SECTION 064000 – ARCHITECTURAL WOODWORK

GENERAL

SUMMARY

Provide the work of this Section in accordance with requirements of the Contract Documents

This Section includes the following, but is not limited to:

- Architectural wood veneer faced cabinets.
- Plastic-laminate faced cabinets.
- Solid Surfacing doors for plastic laminate countertops.
- Plastic laminate countertops
- Solid surfacing countertops.
- Flush wood veneer paneling.
- Stile and rail wood paneling.
- Plastic laminate paneling.
- Solid Surfacing paneling.
- Interior standing and running trim.
- Interior millwork including ornamental work and interior frames and jambs.
- Closet Doors
- Shelving.
- Decorative Metals
- Glass panels in Architectural Woodwork
- Shop finishing interior woodwork.
- Cabinet hardware and accessories.
- Stainless steel cable hanging shelving systems.
- Furring, blocking, shims, hanging strips, unless concealed within other construction before woodwork installation.

Related Requirements:

- Division 05 Section "Metal Fabrications" for miscellaneous metal required to support architectural woodwork.
- Division 05 Section "Decorative Metal" for honeycomb aluminum paneling and decorative metal paneling.
- Division 06 Section " Rough Carpentry" for wood furring, blocking, shims, and hanging strips concealed within other construction but required for woodwork installation.
- Division 06 Section "Finish Carpentry" for utility carpentry exposed to view that is not specified in this Section.
- Division 07 Section "Joint Sealants."
- Division 08 Section "Flush Wood Doors."
- Division 08, Section "Glazing" for incorporation of glass types in interior architectural woodwork cabinetry specified in this section.
- Division 08 Section "Glass Paneling" for glass paneling on walls.
- Division 09 Section "Fabric Panel Wall Systems" for fabric paneling.
- Division 09 Section "Wood Flooring."
- Division 09 Section "Gypsum Board Assemblies" for blocking in partitions.
- Division 09 Section "Painting" for field finishing of architectural woodwork.
- Division 12 Section “Metal Countertops.”
- Division 12 Section “Wood Countertops.”
- Division 12 Section “Plastic-Laminate Clad Countertops.”
- Division 12 Section “Stone Countertops.”

Division 12 Section “Simulated Stone Countertops.”
Division 11 Section "Patient Headwall System" for panels with plastic laminate paneling and wardrobe units.

DEFINITIONS

Architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items, that are not concealed within other construction before woodwork installation.

PREINSTALLATION MEETINGS

Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

Prior to commencing work of this Section, arrange pre-installation conference to be attended by the Owner, Architect, architectural woodwork Manufacturer, architectural woodwork Installer, and installers whose work interfaces with or affects architectural woodwork.

Pre-installation conference agenda shall include but not limited to; methods and procedures for installing architectural woodwork, interfaces with adjacent work of other Sections, conditions under which the work of this Section will be done, inspection of surfaces and substrates to receive architectural woodwork as indicated in order that alternate recommendations may be made should adverse conditions exist.

ACTION SUBMITTALS

Product Data: For each type of product indicated, including but not limited to hardboard, medium-density fiberboard, plywood, high-pressure decorative laminate, adhesive for bonding plastic laminate, thermoset decorative overlay, solid-surfacing material, fire-retardant-treated materials, cabinet hardware and accessories, and finishing materials and processes.

Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.
Certification of compliance with the environmental performance requirements specified in this Section.

LEED Submittals:

Building Product Disclosure and Optimization - Sourcing of Raw Materials:

Leadership Extraction Practices

Extended Producer Responsibility (EPR): Submit documentation indicating that manufacturers have a take back or recycling program for the product purchased.
Bio-Based Materials: Meeting the sustainable Agriculture Network's Sustainable Agriculture Standard and tested per ASTM D6866.
Wood Products: Certified by Forest Stewardship Council or USGBC approved equivalent.
Recycled Content: For products having recycled content, indicate percentages by weight of post-consumer and pre-consumer recycled content.

Include statement indicating costs for each product having recycled content.

Sourcing of Raw Materials: For products that are required to comply with requirements for regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material.

Include statement indicating distance to Project, cost for each regional material and the fraction by weight that is considered regional.

Indoor Environmental Quality, Low Emitting Materials: Building Products must be tested and compliant with the California Department of Public-Health (CDPH) Standard Method V1.1-2010, using the applicable exposure scenario.

Paints, and Coatings: For wet applied on-site products, include printed statement of VOC content, showing compliance with the applicable VOC limits of the California Air Resources Board (CARB) 2007, Suggested Control Measure (SCM) for Architectural Coatings, or the South Coast Air Quality Management District (SCAQMD) Rule 1113, effective June 3, 2011.
Adhesives and Sealants: For wet applied on-site products, submit printed statement showing compliance with the applicable chemical content requirements of SCAQMD Rule 1168, effective July 1, 2005 and rule amendment date of January 7, 2005.
Alternative tests for VOC above include ASTM D2369-10; ISO 11890 part 1; ASTM D6886-03; or ISO 11890-2.
Methylene Chloride and perchloroethylene may not be added to paints, coating, adhesive or sealants
Composite Wood: Submit documentation showing that wood used in the project has low formaldehyde emissions that meet the California Air Resources Board ATCM for formaldehyde requirements for ultra-low emitting formaldehyde (ULEF) resins or no added formaldehyde resins.

Shop Drawings: Submit shop drawings of architectural woodwork for the fabrication and the installation of the Work. Include large scale details, dimensioned plans and elevations, and adjacent work of other trades. Shop drawings will not be reviewed until AWI Quality Certification Program letter of accreditation has been submitted

Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
Show locations and sizes of furring, blocking, and hanging strips, including required concealed blocking and reinforcement specified in other Sections.
Indicate room numbers, materials, thicknesses and finishes.
Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, electrical switches and outlets, and other items installed in architectural woodwork and paneling.
Show veneer leaves with dimensions, grain direction, exposed face, and identification numbers indicating the flitch and sequence within the flitch for each leaf.
Show jointing, joint treatment and butt jointing in veneers and plastic laminate.
Show complete elevations of rooms to receive paneling as well as panel matching required by these specifications.
For paneling produced from premanufactured sets, show finished panel sizes, set numbers, sequence numbers within sets, and method of cutting panels to produce indicated sizes.
For paneling veneered in fabrication shop, show veneer leaves with dimensions, grain direction, exposed face, and identification numbers indicating the flitch and sequence within the flitch for each leaf.
Apply WI Certified Compliance Program label to Shop Drawings.
For countertops, show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures, locations and details of joints.

Samples for Initial Selection: Manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available for each type of material indicated.

Shop-applied transparent finishes.
Plastic laminates, with edge treatment.
Simulated stone countertops
Edge material.
Thermoset decorative panels and overlays.

Samples for Verification: For the following:

Lumber for transparent finish, 12 inches (300 mm) wide by 24 inches (600 mm) long, for each species and cut, finished on 1 side and 1 edge.
Lumber for shop-applied opaque finish, for each finish system and color, with exposed surface finished. Size: 12 inch x 24 inch (300 x 600 mm)min.
Veneer leaves representative of and selected from flitches to be used for transparent-finished woodwork.
Wood-veneer-faced panel products with or for transparent finish, 12 by 12 inches (300 by 300 mm), for each species and cut. Include at least one face-veneer seam and finish as specified.
Plastic-laminate-clad panel products, 12 by 12 inches (300 by 300 mm), for each type, color, pattern, and surface finish, with separate samples of unfaced panel product used for core.
Phenolic panel products with shop-applied simulated wood finish, 12 by 12 inches (300 by 300 mm)for each finish system and color, with exposed surface finished.
Plastic laminate clad phenolic panels, 12 by 12 inches (300 by 300 mm), for each finish, system and color, with exposed surface finish.
Thermoset decorative-overlay surfaced panel products, 8 by 10 inches (200 by 250 mm), for each type, color, pattern, and surface finish.
Solid-surfacing materials, 12 by 12 inches (300 by 300 mm)square for each type, color, pattern, and surface finish selected
Simulated stone materials, 12 by 12 inchessquare for each type, color, pattern, and surface finish selected
Standing and running trim including wood bases of profiles indicated with transparent and opaque finish, 12-inches (300 mm) long, for each finish system and color.
Specialty Panels, 12 by 12 inches(300 by 300 mm) square for each type, color, pattern, and surface finish selected
Corner pieces as follows:

- Cabinet front frame joints between stiles and rail, as well as exposed end pieces, 18 inches (450 mm) high by 18 inches (450 mm) wide by 6 inches (150 mm) deep.
- Miter joints for standing trim.
- Stile and rail paneling, 18 inches (450 mm) high by 18 inches (450 mm) wide by 6 inches (150 mm) deep.

Exposed cabinet hardware and accessories, one unit for each type and finish.
Each type and finish of wood rails, molding, trim, etc… 8 inch long with finish as specified.
Sealant: 3 inch samples of each sealant to match each plastic laminate types specified

INFORMATIONAL SUBMITTALS

Product Certificates: For [each type of product.] [the following:]

Composite wood and agrifiber products.
Thermoset decorative panels.
High-pressure decorative laminate.
Glass.
Adhesives.

Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

Woodwork Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

Informational LEED Submittals:

Building Product Disclosure and Optimization - Environmental Product Declarations

Submit product specific type III EPDs or Industry wide (generic) EPDs, USGBC approved program declaration or products with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044 that have at least a cradle to gate scope.

Building Product Disclosure and Optimization - Sourcing of Raw Materials:

Raw Material Sources and Extraction Reporting: Submit Raw materials supplier corporate Sustainability Reports (CSRs); documenting responsible extraction; including extraction locations, long term ecologically responsible land use, commitment to reducing environmental harms from extraction and manufacturing processes, and a commitment to meeting applicable standards or programs that address responsible sourcing criteria

Submit manufacturers' self-declared reports
Submit third party verified corporate sustainability reports (CSR) using one of the following frameworks"

Global Reporting Initiative (GRI) Sustainability Report
Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises
UN Global Compact
ISO 26000
USGBC approved program.

