SECTION 064102 ARCHITECTURAL WOOD CASEWORK for Architectural Benches

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Hardwood Finish Plywood for Cabinets.
2. Finish Hardwood Trim.
3. Acoustical Panels.
4. Upholstery and Padding for Custom Seating Benches
5. Computer mounting accessories.
6. Cabinet Accessories.

1.2 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections, to ensure that architectural woodwork can be supported and installed as indicated.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product / material.

B. Shop Drawings: For architectural woodwork, custom seating benches.

1. Include dimensioned plans, elevations, sections, and attachment details.
2. Show large-scale details.
3. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
4. Show locations and sizes of cutouts and holes for items installed in architectural woodwork.

C. Samples:

1. Lumber and Running Trim: Not less than 5 inches wide by 12 inches long, for each species and cut, finished on one side and one edge.

2. Paneling and Veneer: 12 inches square, for each species and cut, with veneer leaves representative of and selected from flitches to be used. Where applicable, include typical reveal details for each required profile.

3. Finish Samples: One for each species, finish system, and color, showing full range of grain, color, texture, and finish.

4. Upholstery: 12” x 12” sample, but not smaller than required to show complete pattern repeat, from dye lot to be used for the Work, and with specified treatments applied. Mark top and face of fabric.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer and Installer.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

B. Installer Qualifications: Manufacturer of products.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver woodwork until painting and similar finish operations that might damage woodwork have been completed in installation areas. Store woodwork in installation areas or in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of the construction period.

B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings.

1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed/concealed by construction, and indicate measurements on Shop Drawings.

2. Established Dimensions: Where woodwork is indicated to fit to other construction, establish dimensions for areas where woodwork is to fit. Provide

allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.1 ARCHITECTURAL WOODWORK MANUFACTURERS

A. Source Limitations: Engage a qualified woodworking firm to assume responsibility for production of architectural woodwork specified in this Section, including fabrication, finishing, and installation.

2.2 ARCHITECTURAL WOODWORK, GENERAL

A. Quality Standard: Unless otherwise indicated, comply with the "North American Architectural Woodwork Standards" for Custom Grade architectural woodwork for construction, finishes, installation, and other requirements.

1. Where the Contract Documents contain requirements that are more stringent than the referenced woodwork quality standard, comply with requirements of Contract Documents in addition to those of the referenced quality standard.

2.3 HARDWOOD FINISH WOOD FOR CABINETS

A. Solid Wood Sections:

1. WD-1, Solid Hardwood for Transparent Finish:

a. Wood Species and Cut: White oak; Plain sliced/plain sawn.

B. Wood Veneer Finish Plywood Panels:

1. WD-2, Hardwood Finish Plywood for Transparent Finish:

a. Wood Species and Cut: White oak; Plain sliced / plain sawn.

2. Veneer Matching Method:

a. Adjacent Veneer Leaves: Random match.

b. Within Panel Face: Running match.

c. Exposed Panel Edges: Edge with solid wood or wood veneer matching faces when exposed. Preferred: Conceal plywood panel edges with solid wood sections, reference details.

1) Exception: At plywood edges that can be concealed by upholstered cushions, apply same finish coats to exposed edges as are applied to exposed finish surfaces, for durability.

3. Grain Direction: Vertical on plywood.

4. Panel Thickness: 3/4-inch unless otherwise indicated.

5. Assemble panels by gluing and concealed fastening except where needed for access panels, outlet or power cable routing and access.

2.4 MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.

1. Wood Moisture Content: 5 to 10 percent.

B. Lumber: DOC PS 20 and the following grading rules:

1. WCLIB: West Coast Lumber Inspection Bureau, Standard No. 17, "Grading Rules for West Coast Lumber."

2. WWPA: Western Wood Products Association, "Western Lumber Grading Rules."

C. Composite Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.

1. Composite Wood Products: Products shall be made using ultra-low-emitting formaldehyde resins as defined in the California Air Resources Board's "Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products" or shall be made with no added formaldehyde.

2. Hardboard: ANSI A135.4, Class 1 Tempered.

3. Medium-Density Fiberboard (MDF): ANSI A208.2, Grade 130, made with binder containing no urea formaldehyde.

4. Particleboard (Medium Density): ANSI A208.1, Grade M-2, made with binder containing no urea formaldehyde.

5. Softwood Plywood: DOC PS 1, made with adhesive containing no urea formaldehyde.

6. Medium-Density Overlay (MDO): Softwood Plywood: DOC PS 1, MDO, made with adhesive containing no urea formaldehyde.

7. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea formaldehyde.

