SECTION 06402

INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing interior architectural woodwork items including the following:

1. Interior standing and running trim and miscellaneous trim, including but not limited to window sills, wood base, and wood wall caps.

B. Related Sections:

1. Custom cabinetwork is specified in Section 06410.

2. Field-applied finishes are specified in Section 09900.

1.02 REFERENCE STANDARDS

A. Leadership in Energy and Environmental Design (LEED), www.usgbc.org/LEED (United States Green Building Council (USGBC).

1. LEED – NC v2.2 Reference Guide, first edition, dated December 2006.

1.03 SUBMITTALS

A. Refer to Section 01352 – LEED Requirements for LEED related submittal requirements.

B. Product Data: Proposed manufacturer's product literature for all hardware items exposed to view in the finished work.

1. Recycled Content: Furnish product data on post-consumer recycled content and post-industrial recycled content as a percentage of the full product composite.

2. Regional Materials: Furnish product data or letter stating the location (closest city, state) where product was manufactured (final processing or assembly) and, if available, the location where raw materials were harvested, extracted or recovered (mine, quarry, plantation, forest, recycling recovery center, etc.).

3. Product data indicating that plywood, particleboard and MDF are manufactured with no added urea-formaldehyde.

C. Samples: 12-inchsquare samples of wood veneer to receive transparent finish.

D. Shop Drawings: Show details of fabrication and installation, dimensioned plans, elevations, and sections.

E. LEED Submittals:

1. Credit EQc4.1: For site installed adhesives, furnish printed statement of VOC content.

2. Credit EQc4.4: Documentation that composite wood products contain no urea formaldehyde.

3. Credit MRc4: Documentation indicating percentages by weight of post-consumer and pre-consumer recycled content. Include statement indicating costs for each product having recycled content.

1.04 QUALITY ASSURANCE

A. Fabricator Qualifications: Firm experienced in producing architectural woodwork similar to that indicated for this Project, with sufficient production capacity to produce required units without causing delay in the work.

B. Installer Qualifications: Arrange for interior architectural woodwork installation by a firm that can demonstrate successful experience in installing architectural woodwork items similar in type and quality to those required for this Project.

C. WI Certified Compliance Program (CCP):

1. Before delivery to the Project site, if the fabricator/supplier is:

a. A WI licensee, issue WI "Certificates of Compliance" certifying that items comply with WI requirements for specified grade.

b. A non-WI licensee, furnish a WI "Certified Compliance Tracking Acknowledgement" with the original submittal, evidencing that they have arranged for and will pay inspections required by the WI to comply with the specified requirements. Certified Compliance labels shall be affixed by the WI Inspector.

2. Upon completion of installation, furnish a WI Certified Compliance Certificate for the installation.

3. In the event of question as to compliance with the referenced standard of any item of work, the Architect may require independent inspection service of questioned items as specified in "Independent Inspection Service" of "WI Services and Quality Control Options" published by the WI.

D. Interior architectural woodwork shall be manufactured within 500-miles of the Project site.

1.05 ENVIRONMENTAL QUALITY ASSURANCE

A. Wood Products: Shall originate in forests that are certified well-managed by an agency accredited by the Forest Stewardship Council (FSC), 202.342.0413.

1. FSC-accredited certifying agencies include the following:

a. Smart Wood Program administered by the Rainforest Alliance, 802.434.5491.

b. Forest Conservation Program administered by Scientific Certification Systems, 510.832.1415.

c. For a complete list of internationally accredited agencies, visit www.fscoax.org.

2. Well-managed shall mean forests that are being managed through professionally administered forestry management and logging plans that ensure regeneration of desired species so that timber growth equals or exceeds harvesting rates in both quantity and quality over the long term. Other considerations include protecting rivers and streams from degradation, minimizing damage to the forest when harvesting, promoting biodiversity, operating in concert with the lawful interests of local populations, and maximizing both the yield and value of the forest products.

B. Documentation confirming the FSC-certified status of all wood products shall be submitted for approval prior to fabrication. Products not complying with this requirement will be rejected. Acceptable documentation includes the following:

1. A copy of the wood supplier's Chain of Custody certificate issued by an FSC-accredited certifying agency and a copy of the supplier's invoice detailing the quantities of certified wood products supplied for this Project, with the FSC-certified status of each product listed in the individual line-items, or

2. A copy of a letter from a FCS-accredited certifying agency corroborating that the products detailed on the wood supplier's invoice originate from certified well-managed forests.

C. Submission of a Chain of Custody certificate without an invoice or submission of an invoice without a Chain of Custody certificate shall not constitute acceptable documentation.