Building Product Disclosure and Optimization - Material Ingredients

Material Ingredient Optimization: Submit at least one of the following:

GreenScreen V1.2 Benchmark: Third party report prepared by a licensed GreenScreen List Translator, or a full GreenScreen Assessment.
Cradle to Cradle: Manufacturer's published literature for the product bearing the Cradle to Cradle logo, with gold or platinum certification.
International Alternative Compliance Path - REACH Optimization
Declare: Manufacturer's completed Product Declaration Form
Other programs approved by USGBC

Product Manufacturer Supply Chain Optimization: Submit documentation from manufacturers for products that go beyond material ingredient optimization as follows:

Are sourced from product manufacturers who engage in validated and robust safety, health, hazard, and risk programs which at a minimum document at least 99% (by weight) of the ingredients used to make the building product or building material, and
Are sourced from product manufacturers with independent third party verification of their supply chain that at a minimum verifies:

Processes are in place to communicate and transparently prioritize chemical ingredients along the supply chain according to available hazard, exposure and use information to identify those that require more detailed evaluation
Processes are in place to identify, document, and communicate information on health, safety and environmental characteristics of chemical ingredients
Processes are in place to implement measures to manage the health, safety and environmental hazard and risk of chemical ingredients
Processes are in place to optimize health, safety and environmental impacts when designing and improving chemical ingredients
Processes are in place to communicate, receive and evaluate chemical ingredient safety and stewardship information along the supply chain

Safety and stewardship information about the chemical ingredients is publicly available from all points along the supply chain.

Evaluation Reports: For fire-retardant-treated materials, from ICC-ES.

CLOSEOUT SUBMITTALS

Certified Compliance Program Submittals:

Provide a Woodwork Institute Certified Compliance Certificate indicating the products installed and the installation of these products fully meets the requirements of the Grade or Grades specified.

Monitored Compliance Program Submittals:

Provide a Woodwork Institute Monitored Compliance Certificate indicating the products installed and the installation of these products fully meets the requirements of the Grade or Grades specified.

Certified Seismic Installation Program Submittals:

Provide a Woodwork Institute Certified Seismic Installation Program Certificate, identifying the work covered and certifying that installation meets the requirements of the WI CSIP.

Maintenance Instructions: Furnish maintenance instructions for each item specified for use during construction and for use by the Owner after acceptance of the Work. . Provide product data for care products used or recommended by installer/fabricator and names, addresses and telephone numbers of local sources for products.

QUALITY ASSURANCE

Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standard," Latest Edition, for grades of interior architectural woodwork, construction, finishes, and other requirements.

Architectural Woodwork Institute (AWI) Quality Programs:

Provide AWI Quality Certification Program [labels][certificates] indicating that woodwork[, including installation,] complies with requirements of grades specified.
This project has been registered as AWI/QCP Number <Insert Number Here>.
Upon award of contract, register the Work under this Section with the AWI Quality Certification program. (800-449-8811).

Woodwork Institute (WI) Quality Programs: Fees charged by the Woodwork Institute for their compliance programs are the responsibility of the millwork manufacturer and/or installer and shall be included in their bid.

Certified Compliance Program (CCP):

Before delivery to the jobsite, the woodwork supplier shall provide a Woodwork Institute CCP Certificate indicating the millwork products being supplied fully meet the requirements of the Grade or Grades specified.

Monitored Compliance Program (MCP):

Millwork and the installation thereof for this project shall be monitored for compliance to the Contract Documents by a Woodwork Institute Director of Architectural Services.

Full particulars of the Woodwork Institute MCP may be found at the Institute web site at www.woodworkinstitute.com or by calling the administrative office at (916) 372-9943.

Millwork, installation, or both found to be non-compliant (and not corrected) will be rejected.

Certified Seismic Installation Program (CSIP):

Before walls are closed up, provide a written Woodwork Institute Certified Seismic Installation Program (CSIP) report confirming that backing is provided in all locations required for casework installation or identifying those locations where backing is missing or improperly located.

Fabricator Qualifications: A firm with no less than 5 years' experience in producing architectural woodwork similar to that indicated for this Project and whose products have a record of successful in-service performance, as well as sufficient production capacity to produce required units complying with the requirements of this Section.

Shop is a licensee of WI's Certified [Compliance Program][Seismic Installation Program].
Shop Certification: AWI's Quality Certification Program accredited participant.

Installer Qualifications: An experienced installer with no less than 5 years' experience who [is an AWI Quality Certification Program Participant, and] has completed architectural woodwork similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

Environmental Requirements: Certify that 50 percent of wood products used for architectural woodwork originate from sustainably managed forests certified by one or more independent certification organization accredited by the Forest Stewardship Council (FSC).

Fire-Test-Response Characteristics: Where fire-retardant materials or products are required by local code, provide materials and products with specified fire-test-response characteristics as determined by testing identical products according to test methods indicated by UL, ITS, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify with appropriate markings of applicable testing and inspecting agency in the form of separable paper label or, where required by authorities having jurisdiction, imprint on surfaces of materials that will be concealed from view after installation.

Fire Retardant Treated Wood: Treat those items required by <New York City><insert local> Building Code to be treated and those items shown or specified as "Fire Retardant Treated Wood". Provide lumber, plywood, medium density fiberboard and particleboard with an Underwriters Laboratories (UL) stamp certifying values as specified herein for each type of product

Mockups: Before fabricating and installing architectural woodwork, build mockups for each form of construction and finish required to verify selections made under sample submittals, and to demonstrate aesthetic effects and qualities of material fabrication and execution. Build mockups to comply with the following requirements, using materials indicated for the completed Work:

Build mockups for the following types of interior architectural woodwork items:

Dry layup of veneered panels for Architect's review prior to applying and finishing panels. Move and shift panels as directed to simulate final layup. Record and document final approved layup and install accordingly.
Each type of wood veneer panel, 2 full size panels, showing vertical and horizontal joints and metal reveals, finished as specified.
One corner section of cabinetry, showing 3 planes to demonstrate welding and refinishing procedure.
Typical countertop will be incorporated into the corner assembly for public toilet room mockup.
Other architectural woodwork mockups shown on drawings.

Build mockups at the location and in the size directed by Architect.
Notify Architect seven days in advance of dates and times when mockups will be fabricated and installed.
Demonstrate the proposed range of aesthetic effects and workmanship.
Obtain Architect's approval of mockups before starting architectural woodwork fabrication.
Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
Demolish and remove mockups when directed.
Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

DELIVERY, STORAGE, AND HANDLING

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

Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

FIELD CONDITIONS

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

Environmental Limitations: Do not deliver or install paneling until building is enclosed, wet work is completed, and HVAC system is operating and will maintain temperature between at occupancy levels 60 and 90 deg F (16 and 32 deg C) and relative humidity between [25 and 55] [43 and 70] [17 and 50] <Insert humidity range> percent during the remainder of the construction period complying with the referenced AWI quality standard including "Moisture Content", so that woodwork will not be damaged by excessive changes. Obtain and comply with Woodwork Manufacturer’s and Installer’s coordinated advice for optimum temperature and humidity conditions for woodwork during its storage and installation. Do not install woodwork until these conditions have been attained and stabilized so that woodwork is within plus or minus 1.0 percent of optimum moisture content from date of installation through remainder of construction period.

Coordinate with General Requirements Article "Temporary Facilities and Controls" for provision of air filters and dustproof partitions, to mitigate the spread of construction debris and dust from construction areas to other areas that are occupied.

Field Measurements: Where paneling is indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

Verify locations of concealed framing, blocking, and reinforcements that support paneling by field measurements before being enclosed and indicate measurements on Shop Drawings.

Established Dimensions: Where paneling 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.

COORDINATION

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

Coordinate location of electrical outlets and power feeds with Electrical and Data Communications Trades as required to accommodate connection of these utilities through architectural woodwork to equipment housed within.

Coordinate locations of utilities that penetrate countertops or backsplashes.

PART 2 - PRODUCTS

ARCHITECTURAL WOODWORK FABRICATORS/INSTALLERS

Source Limitations: Engage a qualified woodworking firm to assume undivided responsibility for production of paneling and wood-veneer-faced architectural cabinets, ornamental woodwork, wood trim, wood frames, and wood doors faced with veneers from same flitches as paneling.

WOOD MATERIALS

Quality Standard: Unless otherwise indicated, provide materials and fabrications, and install architectural woodwork to comply with the AWI "Architectural Woodwork Standards" for each type of woodwork quality grade specified, and required for construction, finishes, installation and other requirements.

Provide inspections of fabrication and installation together with labels and certificates from [AWI][WI] certification program indicating that woodwork complies with requirements of grades specified.
Where Contract Documents contain requirements that are more stringent than the referenced quality standard, comply with more stringent requirements, in addition to those of the referenced quality standard.

Regional Materials: Wood Products shall be manufactured within [500 miles (800 km)][100 miles] of Project site.

Certified Wood: Wood products shall be certified as "FSC Pure"[or "FSC Mixed Credit"] according to FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship," and FSC STD-40-004, "FSC Standard for Chain of Custody Certification."

Lumber, General:

Surfaces and Patterns: Provide lumber surfaced 4 sides (S4S) and worked to profiles shown.
Moisture Content: Kiln-dry lumber to the moisture content recommended by the AWI Section 100-S-3. Not to exceed 8-10% moisture content upon manufacturing

Lumber: AWS Section 3; with the following requirements:

Hardwood for Transparent Finish: , Premium Grade, from same flitch as specified for wood veneer, or if not specified, Select Maple unless otherwise shown or specified, uniform color, and free from catseyes, birdseyes, burls, splits, shakes, sap wood, wind checks, resin deposits, mineral discolorations; hand selected to be uniform in color and grain characteristics.

