A. Extent of concrete Work is shown on the Drawings.

A. Vapor Barrier Retarder: See Structural Drawings and use only materials which are resistant to decay

2.1 REINFORCING MATERIALS:

A. See Structural Drawings.

2.2 CONCRETE MATERIALS:

A. See Structural Drawings.

2.3 RELATED MATERIALS:

B. Non Shrink Grout: CRD C 621, factory pre mixed grout. 1.1 SUMMARY AWPA C31 with inorganic boron (SBX)]. or chromium 2.3 ENGINEERED WOOD PRODUCTS formaldehyde. 1. Extreme Fiber Stress in Bending, Edgewise: 2800 psi. Modulus of Elasticity, Edgewise: 1,800,000 psi. 06 12 00 - STRUCTURAL INSULATED PANELS 1.1 SUMMARY **A.** This section includes: Structural Insulated Panels (SIPs). 2.1 MANUFACTURERS A. Basis of Design Products: Subject to compliance with requirements, provide the products indicated or products that are equal in quality, performance and durability as approved by Architect. Products shall be manufactured within 500 miles of the project site. 1. ACH Foam Technologies, LLC, 5250 North Sherman St., Denver, CO 80216 2. SIPs Texas, 5275 Highway 27, Kerrville, TX 78028 MATERIALS **A.** SIPs shall consist of the following: 1. UL certified EPS core with Perform Guard treatment, minimum of 0.95 pcf (15.2 kg/m3) complying with ASTM C578 Type I and having ICC ES recognition of termite resistance. Insulation manufacturer shall provide Third Party UL certificate. ICC ES report shall be provided for recognition of termite resistance in compliance with ICC AC239. 2. OSB identified with APA or TECO performance mark with Exposure I durability rating and performance in accordance with DOC PS-2 span rating 24/16 or greater. 3. SIP's sheathing shall be pressure-preservative treated per AWPA U1, Section 4. 4. Adhesives shall be in conformance with ICC ES AC05 - Acceptance Criteria for Sandwich Panel Adhesives and applicable LEED Criteria. **06 16 00 - SHEATHING** 1.1 SUMMARY A. This Section includes the following:

C. Water Based Curing, Sealer and Dustproofer Compound: 1. Liquid type membrane _ forming curing, sealer and dustproofer compound complying with ASTM C309, Type 1, Class B and containing 30-percent solids in accordance with ASTM C4758. D. Joint Fillers for Concrete Paving: Provide joint fillers of thickness and widths indicated on Drawings 1. "Sonolastic Expansion-Joint Filler"; Sonneborn Building Products Division, ChemRex Inc. Polyethylene closed-cell backing, with peel off top, or equal. 2.4 PROPORTIONING AND DESIGN OF MIXES: A. Prepare design mixes for each type and strength of concrete by either Laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method used, use an independent testing facility acceptable to Architect/Engineer for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing. 1. Limit use of fly ash to not exceed 20 percent of cement content by weight. B. Submit written reports to Architect/Engineer and Structural Engineer of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect/Engineer. C. Design Mixes: Provide normal weight concrete with the properties indicated on Structural Drawings, but not less than the following: Locationf'cw/c% Air1.Footings, piers, grade beams, and all other below grade.40000.52.5-4.5%2.Interior Slabs on grade, structural slabs, beams, columns, walls.40000.5OptionalNotes: fc=Min 28 day compressive strength w/c=Maximum Water/Cement ratio 03 35 10 - POLISHED AND COLORED CONCRETE A. Section Includes: This Section specifies dyed and polished concrete. 2.1 POLISHED CONCRETE FINISHING PRODUCTS A. Manufacturer: L & M Construction Chemicals, Inc 1. Contact: 14851 Calhoun Rd., Omaha, NE 68152-1140; Telephone: (800) 362-3331, (402) 453-6600; Fax: (402) 453-0244; website: www.LMCC.com, www.fgs-permashine.com; E-mail: info@lmcc.com. B. Proprietary Products/Systems: 1. Hardener, Sealer, Densifier: Proprietary, water based, odorless liquid, VOC compliant, environmentally safe chemical hardening solution leaving no surface film. a. Acceptable Material: L & M Construction Chemicals, Inc., FGS Hardener Plus. 2. Joint Filler: Semi-rigid, 2-component, self-leveling, 100% solids, rapid curing, polyurea control joint and crack filler with Shore A 80 or higher hardness. a. Acceptable Material: L & M Construction Chemicals, Inc., Joint Tite 750. 3. Oil Repellent Sealer: Ready to use, silane, siloxane and fluoropolymers blended water based solution sealer, quick drying, low-odor, oil and water repellent, VOC compliant and compatible with chemically hardened floors. a. Acceptable Material: L & M Construction Chemicals, Inc., Petrotex. 4. Concrete Dyes: Fast-drying dye, packaged in premeasured units ready for mixing with VOC exempt solvent; formulated for application to polished cementitious surfaces. a. Acceptable Material: L & M Construction Chemicals, Inc., Vivid Concrete Dyes. 5. 5. Cleaning Solution: Proprietary, mild, highly concentrated liquid concrete cleaner and conditioner containing wetting and emulsifying agents; biodegradable, environmentally safe and certified High Traction by National Floor Safety Institute (NFSI). a. Acceptable Material: L & M Construction Chemicals, Inc., FGS Concrete Conditioner. <u>06 10 00 - ROUGH CARPENTRY</u> A. This Section includes the following: 6. Framing with dimension lumber. 7. Framing with engineered wood products. 8. Wood blocking and nailers. 9. Wood furring and grounds. 10. Wood sleepers. 2.1 WOOD PRODUCTS, GENERAL A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated. 1. Factory mark each piece of lumber with grade stamp of grading agency. 2. Provide dressed lumber, S4S, unless otherwise indicated. B. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project 1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. 2.2 WOOD-PRESERVATIVE-TREATED LUMBER A. Preservative Treatment by Pressure Process: AWPA C2[, except that lumber that is not in contact