D. Proper procedures shall be followed to ensure that certified wood products are kept separate from non-certified materials and that auditing procedures as mandated by the certifier are complied with.

E. Provide MSDS Sheets for adhesives showing that the VOC content does not exceed the limits specified in Section 01352.

F. Applicable LEED Credits – Refer to Section 01352:

1. Credit MRc4 – Recycled Content.

2. Credit MRc5 – Regional Materials.

3. Credit MRc7 – Certified Wood.

4. Credit EQc4.1 – Adhesives and Sealants.

5. Credit EQc4.4 – Composite Wood.

1.06 INDOOR AIR QUALITY

A. Do not use wood products containing urea formaldehyde glues inside the shell of the building unless they are sealed on all sides.

B. Protect surrounding areas from dust when machining plastic products. Wear appropriate protection.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration.

B. Do not deliver woodwork until painting, wet work, grinding, and similar operations that could damage, soil, or deteriorate woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas whose environmental conditions meet specified requirements.

1.08 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is completed, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.

1.09 COORDINATION

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

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Provide materials that comply with requirements of the Architectural Woodwork Standards (AWS) for each type of woodwork and AWS quality grade specified.

B. Fasteners: Material, type, size, and finish required for each use.

2.02 FABRICATION, GENERAL

A. Wood Moisture Content: Comply with requirements of referenced quality standards for moisture content of lumber in relation to relative humidity conditions existing at time of fabrication and in installation areas.

B. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to a radius as follows:

1. Corners and edges of solid wood members less than 1-inch in nominal thickness: 1/16-inch.

2. Edges of rails and similar members more than 1-inch in nominal thickness: 1/8-inch.

2.03 MILLWORK FOR TRANSPARENT FINISH

A. Quality Standard: Comply with Architectural Woodwork Standards (AWS) Section 6.

B. Grade: Premium.

C. 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.

D. Assemble casings in plant except where limitations of access to place of installation require field assembly.

E. Lumber Species: Maple.

F. Finish: Field-applied clear finish as specified in Section 09900.

2.04 MILLWORK FOR OPAQUE FINISH

A. Quality Standard: Comply with Architectural Woodwork Standards (AWS) Section 6.

B. Grade: Custom.

C. 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.

D. Assemble casings in plant except where limitations of access to place of installation require field assembly.

E. Lumber Species: MDF.

F. Finish: Field-applied as specified in Section 09900.

PART 3 - EXECUTION

3.01 PREPARATION

A. Condition woodwork to average prevailing humidity conditions in installation areas prior to installing.

3.02 INSTALLATION

A. General: Install interior architectural woodwork in accordance with Architectural Woodwork Standards (AWS) for same grade specified for woodwork involved.

B. Install woodwork plumb, level, true, and straight with no distortions. Shim as required with concealed shims. Install to a tolerance of 1/8-inch in 8'-0" for plumb and level.

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

D. Secure with countersunk, concealed fasteners and blind nailing as required for a complete installation. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork.

E. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns and miter at corners.

3.03 ADJUSTMENT AND CLEANING

A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

3.04 PROTECTION

A. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer, to ensure woodwork is without damage or deterioration at time of final acceptance.

3.05 WASTE MANAGEMENT

A. Separate the following categories for salvage or re-use on the site:

1. Sheet materials larger than 2-sq. ft.

2. Solid wood trim longer than 16-inches and multiple offcuts of any size larger than 12-inches.

B. Separate the following categories for disposal and place in designated areas for hazardous materials:

1. Treated, stained, painted, or contaminated wood.

END OF SECTION

SECTION 06410

CUSTOM CABINETS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing the following:

1. Custom plastic laminate faced cabinetwork.
2. Plastic laminate countertops.
3. Enhanced epoxy countertops.
4. Melamine faced adjustable shelving.

B. Related Sections:

1. Interior architectural woodwork is specified in Section 06402.
2. Glass is specified in Section 08810.
3. Stainless steel casework and countertops are specified in Section 12312.

1.02 REFERENCE STANDARDS

A. Leadership in Energy and Environmental Design (LEED), www.usgbc.org/LEED (United States Green Building Council (USGBC).

1. LEED – NC v2.2 Reference Guide, first edition, dated December 2006.

1.03 SUBMITTALS

A. LEED Submittals:

1. Credit EQc4.1: For site installed adhesives, furnish printed statement of VOC content.
2. Credit EQc4.4: Documentation that composite wood products contain no urea formaldehyde.
3. Credit MRc4: Documentation indicating percentages by weight of post-consumer and pre-consumer recycled content. Include statement indicating costs for each product having recycled content.