WD01: <insert wood species and cut>

Hardwood for Opaque Finish: Custom Grade. Any hardwood which, when finished, will not show any grain, imperfection or other surface defects when used with the opaque finish specified.
Hardwood for Concealed Framing and Blocking: AWS Economy grade, any species, fire retardant treated, kiln dried to less than 15 percent moisture content.

Composite Wood and Agrifiber Sheet Products: Provide materials that comply with AWS Section 4 for each type of wood and quality grade specified unless otherwise indicated, and the following:

Recycled Content of Medium-Density Fiberboard and Particleboard: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 50 percent.
Composite Wood and Agrifiber Products: Products shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
Cores:

Hardboard: AHA A135.4.
Medium-Density Fiberboard Cores for Interior High Moisture Areas: ANSI A208.2, Grade 155 MR 55, and NPA 9 and CARB Phase 2 requirements using ULEF (Ultra Low emitting formaldehyde) binders for allowable formaldehyde emissions. Subject to compliance with requirements, provide the following:

SierraPine Composite Solutions, "Medex." SCS-certified, no-added formaldehyde, moisture resistant MDF panel engineered for interior high moisture areas.

Medium-Density Fiberboard Cores for Interior Dry Areas: ANSI A208.2, Grade 155 MR 30 and NPA 9 for allowable formaldehyde emissions (made with binder containing no urea formaldehyde). Subject to compliance with requirements, provide the following:

SierraPine Composite Solutions, "Medite II." SCS-certified, no-added formaldehyde MDF panel engineered for interior non-structural applications.

Fire-Retardant Medium Density Fiberboard Cores: 100% recycled content with at least 25% post-industrial recycled fiber. Provide panels complying with ANSI A208.2, grade as appropriate for intended application and that have fire-retardant chemicals bonded to softwood particles at time of panel manufacture to achieve products identical to those tested for flame spread of 20 or less and for smoke developed of 25 or less per ASTM E84 by UL or other testing and inspecting organization acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing and inspecting organization. No added urea-formaldehyde is permitted. Subject to compliance with requirements, provide the following

"Pyroblock MDF Plus" (Panel Source International) or approved equal.

Particleboard Cores: ANSI A208.1, Grade M-2-Exterior Glue, made with binder containing no urea formaldehyde. Subject to compliance with requirements, provide the following:

SierraPine Composite Solutions, Encore MR, SCS-certified, no-added formaldehyde, moisture resistant MDF panel engineered for casework applications.

Softwood Plywood Cores: AWI DOC PS 1, Medium Density Overlay, veneer core plywood or particle board plywood; fire retardant treated where required or shown.
Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea formaldehyde.

When used for countertops use marine grade plywood.

Panel Edges (Not finished with laminate or wood veneer):

Band with 1/8 inch deep hardwood edge of same wood as face and finish to match finish of panel edges.
At solid surfacing panels, and countertops provide solid surface edges. Edges that will be exposed in the finish work shall have 1/4 inch radius on horizontal and vertical edges. Edges of adjacent panels that abut other wall panels are not exposed in the finish work, shall be in alignment and 90 degrees. Inside corners of adjoining solid surface panels shall have a 1/4 radius.

Provide edging specified in Plastic Laminate Article at plastic laminate clad countertops.

Panel Balancing Sheet: Provide balancing sheet on concealed side of panels, complying with AWS Section 4.4.15; same species/type as the face veneer/sheet for fully balanced construction.

Veneers

Face Veneers for Transparent Finish: Premium Grade, hardwood veneers complying with AWS Section 4.Select AA Grade, free from sapwood, knots, and other defects. Where solid wood is required, provide wood of same species, matching adjoining veneers unless otherwise shown or specified and free from cat's eyes, bird's eyes, burls, curls or cross grains. Provide the following wood veneer where shown; Flitch to be determined; with wood veneers hand selected by Architect for application on targeted wood cabinet elevations, and matching samples in Architect's office:

WD01: <insert Veneer Company, Veneer, Cut, and Flitch number>
Where solid wood is required, provide wood of same species, matching adjoining veneers unless otherwise shown or specified and free from cat's eyes, bird's eyes, burls, curls or cross grains.

Wood Species for Opaque Finish: Hardwood veneer that when finished will not show any grain, imperfection or other surface defects when used with the opaque finish specified or phenolic resin impregnated paper. Provide "Forbond Yorkite III" (NVF Co., Primary Products Div.) or approved equal; of types listed on Finish Schedule.
Backing sheet for veneer paneling: Richmond Industries PolyBak PGB Balancing sheet.

FIRE-RETARDANT-TREATED MATERIALS

Fire-Retardant-Treated Wood Materials, General: Where fire-retardant-treated materials are indicated or required by code, use materials impregnated with fire retardant chemical formulations indicated by a pressure process or other means complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

Use treated material that complies with requirements of referenced woodworking standard. Do not use materials that are warped, discolored, or otherwise defective.
Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes.
Do not use colorants in solution to distinguish treated material from untreated material.
Identify fire-retardant-treated materials with appropriate classification marking of qualified testing agency in the form of removable paper label or imprint on surfaces that will be concealed from view after installation.
For wood not required to be fire-retardant treated, provide wood that meets a Class II per NFPA 253 or ASTM 648.

Fire-Retardant-Treated Lumber and Plywood: Products with a flame-spread index of 25 or less when tested according to ASTM E84, with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.

Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 15 percent, respectively.
For items indicated to receive a stained or natural finish, use organic resin chemical formulation.
Mill lumber after treatment within limits set for wood removal that do not affect listed fire-test-response characteristics, using a woodworking shop certified by testing and inspecting agency.
Mill lumber before treatment and implement special procedures during treatment and drying processes that prevent lumber from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of treated woodwork.

Low-Hygroscopic Formulation: Interior Type A per AWPA C20.

D-Blaze; Chemical Specialties, Inc.
Dricon; Hickson Corp.
Pyro-guard; Hoover Treated Wood Products, Inc.

Fire-Retardant Particleboard: Panels complying with the following requirements, made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 25 or less per ASTM E84 by UL, Warnock Hersey, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing and inspecting agency.

For panels 3/4 inch (19 mm) thick and less, comply with ANSI A208.1 for Grade M-2 except for the following minimum properties: modulus of rupture, 1600 psi (11 MPa); modulus of elasticity, 300,000 psi (2070 MPa); internal bond, 80 psi (550 kPa); and screw-holding capacity on face and edge, 250 and 225 lbf (1100 and 1000 N), respectively.
For panels 13/16 to 1-1/4 inches (20 to 32 mm) thick, comply with ANSI A208.1 for Grade M-1 except for the following minimum properties: modulus of rupture, 1300 psi (9 MPa); modulus of elasticity, 250,000 psi (1720 MPa); linear expansion, 0.50 percent; and screw-holding capacity on face and edge, 250 and 175 lbf (1100 and 780 N), respectively.
Products: Subject to compliance with requirements, provide one of the following:

Flakeboard Company Limited; Duraflake FR.
SierraPine; Encore FR.

Fire-Retardant Fiberboard: Medium-density fiberboard panels complying with ANSI A208.2, made from softwood fibers, synthetic resins, and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread rating of 25 or less and smoke-developed rating of 200 or less per ASTM E84 by UL, Warnock Hersey, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing and inspecting agency. Subject to compliance with requirements, provide one of the following:

Panel Source International, Inc.; Pyroblock Platinum.
Roseburg ; Medite FR.

PLASTIC LAMINATE

Plastic Laminate Quality: High-Pressure Decorative laminate (HPDL) complying with AWS Standards Section 4, and NEMA Publication LD3.

Face Sheets: HGS, 0.048 inch thick for horizontal, and HGL, 0.039 inch thick for vertical application.
Backing Sheets: BKL, 0.48 inch for horizontal and 0.039 inch thick for vertical application.
Chemical Resistant Sheets: Vertical Sheets to comply with H-4 (HGL) 0.38 inch and horizontal sheets to be Grade A3, Post Forming Grade, 0.038 inch thick, complying with the following:

Fire Resistance Rating: ASTM E84, Flamespread less than 100, Smoke Developed Rating of less than 100
Bacterial Resistance: ASTM G22, No bacterial growth, no contamination by bacteria growth of Staphylococcus aureus, Streptococci faecalis, Escherichia coli and Klebsiella pneumonia
Chemical Resistance: Equal to Wilsonart "Chemsurf Chemical Resistant Laminate" data sheets

Fire Rated Sheets: Fire-Rated General Purpose Grade, HGF 0.048 in. nominal thickness. Provide sheets with UL label, Class 1. Provide fire rated backing sheets of equal thickness in panel products.
General Purpose Horizontal Post Forming Grade Face Sheets: HGP 0.039 in. nominal thickness.

Integrally Colored Solid Plastic Laminate: NEMA Publication LD3, Type HCS 62, 0.062 in. nominal thickness..
Cabinet Liner Sheets: Intended for use in cabinet interiors where shown or specified; NEMA Publication LD-3, Grade CL20, 0.020 in. nominal thickness.

Treatment of Edges: Edge plastic-laminate panels and shelves, with ABS (Acrylonitrile Butadiene Styrene) "Doelken", 3mm thick x 3/4- inch or 1 ½- inch wide edge (as shown on details) banding fabricated by Doelken Woodtape www.doellken-woodtape.com; complying with LMA EDG-1 on components with exposed or semi-exposed edges in colors to match plastic laminate faces.

ABS tapes shall be adhered to edges with heat fused at arrises to face laminate as required to create a seamless finish.

Manufacturers: Provide products by one of the following manufacturers, matching plastic laminate types listed.

Abet Laminati, Inc.
Formica Corporation.
Lamin-Art, Inc.
Nevamar Company, LLC; Decorative Products Div.
Panolam Industries International, Inc.
Wilsonart International; Div. of Premark International, Inc.

Plastic Laminate Types

PL-xx: <insert manufacturer, color and finish>.

Thermoset Decorative Panels: Particleboard or medium-density fiberboard 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.

Provide edge banding complying with LMA EDG-1 on components with exposed or semi-exposed edges.