6. Building wrap.

2.3 ROOF SHEATHING

7. Sheathing joint-and-penetration treatment.

8. Flexible flashing at openings in sheathing.

A. Plywood: DOC PS 2, unless otherwise indicated.

A. Preservative Treatment by Pressure Process: AWPA C9.

nominal thickness, for ceramic tile set in organic adhesive.

A. Plywood Subflooring: Exposure 1, Structural I single-floor panels or sheathing.

C. Plywood Underlayment for Carpet: DOC PS 1, Exposure 1, Underlayment.

B. Plywood Underlayment for Ceramic Tile: DOC PS 1, Exterior, C-C Plugged, not less than 5/8-inch

2.1 WOOD PANEL PRODUCTS, GENERAL

2.2 PRESERVATIVE-TREATED PLYWOOD

2.4 SUBFLOORING AND UNDERLAYMENT

A. Plywood Roof Sheathing: Exterior sheathing.

with the ground and is continuously protected from liquid water may be treated according to 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic A. Laminated-Veneer Lumber: Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559 and containing no urea

A. Adhesives for Field Gluing Panels to Framing: Formulation complying with ASTM D 3498 and that is approved for use indicated by manufacturers of both adhesives and panels. 1. Use adhesives that have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24). B. Flexible Flashing: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than 0.025 inch. 06 17 53 - SHOP-FABRICATED WOOD TRUSSES 1.1 SUMMARY A. This Section includes the following: 1. Wood floor trusses. 2. Wood truss bracing. Metal truss accessories 2.1 DIMENSION LUMBER A. Lumber: DOC PS 20. Provide lumber that complies with the applicable rules of any rules writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated. 1. Provide dry lumber with 19 percent maximum moisture content at time of dressing. B. Grade and Species: For truss chord and web members, provide dimension lumber of any species, graded visually or mechanically, and capable of supporting required loads without exceeding allowable design values according to AF&PA's "National Design Specifications for Wood Construction" and its "Supplement C. Permanent Bracing: Provide wood bracing that complies with requirements for miscellaneous lumber 1.1 SUMMARY in Division 06 Section Rough Carpentry. 2.2 METAL PRODUCTS A. Connector Plates: Fabricate connector plates to comply with TPI 1 from hot-dip galvanized steel sheet complying with ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G60 coating designation; and not less than 0.036 inch thick. B. Fasteners: Where trusses are exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M. C. Metal Truss Accessories: Provide truss accessories made from hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation. 06 18 13 - GLUED-LAMINATED BEAMS A. Section includes framing using structural glued-laminated beams. 2.1 STRUCTURAL GLUED-LAMINATED BEAMS A. General: Provide structural glued-laminated beams that comply with AITC 117 or research/evaluation reports acceptable to authorities having jurisdiction. 1. Provide structural glued-laminated beams made from solid lumber laminations; do not use laminated veneer lumber. 2. Provide structural glued-laminated beams made with wet-use adhesive complying with a. Use adhesive that contains no urea-formaldehyde resins. B. Species and Grades for Structural Glued-Laminated Beams: Any species that complies with structural properties and beam stress classifications indicated. 06 40 23 - INTERIOR ARCHITECTURAL WOODWORK A. This Section includes the following: 1. Interior Standing and Running Trim. 2. Interior Wood Door Frames. 