B. Product Data:

1. Recycled Content: Furnish product data on post-consumer recycled content and post-industrial recycled content as a percentage of the full product composite.
2. Regional Materials: Furnish product data or letter stating the location (closest city, state) where product was manufactured (final processing or assembly) and, if available, the location where raw materials were harvested, extracted or recovered (mine, quarry, plantation, forest, recycling recovery center, etc.).
3. Furnish MSDS sheets or other proof of VOC compliance for adhesives.
4. Furnish product data indicating that plywood, particleboard and MDF are manufactured with no added urea-formaldehyde.

C. Samples:

1. Specified plastic laminate colors for verification of initial selections.

2. 12-inch square sample of epoxy countertop material with two adjacent edges finished.

D. Shop Drawings: Show details of fabrication and installation, dimensioned plans, elevations, and sections. Each set of shop drawings shall comply with Architectural Woodwork Standards (ASW) Section 1 - Submittals and shall bear the Woodwork Institute Certified Compliance Program Label on the first page. Photocopies of architectural drawings are not acceptable. Highlight any modifications to the Specifications or AWS requirements.

1.04 QUALITY ASSURANCE

A. Materials and fabrication of cabinetwork shall be in accordance with the standards of the Architectural Woodwork Standards (AWS) for the grades specified.

B. WI Certified Compliance Program (CCP):

1. Before delivery to the Project site, if the fabricator/supplier is:

a. A WI licensee, issue WI "Certificates of Compliance" certifying that items comply with Architectural Woodwork Standards (AWS) requirements for specified grade.

b. A non-WI licensee, furnish a WI "Certified Compliance Tracking Acknowledgement" with the original submittal, evidencing that they have arranged for and will pay inspections required by the WI to comply with the specified requirements. If fabrication and installation are in compliance with AWS standards, Certified Compliance labels will be affixed by the WI Inspector. After fabrication, stamp each piece of cabinetwork in an inconspicuous place with WI Compliance Grade Stamp.

2. Each elevation of casework and plastic laminate countertops shall bear the WI Certified Compliance Label indicating conformance to specified grade.

3. Upon completion of installation, furnish a WI Certified Compliance Certificate for the installation.

4. In the event of question as to compliance with the referenced standard of any item of work, the Architect may require independent inspection service of questioned items as specified in "Independent Inspection Service " of "WI Services and Quality Control Options" published by the WI.

C. Custom cabinetwork shall be manufactured within 500-miles of the Project site.

1.05 ENVIRONMENTAL QUALITY ASSURANCE

A. Wood Products: Shall originate in forests that are certified well-managed by an agency accredited by the Forest Stewardship Council (FSC), 202.342.0413.

1. FSC-accredited certifying agencies include the following:

a. Smart Wood Program administered by the Rainforest Alliance, 802.434.5491.

b. Forest Conservation Program administered by Scientific Certification Systems, 510.832.1415.

c. For a complete list of internationally accredited agencies, visit www.fscoax.org.

2. Well-managed shall mean forests that are being managed through professionally administered forestry management and logging plans that ensure regeneration of desired species so that timber growth equals or exceeds harvesting rates in both quantity and quality over the long term. Other considerations include protecting rivers and streams from degradation, minimizing damage to the forest when harvesting, promoting biodiversity, operating in concert with the lawful interests of local populations, and maximizing both the yield and value of the forest products.

B. Documentation confirming the FSC-certified status of all wood products shall be submitted for approval prior to fabrication. Products not complying with this requirement will be rejected. Acceptable documentation includes the following:

1. A copy of the wood supplier's Chain of Custody certificate issued by an FSC-accredited certifying agency and a copy of the supplier's invoice detailing the quantities of certified wood products supplied for this Project, with the FSC-certified status of each product listed in the individual line-items, or

2. A copy of a letter from a FCS-accredited certifying agency corroborating that the products detailed on the wood supplier's invoice originate from certified well-managed forests.

C. Submission of a Chain of Custody certificate without an invoice or submission of an invoice without a Chain of Custody certificate shall not constitute acceptable documentation.

D. Proper procedures shall be followed to ensure that certified wood products are kept separate from non-certified materials and that auditing procedures as mandated by the certifier are complied with.