8. Thermally Fused Laminate (TFL) Panels: Particleboard or MDF finished with thermally fused, melamine-impregnated decorative paper and complying with

requirements of NEMA LD 3, Grade VGL, for test methods 3.3, 3.4, 3.6, 3.8, and 3.10.

a. Color: To be selected by Architect.

D. Acoustic Panels (Sound Absorbing Wall Units): To be used as the finished surfaces of the Student Viewing Room divider panels, per the details.

1. Product: Nonwoven PET or Polyester Panels . 1/2” thick panels with groove pattern.

2. Color: To be selected in submittals from full line of standard colors.

3. Pattern: To be selected from standard “Groove” style panels.

4. Mfr: Autex Acoustics, or approved equal, as specified in Section 098433, Sound-Absorbing Wall Units.

E. Upholstery Padding for Custom Seating Benches:

1. Foam Cushion: Flexible, cellular, slab polyurethane foam, ASTM D 3574, formulated without fire retardants per California Technical Bulletin 117-2013.

2. Cushion Properties:

a. Density Range: High Resiliency (HR) as follows:

1) Seats: 2.2 lbs/cu ft.

2) Seat Backs: 1.75 lbs/cu ft.

b. Firmness: Indentation Force Deflection (IFD) per 50 sq in on 20 inch by 20 inch by 4 inch thick specimen, as follows:

1) Seats: 55 (52-62) lbs.

2) Seat Backs: 36 (32-40) lbs.

3. Seat foam to be wrapped with polyester batting to soften sharp corners and edges of square foam, create crowned appearance between foam and fabric covering. Adhere with spray adhesive on batting and foam to hold in place and hold in final shape.

4. Provide zippers along concealed edge (bottom or back edges).

5. Install pleats or buttons to tie back fabric at corner cushions, and form curved shapes, where needed. Confirm in submittal shop drawings.

F. Upholstery for Custom Seating, UP-1: Seat Base Material

1. Product: Pallas Textiles; “Haven” part of Gather Collection.

2. Color and Pattern: TBD.

3. Fiber Content: 100 percent silicone. Properties: Inherently antimicrobial, antibacterial and ink-erasable with water.

4. Width: 54 inches.

5. Sustainability: PVC-free.

G. Upholstery for Custom Seating, UP-2: Seat Back Material

1. Product: Pallas Textiles; “Verse” part of Alinea Collection. Or similar from same manufacturer.

2. Color and Pattern: TBD.

3. Fiber Content: 75% UV Polyester, 23% Post Consumer recycled polyester, 2% post industrial recycled polyester.

4. Width: 54 inches. Weight: 25.8 oz/linear yd.

5. Sustainability: PVC-free. Recycled content.

2.5 COMPUTER MOUNTS & ACCESSORIES

A. Furniture Power Outlets as a part of Custom Benches.

1. Mfr: **Legrand**, Product: “radiant” Furniture Power Centers. Three (3) tamper-resistant (TR) receptacles, rated 15A, 125V AC.

2. Model: RD3RWH (6’ chord) or RD3RWH10 (10’ chord)

3. Color: White.

4. Supplied and installed by bench fabricator, to be plugged into standard outlet in wall, per Electrical drawings. Confirm length of cord needed to reach nearest wall outlet: 6-ft or 10-ft available.

5. Reference Architectural details for locations in custom bench seating or vertical divider panels. One unit at each computer station mount.

B. Adjustable Video Monitor Mount.

1. Mfr: Ergotron. Product: LX Pro, Wall Monitor Arms. Model: 45-683-290 (White)

2. Color: White

3. Material: Aluminum construction.

4. LCD Monitor, up to 34”, weight capacity: 4-22 lbs. Max extension: 25”. Lift: 13”. Tilt: 85 deg.

5. Mounting: Wall Mount.
6. Warranty: 10-years.

C. Adjustable Keyboard Mount.

1. Mfr: Ergotron. Product: LX Pro, Wall mount Keyboard Arm. Model: 45-685-290 (White)
2. Color: White
3. Mounting: Wall Mount.
4. Material: Aluminum construction.
5. Keyboard mount tilts up, mouse tray slides out to either side of keyboard tray.
6. Warranty: 10-years.