SPECIALTY PANELS

Phenolic Panel Cores: Phenolic Cores: Decorative high-pressure compact laminates according to EN 438-4:2005 of thicknesses indicated, shop fabricated panels with phenolic cores, consisting of layers of wood-based fibers (paper and/or wood) impregnated with thermosetting resins and surface layer(s) on both sides, having decorative colors or designs, and finished with surface layers impregnated with melamine based resins.

Fabrication

Bond cores with simultaneous application of heat (≥ 150° C / ≥ 302° F) and high specific pressure (> 7 MPa) to obtain a homogeneous non-porous material with increased density and integral decorative surface
Fabricate panels in Fire-Retardant grade (CGF) and use fire rated high pressure plastic laminate finish on exposed surfaces.
For phenolic panel types and finishes refer to Paneling paragraphs

Manufacturer: Trespa, Meteon

Acrylic Resinous Panels: The design is based on the products named in the Finish Legend. Comparable products are subject to review and approval through the submittal process specified. Available manufacturers include the following:

3Form

ASI Decorative Surfaces
BGM Imaging, Inc.
Fossil Faux Studios
Inspired Design

SOLID SURFACING

Solid Surfacing: Non-porous, homogenous solid sheets of mineral filled polymeric resin material to comply with AWI Section 4. 2K; Class I when tested in accordance with ASTM E84 and complying with the material and performance requirements of ANSI Z124.3, Type 5 or Type 6, without a precoated finish. Colors and Patterns shall extend through entire thickness of material. Exposed solid surface horizontal and vertical edges shall have 1/4 inch radius. Inside corners shall have 1/4 inch radius. Provide minimum 1/2 inch thick panels for countertops and 1/4 inch thick for wall paneling, profiles and shapes as shown.

SSM-xx: <insert manufacturer, color and finish>.

SIMULATED STONE

Simulated Stone: Solid sheets consisting of quartz aggregates bound together with a matrix of filled plastic resin and complying with the "Physical Characteristics of Materials" Article of ANSI SS1.

SSM-xx: <insert manufacturer, color and finish>.

GLASS AND GLAZING

Refer to Section ["Glazing"] ["Decorative Glazing"] for glass and glazing requirements.

Clear Float Glass for Doors: ASTM C1036, Type I, Class 1, Quality q3, 1/4 inch (6 mm) thick, unless otherwise indicated.

Clear Tempered Float Glass for Doors: ASTM C1048, Kind FT, Condition A, Type I, Class 1, Quality q3; manufactured by horizontal (roller hearth) process, with exposed edges seamed before tempering, 1/4 inch (6 mm) thick, unless otherwise indicated.

Frosted Tempered Float Glass for Doors: ASTM C1048, Kind FT, Condition A, Type I, Class 1, Quality q3; manufactured by horizontal (roller hearth) process after frosting, with exposed edges seamed before tempering, 1/4 inch (6 mm) thick, unless otherwise indicated.

Mirror Glass for Doors: ASTM C1036, Type I, Class 1, Quality q2; with second (back) surface coated with successive layers of chemically deposited silver, copper, and protective organic coating to produce coating system complying with performance requirements of FS DD-M-411.

Glass Thickness: 1/4 inch (6 mm), unless otherwise indicated.

Clear Tempered Float Glass for Shelves: ASTM C1048, Kind FT, Condition A, Type I, Class 1, Quality q3; with exposed edges seamed before tempering, 1/4 inch (6 mm) thick, unless otherwise indicated.

DECORATIVE METALS

Steel

Structural Steel Shapes and Plates: ASTM A36.
Cold-Rolled Carbon Steel Strips: ASTM A109.
Cold-Rolled Carbon Steel Sheets: For concealed surfaces, commercial quality, ASTM A1008/A1008M; or structural quality, complying with ASTM A1008, Grade A, unless another grade is required by design

loads. For exposed parts, open-hearth, full pickled, annealed, stretcher-leveled furniture steel, free of scale, waves and defects.
Steel Bars: Cold-finished, carbon steel, ASTM A108, hot-rolled.
Rolled Steel Formed Channels: AISI MT-1010, cold-rolled steel, best commercial grade.
Steel Tubing: ASTM A500 cold-rolled steel seamless welded, best commercial grade, not less than 0.065 inch thick.

Stainless Steel: AISI Type 304.

Plate and Sheet: ASTM A666, Stretcher leveled sheets.
Bar Stock: ASTM A276.
Tubing: ASTM A269.
Stainless-Steel Metal Mesh Infill: ASTM A580/A580M, Type 304.

Type: Woven rods.
Profile: As indicated in the Finish Legend.
Available Manufactures:

GKD Metal Fabrics.
W.S. Tyler.
Cambridge Architectural.

Bronze

Extruded Shapes: ASTM B455, Alloy UNS C38500 (architectural bronze).
Pipe: ASTM B43, Alloy UNS C23000 (red brass, 85 percent copper).
Tube: ASTM B135 , Alloy UNS C23000 (red brass, 85 percent copper).
Castings: ASTM B62, Alloy UNS C83600 (85-5-5-5 or No. 1 composition commercial red brass).
Plate, Sheet, Strip, and Bars: ASTM B36, Alloy UNS C28000 (muntz metal, 60 percent copper).

Brass

Extruded Shapes: ASTM B249, Alloy UNS C36000 (free-cutting brass).
Seamless Tube: ASTM B135, Alloy UNS C26000 (cartridge brass, 70 percent copper).
Castings: ASTM B584, Alloy UNS C85200 (high-copper yellow brass).
Plate, Sheet, Strip, and Bars: ASTM B36, Alloy UNS C26000 (cartridge brass, 70 percent copper).

Aluminum: Alloy and temper recommended by aluminum producer or finisher for type of use and finish indicated, and with not less than the strength and durability properties of the alloy and temper designated below for each aluminum form required.

Plate and Sheet: ASTM B209, 6061-T6.
Extruded Bar and Shapes: ASTM B221, 6063-T6.

Metal Finishes: As shown for the respective units and matching the reviewed samples. Remove scratches, abrasions, dents, die markings and other defects prior to finishing operations. Perform this work in addition to finish treatment specified. Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations unless otherwise specified.

Ferrous Metal Finish: Shop paint steel shapes and plates, except members or portions of members to be embedded in concrete, and edges to be field welded.

Removal of Oil, Grease and Similar Contaminants: Remove oil, grease and similar contaminants in accordance with SSPC SP-1 "Solvent Cleaning", prior to any additional surface preparation specified.

Metal Surfaces: Clean and prepare metal surfaces before applying shop coat. Remove rust and mill scale in accordance with SSPC SP-3 "Power Tool Cleaning".
Application of Primer: Immediately after surface preparation, apply primer in accordance with manufacturer's instructions. Use painting methods which will result in full coverage and dry film thickness specified.

Interior Ferrous Metal Primer: Compatible with the finish coats of paint; shop apply primer to the respective dry film mil thickness specified or as recommended by the manufacturer; Provide one of the following:

"Series 10-99" (Tnemec Co. Inc.); 2.0 - 3.5 mils d.f.t.
"Carbocoat 115 SG" (Carboline Co.); 2.0 mils d.f.t.
"Amercoat 5105" (Ameron Protective Coatings); 2.0 - 3.0 mils d.f.t.

Ferrous Metal, Powder-Coat Finish: Prepare, treat, and coat galvanized metal to comply with resin manufacturer's written instructions and as follows:

Prepare galvanized metal by thoroughly removing grease, dirt, oil, flux, and other foreign matter.
Treat prepared metal with zinc-phosphate pretreatment, rinse, and seal surfaces.
Apply thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils.
Color: To be selected by Architect from manufacturer's full line

Copper-Alloy Finishes

Finish designations for copper alloys comply with the system established for designating copper-alloy finish systems defined in NAAMM's "Metal Finishes Manual for Architectural and Metal Products."
Blackened, Bright Relieved, and Lacquered (MTLxx): M33-O60-M2x-O6x (Mechanical Finish: directionally textured, coarse satin; Coating: black, air dried; Mechanical Finish: buffed, as specified; Coating: clear, organic, air dried, as specified below), with blackening and buffing matching Architect's sample:

Clear, Organic Coating: Lacquer specified for copper alloys; applied by air spray in two coats per manufacturer's written instructions, with interim drying, to a total thickness of 1 mil.

Statuary Conversion Coating over Satin Finish: M31-C55 (Mechanical Finish: directionally textured, fine satin; Chemical Finish: conversion coating, sulfide), with color matching Architect's sample.

MTLxx: Medium Statuary, Satin finish.

Aluminum Finishes:

Natural Anodized, AA-M12C22A42, Class II Architectural: clear film thicker than 0.7 mils (0.018mm) complying with AAMA 607.1.

MTLxx: Aluminum, clear anodized to match indicated

Anodized finishes shall be fully sealed by the manufacturer or processor according to procedures recommended by the licensor of the process.
Baked-Enamel or Powder Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with paint manufacturer's written specifications for cleaning, conversion coating, and applying and backing finish

MTLxx: <insert color and gloss>.

Stainless Steel Finishes:

MTLxx: <Insert finish>.
When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

CABINET HARDWARE AND ACCESSORIES

General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 08 Section "Door Hardware":

Hardware Standard: Comply with BHMA A156.9 "American National Standard for Cabinet Hardware" for items indicated by referencing BHMA numbers or items referenced to this standard. BHMA numbers are used below to designate hardware requirements. Provide the following architectural hardware, except where other items are indicated on drawings.

Hinges: Use number of hinges shown on drawings, but not less than the number and performance grade necessary to support door panels.

Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 110 to 125 degrees of opening, self-closing; satin nickel plated.
Invisible Hinges for Wood Doors: SOSS Invisible hinge, Use hinges for closet doors at infusion areas and elsewhere as shown. Minimum 2 per door, and greater as required for height, size and weight of door in accordance with manufacturer's recommendations. Doors shall be minimum 3/4 inch thick to accommodate 1/2 inch wide invisible hinge flanges.
Hinges for MDF Wood Doors: Provide "Tiomos Impresso, 110 Degree, Soft-Close Hinges" (Grass) for MDF core cabinet doors; nickel plated steel
Special Hinge for Solid Surface Cabinet Doors: (Hettich) "Sensys Soft Closing 8645i concealed hinge 110" with integrated damping and squirrel fittings with glacier white plugs.