E. Applicable LEED Credits – Refer to Section 01352:

1. Credit MRc5 – Regional Materials.

2. Credit MRc7 – Certified Wood.

3. Credit EQc4.1 – Adhesives and Sealants.

4. Credit EQc4.2 – Paints and Coatings.

5. Credit EQc4.4 – Composite Wood.

1.06 INDOOR AIR QUALITY

A. Do not used wood products containing urea formaldehyde glues inside the shell of the building unless they are sealed on all sides.

B. Protect surrounding areas from dust when machining plastic products. Wear appropriate protection.

1.07 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install cabinets until building is enclosed, wet work is completed, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Field Measurements: Check actual dimensions of other construction by accurate field measurements before fabrication, and show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the work.

1. Verify locations of concealed framing, blocking, backing, reinforcements, and other items that support cabinetwork by accurate field measurements before being enclosed and record on shop drawings.

1.08 COORDINATION

A. Cabinets shall be left in a well-ventilated warehouse for a minimum of 72-hours prior to delivery to the Project site.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Laminated-Plastic Sheets: Nevamar or approved equal. Comply with requirements of NEMA LD3.

1. Exposed Horizontal and Vertical Surfaces: General purpose type, NEMA Type GP 50, .050-inch thick, matte finish for horizontal surfaces, NEMA Type FR 32, .028-inch thick matte finish for vertical surfaces. Colors as selected by the Architect from manufacturer's complete color range, including premium colors.

a. Provide chemical-resistant plastic laminate where scheduled.

2. Formed Surfaces: .042-inch thick, color to match horizontal surfaces, matte finish.

3. Semi-exposed Surfaces: Polyester high-density overlay, white color, .020-inch thick.

4. Balancing Sheet: Fabricator's standard.

B. Backing for Plastic Laminate: One of the following, at Contractor's option.

1. Medium Density Fiber Board: 3/4-inch thick, 48-pcf density. Do not use at countertops with sinks.

2. Formaldehyde-Free Particleboard: Medite Corporation Medite HD and Medite II or approved equal.

3. Plywood: Hardwood plywood with "Sound" Grade face veneer and Industrial Grade or better crossband under the face veneer, smooth, well sanded, thickness indicated.

4. Plywood and MDF products shall contain no added urea-formaldehyde as a binder.

C. Enhanced Epoxy Countertops: Laboratory Tops, Inc. "Enhanced Epoxy Resin" or approved equal epoxy resin countertop, uniform mixture throughout, Black Onyx color.

D. Subframe Lumber: No. 1 grade Douglas Fir or plain sawn Yellow Poplar complying with requirements specified in Environmental Quality Assurance.

E. Hardboard: 1/4-inch-thick tempered, smooth both sides.

F. Adhesives: Contact, semi-rigid or rigid adhesives as recommended by laminated plastic manufacturer. Where possible, use low VOC water and mold resistant adhesives, certified in accordance with ASTM C557 and complying with required VOC regulations.

G. Hardware: Furnish and install as required to provide a complete casework installation.

1. Hinges: 120-degree opening, concealed hinge, passing 100,000-cycle test. Provide three hinges on doors over 48-inches high.

2. Door and Drawer Pulls: Builders Brass Works No. 9054, Quality No. 812, Stanley 4483, satin stainless steel.

3. Door Locks: National Lock C8123, Corbin 0737, Olympus 100DR. Key as directed by the Owner.

4. Drawer Locks: National C8138, Corbin 0738, Olympus 200DW. Key as directed by the Owner.

5. Drawer Guides:

   a. Box Drawers: Full extension, minimum 100-pound capacity; Accuride 3832 or 7432, Blum 430E, Grant 329, K&V 1429.

   b. File Drawers: Full extension, minimum 150-pound capacity; Accuride 4034, Blum 426A, Grant 555, K&V 8500.

6. Adjustable Shelf Standard: Grant 120, K&V 255.

7. Adjustable Shelf Clips: Grant 21Z, K&V 256.

H. Glass: Minimum ¼-inch thick clear tempered float glass as specified in Section 08800.

2.02 FABRICATION

A. Fabricate products in accordance with the approved Shop Drawings and specified Architectural Woodwork Standards (AWS) Grade requirements. The architectural drawings indicate form and profile concept only. Fabrication and construction details shall comply with AWS unless otherwise specified.

B. Fabricate laminated plastic casework in accordance with Architectural Woodwork Standards (AWS) Section 10, Custom grade, except as otherwise specified, Construction Type A – Frameless Construction; Interface Style 1 – Overlay.

1. Exposed exterior portions shall be covered with a HPDL as specified.

2. Exposed interior surfaces, except at doors and drawer fronts shall be covered with a HPDL matching exposed exterior surfaces.