3. Wood Stools 4. Wood Door and Window Casings Wood Base 1.2 LEED Submittals A. Product Data for Credit EQ 4.4: 1. For each composite-wood product used, documentation indicating that the bonding agent contains urea formaldehyde 2. For each adhesive used, documentation indicating that the adhesive contains no urea B. Certificates for Credit MR 7: Chain-of-custody certificates certifying that products specified to be made from certified wood comply with forest certification requirements. Include evidence that mill is certified for chain of custody by an FSC-accredited certification body. 1. Include statement indicating costs for each certified wood product. 2.2 COMPONENTS A. Lumber shall be sound, kiln dried, and in accordance with the Architectural Woodwork Standards requirements for its use and the Grade specified 2.3 FABRICATION A. Interior woodwork shall be Architectural Woodwork Standards Custom Grade. B. Door Jambs shall be plowed jamb with a T stop. C. Trim for opaque finish. 1. Moldings shall be poplar 2. Flat trim items shall be poplar a. Exposed edges shall be sanded and filled if necessary <u>06 41 13 - ARCHITECTURAL CABINETS</u> 1.1 SUMMARY A. This Section includes the following: 1. Wood cabinets. B. Architectural cabinets noted as "OF/CI" will be furnished by Owner and installed by Contractor. Other items to be provided by Contractor 2.1 Insert list of preapproved firms. Refer to AWI's or WI's member list for names of woodworking firms that could potentially be included. MATERIALS A. Wood Species and Cut for Transparent Finish: As indicated on Drawings. B. Wood Species for Opaque Finish: As indicated on Drawings. 1. Recycled Content of Medium-Density Fiberboard and Particleboard: Provide products with an average recycled content so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 20 percent. 2. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde. 3. Softwood Plywood: DOC PS 1, Medium Density Overlay. 4. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive no urea formaldehyde D. Tempered Float Glass for Cabinet Doors: ASTM C 1048, Kind FT, Condition A, Type I, Class 1 (clear), Quality-Q3, with exposed edges seamed before tempering, 6 mm thick, unless otherwise indicated. 06 43 13 - WOOD STAIRS AND RAILINGS A. This Section includes the following: 1. Stairwork and railings. 1.2 SUBMITTALS A. LEED Submittals: 1. Product Data for Credit EQ 4.4: a. For each composite-wood product used, documentation indicating that the bonding agent urea formaldehyde. b. For each adhesive used, documentation indicating that the adhesive contains no urea 2. Certificates for Credit MR 7: Chain-of-custody certificates certifying that products specified to made from certified wood comply with forest certification requirements. Include evidence that mill is certified for chain of custody by an FSC-accredited certification body. a. Include statement indicating costs for each certified wood product. 2.1 MATERIALS A. Wood Species for Opaque Finish: Poplar

2.2 MISCELLANEOUS MATERIALS

2.3 FABRICATION

1.1 SUMMARY:

B. Stairwork and Railings:

1. Treads: Opaque finish

2. Risers: Opaque finish.

3. Stringers: Opaque finish

4. Balusters: Opaque finish.

5. Handrails: Opaque finish.

Standing and Running Trim

dried to 15 percent maximum moisture content:

1. Interior Woodwork Grade: Custom.

6. Scotia, Cove, and Other Moldings: Opaque finish.

06 66 20 - MANUFACTURED URETHANE TRIM

A. Rough Carriages for Stairs: Select Structural grade Douglas fir-larch, hem-fir, or southern pine; kiln

A. General: Complete fabrication to maximum extent possible before shipment to Project site. Where

Section includes furnishing and installing all selected High Density Urethane Foam

necessary for fitting at site, provide allowance for scribing, trimming, and fitting.