Pocket Pivot Door Hardware: Hafele "Pivoting Pocket Door System, XL Slide, 408.24.3XX" for length and travel depth shown on documents. Provide pivoting pocket doors with inlay door accessory pack appropriate to the door thickness shown on the drawings; zinc electroplated steel, with black nylon cable; for use with doors up to 60 inch high x 24 inch wide and weighing up to 35 lbs., and doors up to 1-1/4 inch thick. Provide complete with hardware and accessories necessary for a complete installation.

Pulls, General: BHMA A156.9, B02011. Flush edge, back mounted pulls, 6 inch long at vertical cabinet door applications, 6 inch long at horizontal drawer pull and cabinet door applications, typical. Pulls shall be mounted in door recesses for flush mounted installation

Wire Pulls: Back mounted, 5 inches(127 mm) long, 1-1/2 inches(37 mm) deep, and 5/16 inches(8 mm) in diameter.
Edge Pull: "SR 3/8 inch diameter x 2 inch x 4 inch long (Doug Mockett), with 1/4 inch diameter roll, [4 inch] [6 inch]. Provide depth based on width of door and 3/4 inch clearance between roll and face of door; [Satin Nickel][Satin Chrome] Finish.
Finger Pulls: Where shown, provide routed recess with finish to match finish of door/drawer.

Catches: Magnetic; top and bottom catches, BHMA A156.9, B03141; Hafele White

Touch Latch: "245.50.301 Pressure Catch" (Hafele) non-magnetic, plastic, black touch latch; fabricated based on the concept of magnetic catches but without magnets, that will open upon push from the exterior and secure to not open from inside by falling objects. Provide with ball plate, catch mechanism and fasteners.

Flush bolts: "No. 40, Concealed Screw Surface Bolt" (H. B. Ives), or approved equal, 6 in. long, furnished with top and bottom mortised strike plates. For use at double doors with locked cabinets including but not limited to AV Cabinets in conference rooms.

Rubber Silencers: Provide Hafele 937.93.007 rubber silencers on jamb and/or head and sill strike areas of all cabinet doors; 4 for paired doors, 3 for single leaf doors; Hafele White.

Adjustable Shelf Standards and Supports:

Knape and Vogt (standards and support clips) BHMA A156.9, B04071; with shelf rests, B04081:

Standards: 255E, zinc coated steel standards.
Shelf supports: 256R ZC, zinc coated steel standards with rubber cushion.

Knape and Vogt (standards and brackets) BHMA A156.9, B04102; with shelf brackets, B04112:

Standards: 87 ANO, satin finish extra heavy duty.
Brackets: 187 LL ANO 16 inch long for 18 inch shelves. 186 LL ANO 10 inch long for 12 inch shelves.

Knape and Vogt (drilled side supports) BHMA A156.9, B04013; metal, two-pin type with shelf hold-down clip:

Shelf Rests: 333 or 346 supports.

Recess Mounted walls standards:

Recessed Mounted Standards: "C-Standard" (Rakks) extruded aluminum wall standard; 0.7 inch x 0.535 inch outside dimensions, with anodized finish.
Shelf Brackets: "Model BR2-10" Heavy duty shelf support for10 inch deep shelves, and 100 lbs load capacity per bracket; clear anodized finish.

Drawer Slides: Side-mounted, full-extension, zinc-plated steel drawer slides with steel ball bearings, BHMA A156.9, B05091, and rated for the following loads:

Box Drawer Slides: [75 lbf (330 N)] [100 lbf (440 N)]. Provide "3832EC" (Accuride) or "Dynamic NT" (Grass) complying with Grade 1HD-100 for drawers up to 100 lbs.; full extension, progressive movement, rail mounted.
File Drawer Slides: [150 lbf (670 N)] [200 lbf (890 N)]. Provide soft closing/self-closing type from Accuride or Grass complying with Grade 1 HD-200 for drawers up to 200 lbs and drawer width 30 in. and up.
Pencil Drawer Slides: 45 lbf (200 N).
Keyboard Slide: 75 lbf (330 N).
Trash Bin Slides: [100 lbf (440 N)] [150 lbf (670 N)] [200 lbf (890 N)]. Soft-close, bottom mounted waste and recycling bins, with heavy duty full extension ball bearing slides, door mounting brackets, face frame adapter, and mounting hardware; dual capacity removable waste baskets. Frosted nickel/white finish. Provide the following

"503.12.787" (Hafele) White Pull-Out Bottom Mounted Double Trash Bin; with heavy duty ball bearing precision slides, over travel limit, wire management system to hold bins securely in place; with two 40 quart capacity silver grey trash bins
"503.12.777" (Hafele) White Pull-Out Bottom Mounted Single Trash Bin; with heavy duty ball bearing precision slides, over travel limit, wire management system to hold bins securely in place, with 35 quart capacity Silver grey plastic trash bin, and lid.

"Euro Cargo 30 S, 502.73.900"(Hafele) with 31.7 quart capacity trash bin, Silver gray color. Install without lid.
Hafele "Moovit, 503.15.202", Pull-Out Bottom Mount Trash Bin and drawer, with double bins 36 Quart waste containers.

Wastebasket: Hafele 36 quarts 503.13.994; color: Silver Grey.

Pullout Door Mounted double waste cans: Hafele Bin system US Cargo 21, 502.74 series. Finish: Powder coat color[to match Architect's sample] < insert color>.

Door mounted waste bin: Hafele Waste Bin, Euro “Cargo” 45 Item 503.70.922. Finish: powder coat.

Pullout Door Mounted Double Waste Cans: Hafele Bin system US Hailo Euro Cargo 3619461, 110 lbs load capacity, soft close, bottom mounted double trash bin, with heavy duty full extension slides, door mounting brackets, face adapter and mounting hardware; dual capacity removable waste baskets, with two 38 liter bins Finish: Powder coat[to match Architect's sample]<insert color>.

Recessed Aluminum Slides for Sliding Glass Doors: BHMA A156.9, B07063. Provide as a complete set, including track, trolleys, brackets, floor guides, concealed floor sheaves and wheels and other items required for a complete installation

Hafele 408.36.341 Pocket Door System and Hafele 637.63.900 Base.
Hafele 942.56.002 HAWA fitting Set for single 550 lb top hung door.

Locks

Door Cam Locks: BHMA A156.11, E07261; brushed chrome.
Drawer Cam Locks: BHMA A156.11, E07261; brushed chrome.
Door Locks: BHMA A156.11, E07121; brushed chrome.
Drawer Locks: BHMA A156.11, E07041; brushed chrome.
Locker Locks: Häfele “Mastercombi” locker locks for installation in wood doors, including the following:

Recess-mounted Trim: Häfele "Flush Handle" mounting plate and cover plate; nylon, [black][light gray].
Surface-mounted Extensions: Sets including locking pin, cylinder pin, driver extension and screw extensions.
Strike Plate: For "Mastercombi" installation in wood doors, nickel-plated steel, Häfele Model 231.13.706.

[Locker Locks: Security People, Inc. d/b/a: Digilock, Assigned Use Model APS locker locks for installation in wood doors, including the following:

Four-digit programmable user code.
Unlock indicator.
1/2 inch deadlatch.
Electronic bypass key (up to 25 per lock).
Tamper-guard.
Low battery indicator.
Manager Bypass Key.
ADA User Key.
Finish: Black with brushed nickel face plate.}

Grommets and Wire Management:

Brush Grommet: Doug Mockett & Company BREXT2 brush grommet and extrusion. Size: 1 3/16 inch deep, 2 foot lengths. Brush and extrusion color: Black unless otherwise indicated.
Paper Slot Grommet: Doug Mockett & Company Paper Slot Gommet-CP3, 6 inch grommet. Color: <insert color>.
Round Grommet: Doug Mockett "ABG3" 3-1/2 in. diameter aluminum grommet with brush (satin) anodized finish. Provide with opposing arc cap with oval cord slot lined with radiused brush finish. Fabricated from extruded and machined aluminum.
Grommets for Cable Passage through Countertops: 2-1/2-inch OD plated steel grommets and matching caps with slot for wire passage of color matching color of adjacent work surfaces.

Product: Subject to compliance with requirements, provide "PS series" by Doug Mockett & Company, Inc.

Wire Management Tray: Doug Mockett & Company 1 piece J Shape wire manager WM2A; with light grey finish.

Perforated Metal Panel: .080 thick aluminum with 1/2 inch (12.7 mm) square holes at 1 inch (25 mm) on staggered centers;

Finish: Black powder coating after punching.
Product: MetaPerf by Zahner Company.

Panel Trim: Wall Panel Systems, Inc. "Shadow Line System" and "Recessed Reveal System" or approved equal from Monarch Metal Fabrication, Fry Reglet Architectural Metals, or Gordon Incorporated, of heavy duty extruded aluminum, 6063-T5 alloy, factory finished including shadow line and recessed reveal trims, edge and corner profile accessories, etc., attaching to horizontal and vertical reveals.

Profile: Outside corners, inside corners, and edge trim; minimum 10 foot (3050 mm) length.
Accommodate 3/4-inch (19 mm) thick panels with 1/4-inch (6.3 mm) reveals.
Class II, Clear Anodic Finish: AA-M12C22A31 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.010 mm or thicker) complying with AAMA 611.

Cable Hanging System: Safety lock system with stainless steel wire cables, connectors, and fittings, as indicated on the Drawings.

Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

Arakawa Hanging Systems
C. R. Laurence Co., Inc.
Jakob INOX LINE
Match Display “Cablevision” Cable Suspension System
Cofidec Inc.; Space Line Cable System

Clothing Rods:

Knape & Vogt; 660SS Stainless Steel Tube. Regular with 734 and 735 flanges. Provide Center support, KV1195, if required by length of rod.
Garcy Corp.; No. B-3395, 1-5/16 inch outside diameter stainless steel clothes rail with with No. R-3362 end plate support and No. B-3369 socket support and center hanging support; satin finish

Metal Clothes Hooks: Ives No. 405, A19 finish.

Compact Drop-In Ice Bin: Moli-international; Model BIB-1118, fully insulated compact drop-in ice bin with matching two-piece lift off cover:

Size: 11-1/2 inches (292 mm) by 18 inches (457 mm) by 10 inches (254 mm) deep.
Capacity: 20 pounds (9 kg) ice cubes.
Drain: 3-1/2-inch (89 mm) chrome plated basket strainer/drain.

Countertop Brackets: Rakks surface mounted brackets to support countertops, except where flush mounted is shown on drawings. Provide brackets with aluminum t-extrusions and fasteners, clear anodized finish, as follows:

EH-1209 for up to 13 inch counters
EH-1212 for up to 18 inch counters
EH-1818 for up to 25 inch counters
EH-1824 for up to 30 inch counters Levelers: Heavy duty steel channel type.

Medium Duty Levelers: "Polybase Fixed Stud Glides with Rubber Pad, #IL8-7BSx2-P" (International Equipment Component Inc.); Stainless steel stud and black polypropylene base 3/8-inch-thick, with top broached hex allen drive; with 1/8 inch thick rubber pad; 1-1/2 inch round x 2 inch high x 11/16 inch top chamfered base capable of supporting 2000 lbs weight.

Work Surface Legs: "TL28R-3" (Doug Mockett); with satin chrome finish; 3 inch diameter work surface leg, x 28-1/2 inch high, with plate leveler.

Concealed Mounting Panel Clips: Concealed, Z shaped, two component extruded aluminum type wall panel mounting clips providing minimum of 3/8-inch lift-off, sized and of numbers to suit weight of wall panels being installed and hung. Aluminum extrusions shall comply with ASTM B209, fabricated from AA 6063-T6 or T5 type aluminum alloy. Extruded sections shall be new and in perfect condition, formed true with clean, straight, sharply defined profiles, free from defects impairing strength or durability. For structural shapes, use alloys as required to meet the design loads and stresses.

Acceptable Manufacturers and Products:

Monarch Metal Fabrications; Monarch MF-625 Z Clips or Monarch MF-375 Z Clips to suit applications.
Star Hanger Systems; Star Snap Clips.
Doug Mockett and Co., Inc.; ZC3-94 Z Clips.
Or equivalent manufacturer and product acceptable to the Architect.

Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

Bright Brass, Clear Coated: BHMA 605 for brass base; BHMA 632 for steel base.
Satin Brass, Blackened, Bright Relieved, Clear Coated: BHMA 610 for brass base; BHMA 636 for steel base.
Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
Bright Chromium Plated: BHMA 625 for brass or bronze base; BHMA 651 for steel base.
Satin Stainless Steel: BHMA 630.

For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

INSTALLATION MATERIALS

Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber ,Fire-retardant-treated, kiln dried to less than 15 percent moisture content.

Fastenings: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible. Where finish carpentry materials are exposed in areas of high humidity, provide fasteners and anchorages with hot-dip galvanized coating complying with ASTM A 153.

Screws: Select material, type, size, and finish required for each use. Comply with ASME B18.6.1 for applicable requirements.
Nails: Select material, type, size, and finish required for each use. Comply with FS FF-N-105 for applicable requirements.
Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

Adhesives: Crosslinked polyvinyl acetate (PVA) without urea formaldehyde.

Use adhesives that meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

Adhesive for Bonding Plastic Laminate: Contact cement.

Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.

Plastic Seam Filler: Plastic seam and repair filler in color to match plastic laminate.

Product: Seamfil, Kampel Enterprises, Inc.

Colored Sealant: Acrylic latex sealant in color to match plastic laminate.

Product: Colorflex, Kampel Enterprises, Inc.

Sanitary Sealant: ASTM C920, Type S, Grade NS; Provide white color unless otherwise shown or specified. Provide one of the following:

"Silicone Sanitary SCS 1700 Sealant" (General Electric Co.).
"786 Mildew Resistant Silicone Sealant" (Dow Corning Corp.).
"898 Sanitary Silicone Sealant" (Pecora Corp.).
"Tremsil 200" (Tremco).

VOC Limits for Installation Adhesives and Sealants: Use products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

Wood Glues: 30 g/L.
Multipurpose Construction Adhesives: 70 g/L.
Structural Wood Member Adhesive: 140 g/L.
Architectural Sealants: 250 g/L.

FABRICATION, GENERAL

Interior Woodwork Grade: Provide interior woodwork complying with "American Woodwork Standards" (AWS) for Premium Grade for wood veneered architectural woodwork and for plastic laminate clad woodwork. Provide Custom Grade for painted finish, unless otherwise specified.

Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.

Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.

Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:

Corners of Cabinets and Edges of Solid-Wood (Lumber) Members 3/4 Inch (19 mm) Thick or Less: 1/16 inch (1.5 mm).
Edges of Rails and Similar Members More Than 3/4 Inch (19 mm) Thick: 1/8 inch (3 mm).
Corners of Cabinets and Edges of Solid-Wood (Lumber) Members and Rails: 1/16 inch (1.5 mm).

Complete fabrication, including assembly, finishing, 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.

Notify Architect seven days in advance of the dates and times woodwork fabrication will be complete.
Trial fit assemblies at fabrication 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 various parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.

Shop cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, 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. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication. Smooth edges of cutouts and, where located in countertops and similar exposures. Seal edges in countertops with a water-resistant coating.

Provide lumber framing for architectural woodwork, with bracing and fastening devices required for rigid installation, and as required to sustain imposed loads.
Accurately fit all joints, corners and miters. Conceal fasteners, and tighten threaded connections so that threads are concealed. Provide stock items and components whenever possible.

Veneering, General: The Architect will assign specific flitches for specific elevations. Wood veneer panels shall be laid up at the woodworker's facility. Bond veneers to cores by the hot press method. Slip match, odd number and end match full width panels. Provide two piece match panels for plain sliced veneer species. Blueprint, balance and sequence match and full flitch match paneling and elevations of architectural woodwork. Remove all sapwood. Veneer joints on finished faces of work shall be glue species, not stitched. Veneer knife marks are unacceptable. Tapeless or hand taped butt joints (no stitched faces). When splicing, match cathedral pattern of wood so that splice shall appear seamless in the finish work.

Semi-exposed (behind cabinet doors) cabinet interiors shall be slip matched, balanced and sequenced for consistent appearance.
Non-exposed cabinet interiors (behind drawers) do not require special matching.
Provide finishes as shown or specified. Factory finish all items where possible. Shop finish and deliver to site complete, and ready for installation, Defer final touch-up, cleaning and polishing after delivery and installation

Install glass to comply with applicable requirements in Division 08 Section "Glazing" and in GANA's "Glazing Manual." For glass in wood frames, secure glass with removable stops.

WOOD CABINETRY, GENERAL

General: Provide cabinetwork in accordance with AWI Standards Section 10 ` "Casework" and as follows:

Cutouts and Coordination: Include preparations for mechanical, electrical, telephone, computer equipment and plumbing work required. Prepare cabinets, which contain computer equipment, to receive cooling fans, air slots for air circulation within the equipment area of sizes as shown or required and wireways for electrical, data and communication wires, and grommets and other openings to allow for items indicated. Allow for cable conduits entering casework from different directions. In areas where shown or required, provide removable panels and access doors.

Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.

Join subfronts, backs, and sides with [glued rabbeted joints supplemented by mechanical fasteners] [or] [glued dovetail joints] dovetailed 4 sided box with separate adjustable exposed front.
Provide 3/8 in. thick panels for drawer bottoms. Set bottoms into sides and front .
Drawers shall not rest on body frames; provide drawer slides of hardware specified or shown.

Dust Panels: 1/4-inch (6.4-mm) plywood or tempered hardboard above compartments and drawers unless located directly under tops.

Shelving:

Provide fixed and adjustable shelving fabricated from min. 3/4 in. thick wood panels matching construction of wood panels specified.
Engineer shelf material to achieve 1/8 in. or less deflection.
Finish exposed shelving as specified. Finish semi-exposed and as indicated.
For adjustable shelving, provide for installation of shelf support hardware indicated

Countertop Substrates: For casework to be installed in pantries or other wet areas, and any cabinet to receive a sink, use marine grade plywood substrates

Doors: Fabricate cabinetry doors and panels of MDF panel cores as specified. Hollow core doors will not be permitted.

Hardware: Provide cabinet hardware as shown or specified.

Provide wood cabinet doors, hung with concealed hinges, secured magnetic catches, with pulls of type shown.
For full height doors, provide combination roller latch/angle head stops for double door and mount doors on offset pivots;

Recessed Lighting: Where indicated, provide recess in upper cabinets to accommodate under cabinet mounted fluorescent lighting indicated. Coordinate with electrical work as required to mount lighting and wiring of fixtures. All wiring shall be concealed in the finish work.

BANQUETTES

Banquettes: Provide mortises and tenons of size required to provide maximum strength in the assembled joint. The tenons shall fit the mortises completely and tightly; using blind tenons wherever through tenons would show in the finished work. Glue stains will not be permitted.

Fabricate substructure of wood materials as recommended by fabricator and in accordance with the drawings. Provide required reinforcing which result in a rigid frame.
Upholstery cushion fabrication: Shop fabricate cushions to dimensions shown with fabric type indicated, and cushion materials specified using application methods required to achieve a smooth undistorted finish to the satisfaction of the Architect.

Lay upholstery material smooth and even.
Cut evenly along intersecting surfaces.
Upholster material smooth with sufficient tension so that the finished installation is free of tacks, scraps, ripples, scallops or puckers.
Provide self-welt edges of same material as face fabric.
Sew seams with blind double stitching.
Fabricate cushions with Velcro attachments on the underside to secure to benches.
Fabricate cushions, so that fabrics may be removed, laundered and reapplied.