3. Exposed interior surfaces of door and drawer fronts shall be covered with the same material, pattern, color and thickness as the door face.

4. Edge Banding: HPDL, minimum 0.02-inch thick, color-matched to the exposed face.

5. Semi-exposed surfaces of cabinet tops and bottoms, cabinet ends, fixed and adjustable shelves, cabinet back, cabinet doors, and drawers shall be finished with a polyester laminate; exposed edges of semi-exposed surfaces shall be finished with extruded PVC or self-edged plastic laminate.

6. Door and Drawer Front Style: Flush overlay.

7. Door and Drawer Edge: Square edge with thin applied band.

8. Shelf Thickness: As specified in Architectural Woodwork Standards (AWS) for a uniform load of 50-lb./sq. ft.

C. Laminated Plastic Countertops: Fabricate in accordance with Architectural Woodwork Standards (AWS) Section 11, Premium grade.

1. Countertop Splash Assembly Type: 2.

2. Countertop Edges: Self-edged with plastic laminate or hardwood trim as indicated.

3. Back Splash: Horizontal square butt joints or integral cove as indicated.

4. Top of Back Splash: Square with self edge.

5. Back Splash Height: As indicated.

D. Enhanced Epoxy Countertops: Fabricate in accordance with Architectural Woodwork Standards (AWS) Section 11, Premium grade.

1. Thickness: 1-1/4-inches.

2. Type: Universal top (no lip) with front edge rounded to a ¼-inch radius with drip grooves on the underside of exposed edges to divert spillage away from cabinet face.

3. Fabricate countertops with integrally coved splashes or separate and flat butted, as indicated.

5. Backsplash Height: 4-inches unless otherwise indicated.

6. Provide integral epoxy sinks of sizes as scheduled.

E. Melamine-Faced Adjustable Shelving and Storage Assemblies:

1. Fabricate shelving in accordance with Architectural Woodwork Standards (AWS), Section 11, Custom Grade.

2. Fabricate shelves of ¾-inch thick plywood or Medite Corporation "Medite II" or approved equal formaldehyde-free medium density fiberboard unless thicker material is indicated. Finish both faces and all four edges with low pressure decorative white melamine overlay.

3. Adjustable Hardware: Knape & Vogt No. 87 standards and No. 187 brackets or approved equal. Space standards 3'-0" apart and not more than 12-inches from the end of any shelf.

F. Make cuts required to accommodate the work of other Sections in the shop where possible. Review other drawings and work to determine extent of items to be mounted in cabinetwork. Notify the Architect of discrepancies.

G. Shop-fabricate cabinets and countertops in whole units or partial units practical for handling and transporting. Assemble partial units in place so that each complete unit becomes a unified whole visually and structurally. Fabricate fillers and scribe strips of same materials and finishes as adjacent units.

H. Make cuts for hardware and equipment neat and true. Install hardware and fit securely.

I. Adjust drawers, doors, and movable shelves to operate easily and smoothly without binding.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install casework and countertops in accordance with Architectural Woodwork Standards (AWS) Premium Grade requirements.

B. Install products plumb and level.

C. Securely fasten cabinetwork to supporting substrate as indicated.

D. Anchor tops to base units and other supports as indicated. Seal space between backsplash and wall with sanitary sealant specified in Section 07920. Install with no more than 1/8-inch in 8'-0" sag, bow, or other variation from straight line.

E. Fit tight and scribe to walls, ceilings, and other surfaces so no open joints occur.

F. Remove and replace materials damaged beyond repair or stained beyond cleaning.

3.02 ADJUSTMENT, CLEANING, AND PROTECTION

A. Repair damaged and defective cabinetwork where possible to eliminate defects; where not possible to properly repair, replace.

B. Clean, lubricate and make final adjustments to hardware for proper operation.

C. Clean cabinetwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.

D. Protect cabinetwork to ensure work will be without damage at time of Substantial Completion. Cover completed cabinetwork with 4-mil polyethylene film protective enclosure, applied in a manner to permit easy removal.

3.03 WASTE MANAGEMENT

A. Separate the following categories for salvage or re-use on the site:

1. Sheet materials larger than 2-sq. ft.

2. Solid wood trim longer than 16-inches and multiple offcuts of any size larger than 12-inches.

B. The following categories may be re-used in the manufacture of particleboard or medium density fiberboard:

1. Composite wood.

2. Clean dimensional lumber.

C. Separate the following categories for disposal and place in designated areas for hazardous materials:

1. Treated, stained, painted, or contaminated wood.

END OF SECTION