2.6 CABINET ACCESSORIES

A. Wire Grommets.

1. Mfr: Mocket. Product: BRV2/SQ. Square wire grommet, ~3.5” square with round insert, open slot for ~1.25” dia. Cord when cover is installed. Brush closer. Or approved Equal.
2. Color: Satin Chrome.

B. Ventilation Air Vent Pass through Grilles, set in cabinet body.

1. Mfr: Mocket. 4”x12” opening. Metal framed grille.
   a. Model: GTMSH1/4X12
   b. Finish: Light Grey

2.7 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 Percent moisture content.

B. Provide removable fasteners to secure access panels behind cushions to allow for access to electrical power and data outlets.

C. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

D. Adhesives: Do not use adhesives that contain urea formaldehyde.

E. Adhesives shall be Greenguard Gold certified or demonstrate compliance with California Department of Public Health (CDPH) v1.2-2017 emissions testing.

F. Installation Adhesive: Product recommended by panel fabricator for each substrate for secure anchorage.

1. Adhesives shall have a VOC content of 70 g/L or less.

2. Adhesives shall be Greenguard Gold certified or demonstrate compliance with California Department of Public Health (CDPH) v1.2-2017 emissions testing.

2.8 FABRICATION

A. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges and corners to 1/16 inch radius unless otherwise indicated.

B. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

1. Trial fit assemblies at manufacturer's shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that parts fit as intended, and check measurements of assemblies against field measurements before disassembling for shipment.

C. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

D. Wood Trim: Fabricate wood trim to dimensions, profiles, and details indicated.

1. Backout or groove backs of flat trim members and kerf backs of other wide, flat members except for members with ends exposed in finished work.

2.9 SHOP FINISHING

A. General: Shop finish transparent-finished architectural woodwork at manufacturer's shop as specified in this Section.

1. Except where indicated to be shop-applied, refer to Section 099123 "Interior Painting" for field finishing for transparent and opaque-finished architectural woodwork.

2. Shop Priming: Shop apply prime coat including backpriming, for field and shop finished items.

B. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.

1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to surfaces installed in contact with concrete or masonry and to end-grain surfaces.

C. Transparent Finish:

1. Shop finish interior woodwork with transparent finish at fabrication shop. Defer only final touchup, cleaning, and polishing until after installation.

2. Preparation for shop finishing, complying with Architectural Woodwork Standards, Section 5 for sanding, filling countersunk fasteners, sealing concealed surfaces and similar prep for finishing.

3. Transparent Finish: AWS Grade: Custom; System 12, water-based polyurethane.

4. Sheen: Satin, 31-45 gloss units measured on 60-degree gloss meter according to ASTM D523.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before installation, condition woodwork to humidity conditions in installation areas for not less than 72 hours prior to beginning of installation.

B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming of concealed surfaces.

3.2 INSTALLATION

A. Grade: Install woodwork to comply with quality standard grade of item to be installed.

B. Assemble woodwork and complete fabrication at Project site to the extent that it was not completed during shop fabrication.

C. Install woodwork level, plumb, and true in line to a tolerance of 1/8 inch in 96 inches, unless otherwise indicated, using concealed shims.

1. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

D. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.

1. For shop-finished items, use filler matching finish of items being installed.

E. Wood Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Scarf running joints and stagger in adjacent and related members.

1. Fill gaps, if any, between top of base and wall with latex sealant, painted to match wall.

2. Install wood trim with no more than 1/8 inch in 96 inches variation from a straight line.

3.3 REPAIR

A. Repair damaged and defective architectural woodwork, where possible, to eliminate functional and visual defects and to result in architectural woodwork being in compliance with referenced quality standard.

B. Where not possible to repair, replace defective woodwork.

C. Shop Finish: Touch up finishing work after installation of architectural woodwork.

1. Fill nail holes with matching filler.

2. Apply specified finish coats to exposed surfaces where only sealer/prime coats are shop applied.

D. Field Finish: See Section 099123 "Interior Painting" for final finishing of installed architectural woodwork not indicated to be shop finished.

3.4 ADJUSTING AND CLEANING

A. Clean, lubricate, and adjust hardware.

B. Clean architectural woodwork on exposed and semi-exposed surfaces.

END OF SECTION