WOOD VENEER FACED CABINETS FOR TRANSPARENT FINISH

Quality Standard: Comply with AWS Section 10 "Casework", requirements for wood cabinets.

Grade: [Premium][Custom].

Type of Construction: [Frameless][Face Frame].

Cabinet, Door, and Drawer Front Interface Style: [Flush overlay][Reveal overlay][Lipped][Flush inset].

Reveal Dimension: [1/2 inch (13 mm)][As indicated]<Insert dimension>.

Wood Species and Cut for Exposed Surfaces:

WV01: [Red oak, rift sawn or cut] [White ash, plain sawn or sliced] [White birch, plain sawn or sliced] [As indicated] <Insert species and cut>.
Grain Matching: [Run and match grain vertically for drawer fronts, doors, and fixed panels] [Run and match grain horizontally for drawer fronts, doors, and fixed panels] [As indicated].
Matching of Veneer Leaves: [Book] [Slip] [Random] match.
Vertical Matching of Veneer Leaves: End match.
Veneer Matching within Panel Face: [Running] [Balance] [Center] match.
Veneer Matching within Room: Provide cabinet veneers in each room or other space from a single flitch with doors, drawer fronts, and other surfaces matched in a sequenced set with continuous match where veneers are interrupted perpendicular to the grain.
Comply with veneer and other matching requirements indicated for blueprint-matched paneling.

Materials for Semiexposed Surfaces: Provide surface materials indicated below:

Surfaces Other Than Drawer Bodies: Same species and cut indicated for exposed surfaces[, except they may be of quality, size and leaf width not acceptable for face use].
Drawer Subfronts, Sides, Backs, and Bottoms: [7 ply Baltic Birch plywood][Solid hardwood lumber, stained to match species indicated for exposed surfaces, shop finished. Drawer bottoms shall be hardwood plywood, same species indicated for exposed surfaces, shop finished].

WOOD LOCKERS

Comply with requirements for "Wood Casework for Transparent Finish".

PLASTIC-LAMINATE FACED CABINETS

Quality Standard: Comply with AWS Section 10 requirements for laminate cabinets.

Grade: [Premium][Custom].

Type of Construction: [Frameless][Face Frame].

Cabinet, Door, and Drawer Front Interface Style: [Flush overlay][Reveal overlay][Lipped][Flush inset].

Reveal Dimension: [1/2 inch (13 mm)][As indicated]<Insert dimension>.

Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate complying with the following requirements:

Horizontal Surfaces Other Than Countertops: HGS, 0.048 inch (1.2 mm) thick.
Postformed Surfaces: HGP, 0.039 inch (1.0 mm) thick.
Vertical Surfaces: VGS. 0.028 inch (0.7 mm) thick.
Edges: VGS. 0.028 inch (0.7 mm) thick or ABS tape, 0.12 inch(3mm) minimum thickness, matching laminate in color, pattern, and finish. Unless otherwise shown, PVC applied edges are prohibited.

ABS tapes shall be adhered to edges with heat fused at arrises to face laminate as required to create a seamless finish.

Materials for Semiexposed Surfaces:

Surfaces Other Than Drawer Bodies: [High-pressure decorative laminate, NEMA LD 3, Grade VGS] [Thermoset decorative panels].

Edges of Plastic-Laminate Shelves: ABS tape, 0.018-inch (0.460-mm) minimum thickness, matching laminate in color, pattern, and finish.

Drawer Sides, Backs, and Bottoms: [High-pressure decorative laminate] [Thermoset decorative panels].

Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.

Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:

Match color, pattern, and finish as indicated by laminate manufacturer's designations included in the Finish Legend.

COUNTERTOPS

General: Fabricate wood countertops of sizes and profiles shown, in accordance with AWI Standards Section 11 "Countertops", Premium Grade for plastic laminate clad countertops.

Provide countertops in longest length possible for each location shown. Provide balancing face, on concealed side of countertops, of same thickness and material as specified for face, except concealed grade, to equalize pull and prevent warpage, twist or bow.
At outside exposed corners, provide radius corners.
Provide wood blocking and framing, anchors, clips, splines, supporting and attaching devices. Provide cut-outs to receive attachments, supporting substructure, mechanical and electrical work from templates and drawings furnished by other trades. Provide grommets in locations where wiring enters or exits from countertop.
At countertops supported on walls without cabinetry below, provide Rakks supports running the full depth of countertops, to support countertops at intervals no greater than 5 ft. Provide fascias, skirts or backsplashes of profiles and sizes shown, and fabricated the same as countertops. .
At lavatories, coordinate with Division 5, Section "Metal Fabrications" for provision of steel tube support brackets, and vertical steel tubes to support countertops at lavatories and where not supported by cabinets below

Provide installation capable of withstanding a uniform load of 100 lbf/linear feet and a concentrated load at any point of 300 lbs.

Plastic-Laminate Countertops:

High-Pressure Decorative Laminate Grade: HGS.
Colors, Patterns, and Finishes: As specified.
Edge Treatment: ABS laminate tape shall be adhered to edges and heat fused at arrises to face laminate to create seamless finish.
Provide backsplash and end-splash at all locations. Top-mounted, square butt joint, fully covered with matching plastic laminate, eased edges.
Provide grommets in countertops for passage of wires. One grommet per workstation or as indicated on drawings. Field verify locations.

Solid Surfacing Countertops:

Solid-Surfacing-Material Thickness: Use two layers of 1/2 inch or 1 layer of 3/4 inch solid surfacing backed with veneer core plywood. Provide eased edges 1/4 inch to all edges exposed in the finish work, unless otherwise shown.
Colors, Patterns, and Finishes: As specified.
Fabricate tops in one piece with integral back splash, 6 inch high unless otherwise noted, for field application. Where seams are required, provide in inconspicuous locations and obtain Architect's approval of locations in the shop drawing process. Comply with solid-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing. Sealant shall be in colors matching components and selected by Architect.
Install integral sink bowls in countertops in shop.
Make cutouts for fixtures in shop using templates or patterns furnished by fixture manufacturer. Form cutouts to smooth, even curves. Provide vertical edges, slightly eased at juncture of cutout edges with top and bottom surfaces of countertop and projecting 3/16 inch into fixture opening.
Counter-Mounted Plumbing Fixtures: Prepare countertops in shop for field cutting openings for counter-mounted fixtures. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest radius practical.

Fittings: Drill countertops in shop for plumbing fittings, undercounter soap dispensers, and similar items.

Counters and wall panels shall be adhesively joined with no exposed seams, having edge details shown on drawings. At solid surface panels, do not provide joints on inside or outside corners. Vertical solid surface panel joints and outside corners shall be hard seamed in accordance with manufacturer's recommendations. Inside corners shall be hard seamed and coved 1/4 inch radius.

Simulated Stone Countertops: Fabricate tops in one piece with shop-applied backsplashes and edges, unless otherwise indicated. Comply with material manufacturer's recommendations for adhesives, sealers, fabrication, and finishing.

Fixtures and Accessories: Drill holes in countertops for plumbing fittings and soap dispensers in the shop.
Grade: Premium.
Thickness: 3/4 inch

PANELING, GENERAL

Panels shall be in accordance with AWS Section 8, Premium Grade construction.

Panel joints shall be flush type unless otherwise shown or specified.

Provide wood blocking and framing, anchors, clips, splines, supporting and attaching devices

Provide cut-outs to receive attachments, mechanical and electrical work as required. Shop-cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Smooth edges of cutouts

Provide balancing veneer on concealed side of panels, using same species as the face veneer, to equalize pull

Provide panel clips in quantity and spacing to sustain loading and prevent warping and bowing of panels

Where trims are indicated, route surfaces of panels and laminate trim material to plywood backup

FLUSH WOOD PANELING AND WAINSCOTS

Quality Standard: Comply with AWS Section 8 requirements for flush wood paneling.

Grade: [Premium] [Custom].

Wood Species and Cut: [White oak, rift cut] [White ash, plain sliced] [Red gum, plain sliced] [Brown ash, plain sliced] [Hickory, plain sliced] [As indicated] <Insert species and cut>.

Lumber Trim and Edges: At fabricator's option, trim and edges indicated as solid wood (except moldings) may be either lumber or veneered construction compatible with grain and color of veneered panels.

Matching of Adjacent Veneer Leaves: [Book] [Slip] [Pleasing] match.

Vertical Matching of Adjacent Veneer Leaves: End match.

Veneer Matching within Panel Face: [Running] [Balance] [Center balance] match.

Panel-Matching Method: Match panels within each separate area by the following method:

Premanufactured panel sets used full width
Premanufactured panel sets selectively reduced in width.
Made-to-order, sequence-matched panels.
Made-to-order, blueprint-matched panels and components
Refer to Division 01 Section "Summary of Work" for requirements concerning flitches reserved by Architect.
Refer to Division 01 Section "Allowances" for allowances covering the purchase of wood face veneers for panels and components.

Vertical Panel-Matching Method: [End] [Continuous] match.

Panel Core Construction: [Hardwood veneer-core plywood] [Particleboard or medium-density fiberboard] [Fire-retardant particleboard].

Thickness: [3/4 inch (19 mm)] [As indicated].

Exposed Panel Edges: [Inset solid-wood or wood-veneer matching faces][Legs of metal channels forming reveals][Applied solid-wood banding 11/16 inch (18 mm) thick by depth of panels][Applied bronze flat bars 1/16 inch (1.6 mm) thick by depth of panels] <Insert description>.

Panel Reveals: [Matte black plastic laminate] [Bronze sheet] [Stainless-steel sheet] [Bronze channels, 1 by 1 by 1/8 inch (25.4 by 25.4 by 3.2 mm) thick] [Stainless-steel channels, 1 by 1 by 1/16 inch (25.4 by 25.4 by 1.6 mm) thick] <Insert description>.

