.
3. Maintain existing site perimeter drainage pattern where possible.

32. EXTERIOR IMPROVEMENTS

A. EXTENT OF LANDSCAPING

1. Material removed for excavation to remain on site.
2. Re-grade to existing contours and drainage patterns all areas affected or altered during the construction process except where drainage is required from buildings and paths.

B. Construct finished paths as per civil and architectural drawings at completion of project.

C. All Disturbed areas to receive native revegetation seed. Refer to Civil and Site drawings for seed requirements.

33. UTILITIES

A. Supply and install sewage system and/or piping system in accordance with community regulations and all applicable governmental regulations.

B. Obtain approval from all authorities having jurisdiction.

C. Provide below ground electrical services to building for:

1. internet, power, telephone, and television. Services to be connected to be coordinated with Owner and Owner's servicing Contractor(s) requirements.

END OF SPECIFICATION