Manufactured Trim and Ornament Products, including but not limited to:

2.5 WEATHER-RESISTANT SHEATHING PAPER

2.6 MISCELLANEOUS MATERIALS

A. Building Paper: ASTM D 226, Type 1 (No. 15 asphalt-saturated organic felt), unperforated.

2. Ornamental Trim 2.1 MANUFACTURERS: A. Acceptable Manufacturer: Fypon, LLC. 1750 Indian Wood Circle Maumee, Ohio 43537 Phone: 800/446-3040 http://www.fypon.com 2.2 MATERIALS: A. Manufactured polyurethane trim and ornaments: 2.3 ACCESSORIES: A. Sealant: Use a manufacturer's approved urethane-based adhesive. B. Fasteners: Use corrosive-resistant fasteners. C. Filler: Use a manufacturer's approved filler putty. A. Manufacturer supplied protective barrier coat primer, resistant to UV degradation, providing interim UV protection of products which is suitable for field application of oil base or latex finish paints on all urethane foam products. 06 73 00 - COMPOSITE WOOD DECKING A. Composite wood decking. 2.1 MATERIALS A. Basis of Design Product: The design for composite Wood Decking is based on the products manufactured by Trex Manufacturing, Inc., 160 Exeter Drive, Winchester, VA 22603-8605 Phone: 800-BUY-TREX, extension 930. B. Profiles: Decking nominally 5/4 x 6 inches x 20-feet. C. Surface Texture: Origins, smooth. D. Color: SD - Saddle. 2. 2 ACCESSORY PRODUCTS A. Fasteners: Stainless steel of length recommended by composite wood manufacturer for profile being 07 21 00 - THERMAL INSULATION 1.1 SUMMARY A. This Section includes the following: 1. Batt and Roll Insulation. 2.1 BATT AND ROLL INSULATION A. Available Manufacturers: CertainTeed Corporation. 2. Johns Manville. 3. Knauf Fiber Glass. 4. Owens Corning. 07 46 46 - CEMENTITIOUS SIDING AND TRIM BOARDS 1.1 SUMMARY A. Section includes: 1. Vertical and Horizontal lap siding 2. Vertical Batten Boards 3. Trim Boards 2.1 FIBER-CEMENT SIDING AND TRIM BOARDS A. Acceptable Manufacturer: James Hardie Building Products, Inc., which is located at: 26300 La Alameda Suite 400; Mission Viejo, CA 92691; Toll Free Tel: 866-274-3464; Tel: 949-367-4980; Email: request info (info@jameshardie.com); Web: www.jameshardiecommercial.com 07 53 23 - ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING 1.1 SUMMARY A. Section Includes: 1. Adhered EPDM membrane roofing system. 2.1 EPDM MEMBRANE ROOFING A. EPDM: ASTM D 4637, Type I, non-reinforced, uniform, flexible EPDM sheet. 1. by one of the following: a. Carlisle SynTec Incorporated b. Firestone Building Products. 2. Thickness: 60 mils nominal. 3. Exposed Face Color: White on black. 2.2 AUXILIARY MEMBRANE ROOFING MATERIALS A. Sheet Flashing: 60-mil thick EPDM, partially cured or cured, according to application. B. Bonding Adhesive: Manufacturer's standard, water based. C. Seaming Material: Single-component, butyl splicing adhesive and splice cleaner or Manufacturer's standard, synthetic-rubber polymer primer and 3-inch-wide minimum, butyl splice tape with release D. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening membrane to substrate, and acceptable to roofing system manufacturer. E. Miscellaneous Accessories: Provide lap sealant, water cutoff mastic, metal termination bars, metal battens, pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