Fire-Retardant-Treated Paneling: Panels shall consist of wood-veneer and fire-retardant particleboard or fire-retardant, medium-density fiberboard. Panels shall have a flame-spread index of 25 or less and a smoke-developed index of 450 or less per ASTM E84 and be listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction.

Assemble panels by gluing and concealed fastening.

STILE AND RAIL WOOD PANELING FOR TRANSPARENT FINISH

Grade: [Premium][Custom].

Wood Species: [White oak, rift sawn/sliced] [Figured English ash, quarter sawn/sliced] [Butternut, plain sawn/sliced] [Figured red gum, plain-sawn/sliced panels, quarter-sawn/sliced stiles and rails] <Insert species and cut>.

Stiles and Rails: At fabricator's option, stiles and rails may be either lumber or veneered construction with edges banded or with lumber moldings, as indicated, to conceal core and veneer joints.

Panels: [Flat panels] [Raised panels with veneered faces and solid-lumber rims] [Raised panels with veneered faces extending across rims] [Raised panels made from edge-glued solid lumber].

Insert Panels: Blueprint matched in a horizontal sequence for adjacent panels and doors, with continuous vertical matching between adjacent panels. [Book and balance] [Book, balance, and center] match face-veneer leaves within each panel.

Refer to Division 01 Section "Summary" for requirements concerning flitches reserved by Architect.
Refer to Division 01 Section "Allowances" for allowances covering purchase of wood face veneers for stile and rail paneling.

Insert Panels: Cut panels from premanufactured, sequence-matched sets of book-matched veneered panels. Cut panels with an [even] [even or odd] number of veneer leaves centered in each panel[and with each of the remainders at least half as wide as the full veneer leaves]. Cut panels with continuous matching between vertically adjacent panels; veneer leaves of upper panels are continuations of veneer leaves of panels below them.

Insert Panels: Book and balance match face veneers within panels. No matching is required between adjacent panels; select and arrange panels for similarity of grain pattern and color between adjacent panels.

Shop assemble stile and rail paneling into largest units practical for delivery and installation. Provide shop-prepared detachable joints for necessary field connections. Sand and pull joints tight in shop so field joints will comply with joint tolerances for specified grade. Unless otherwise indicated, provide continuous mortise-and-tenon joints between panel units and provide removable temporary protection for joints during handling and delivery.

Outside Corner of Stile and Rail Paneling: Shop prepare using lock-mitered or mitered-and-splined construction. Assemble, sand, and glue in shop if site conditions permit.

PHENOLIC PANELING

Fabricate panels to profiles and dimensions shown

Comply with phenolic manufacturer's recommendations for heat and pressure lamination of high pressure laminate surfacing to phenolic cores.

Provide balanced construction using same thickness laminate on both sides of core to equalize pull, and provide balanced construction free from warp, twist, bow, or other defects

Provide heat seamed abs edging matching look of face laminate. Provide edging at all cutouts and penetrations

Fabricate panels with concealed fastenings.

Fabricate panels for butt joined installation, unless otherwise shown.

SOLID SURFACE PANELING

Provide panels fabricated to dimensions and profiles shown, using solid surfacing types.

Provide 1/4 inch radius on exposed vertical and horizontal edges.

Provide concealed fastenings.

Provide butt joined installation at abutting panels, and 1/4 inch radius at vertical and horizontal edges exposed in the finish work, unless otherwise shown

GRAPH SYSTEM

Fry Reglet "Graph System": Pre-manufactured system of that uses clear brush anodized aluminum extrusions 6063-T5 aluminum alloy to frame and retain wood paneling to walls

Aluminum framing components factory mitered and welded to form subassemblies of two way; three way and 4 way intersections; inside and outside corner, custom intersections as detailed in manufacturer's shop drawings. Modular wall system shall be capable of providing a Single fin-(fine line);
Frames shall be shop finished with clear brush anodized aluminum finish.
Reveal joint with an anodized aluminum exposed element bordering each panel horizontally, vertically or in both directions in accordance with Architectural drawings.. All other details,, including base, head, corners, intersections shall be fabricated in accordance with Architectural Drawings
Infill panels shall be installed in a non-progressive manner and shall be point accessible. Panels shall be fixed to framework with co-extruded clips having an independent lab certification pull out loading of 10 pounds per inch of attachment

PANELING SCHEDULE

Paneling WP01:

INTERIOR FRAMES AND JAMBS FOR TRANSPARENT FINISH

Quality Standard: Comply with AWS Section 6.

Grade: Premium grade for transparent finish and custom grade for opaque finish.

Wood Species and Cut for Transparent Finish: [Red oak, rift sawn] [Hickory, plain sawn] [Match species and cut indicated for other types of transparent-finished architectural woodwork located in same area of building, unless otherwise indicated] <Insert species and cut>.

Provide split species on trim that face areas with different wood species, matching each face of woodwork to species and cut of finish wood surfaces in areas finished.

Wood Species for opaque finish: Any closed-grain hardwood.

For frames or jambs wider than available lumber, use veneered construction. Do not glue for width.

Fire-Rated Interior Frames and Jambs: Products fabricated from fire-retardant particle board or fire retardant medium-density fiberboard [with veneered, exposed surfaces] and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.

Test Pressure: Test at atmospheric pressure.
Fire Rating: 20 minutes.

INTERIOR STANDING AND RUNNING TRIM

Grade: AWS Section 6, Premium grade for transparent finish and custom grade for painted finish.

Wood Species and Cut: For transparent finish, match species and cut indicated for other types of transparent-finished architectural woodwork located in same area of building, unless otherwise indicated.

Provide split species on trim that faces areas with different wood species, matching each face of woodwork to species and cut of finish wood surfaces in areas finished.

Wood For Painted Finish: Any closed-grain hardwood.

For trim items wider than available lumber, use veneered construction. Do not glue for width.

For rails wider or thicker than available lumber, use veneered construction. Do not glue for width or thickness.

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.

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

Assemble moldings in plant to maximum extent possible. Miter corners in plant and prepare for field assembly with bolted fittings designed to pull connections together.

Provide the following standing and running trim where indicated on drawings.

Wood Trim: Provide solid wood trim of profiles and dimensions shown, primed for field painting.
Wood Bases, General: Provide bases in longest sections, with joints on the column lines, building module or wall assembly module. Provide 3 foot 7 inch formed one piece corner sections for inside and outside corners. Comply with final approved shop drawings for seam locations and details between adjacent base sections. Seams between bases shall occur strictly at seams in panels above. Install bases so that seams between align with seams in panels above.
Solid Wood Base: Provide solid wood base of profiles and dimensions shown fabricated for both flush and applied installation from same flitch as wood veneer used in wood paneling finished to match and as follows:

WDBxx: <insert WD or WDV type and finish>

Painted Wood Base: Provide solid wood base of profiles and dimensions shown; fabricated for both flush and applied installations; primed for field painting

WDBxx: < insert color and gloss>.

Metal Clad Wood Base: Provide metal clad solid wood base of profiles and dimensions shown; fabricated for both flush and applied applications. Provide balanced construction with furniture grade steel sheet of

same gage as face applied on the back of wood base. Where edges will be exposed in the finish work and where reveals are indicated above the base, break form and apply metal over edges to be exposed in the finish work. Shop laminate bases using adhesives and pressure for intimate contact between metal and wood. Provide the following

WDBxx: <insert metal type and finish or color>.

Corian Base: Provide solid surface base of profiles and dimensions shown; fabricated for both flush and applied installations.

WDBxx: <insert manufacturer, color and finish>.

CLOSET AND STORAGE SHELVING

Grade: Provide closet and storage shelving in accordance with AWS Section 6, Custom Grade, unless otherwise shown or specified.

Shelf Material: 3/4 inch thick panel cores of MDF with solid edge. Provide plastic laminate cladding of top and bottom surfaces. Exposed edges shall have ABS laminate tape edge banding in color to match face laminate, adhered to edges and heat fused at arrises to face laminate to create a seamless installation.

For sizing of shelves and spacing of supports, comply with AWS Section 10. Shelf deflection shall not be greater than 1/4 in. between supports.

MISCELLANEOUS ARCHITECTURAL WOODWORK ITEMS

Fabricate and install miscellaneous items of Architectural Woodwork not specified herein, which are shown on the drawings, or required to complete the Contract, in accordance with requirements of referenced standards.

SHOP FINISHING

Quality Standard: Comply with AWS Section 5, unless otherwise indicated.

Grade: Provide finishes of same grades as items to be finished.
Finish architectural woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.

Preparations 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.

Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling and to end-grain surfaces.

Concealed surfaces of plastic-laminate-clad woodwork do not require backpriming when surfaced with plastic laminate, backing paper, or thermoset decorative overlay.

Transparent Finish: Comply with requirements indicated below for grade, finish system, staining, and sheen, with sheen measured on 60-degree gloss meter per ASTM D523:

Transparent Lacquer Finish (TR-2):

Grade: Premium.
AWI Finish System: Factory Finish System No. TR-2.
Staining: <insert color>.

Wash Coat for Stained Finish: Apply a wash-coat sealer to woodwork made from closed-grain wood before staining and finishing.
Open-Grain Woods: After staining (if any), and prior to finish, apply paste wood filler to open-grain woods and wipe off excess. Tint filler to match stained wood.
Sheen: <insert sheen>.

Finish: System - 5, conversion varnish.
Finish: System - 9, UV curable acrylated epoxy, polyester, or urethane.
Finish: System - 11: Catalyzed polyurethane.
Wash Coat for Stained Finish: Apply a vinyl wash coat to woodwork made from close-grain wood before staining and finishing.
Staining: [None required][Match approved sample for color][Match Architect's sample].
Open Finish for Open-Grain Woods: Do not apply filler to open-grain woods.
Filled Finish for Open-Grain Woods: After staining (if any), apply paste wood filler to open-grain woods and wipe off excess. Tint filler to match stained wood.

Apply vinyl wash coat sealer after staining and before filling.

Sheen: [Flat, 15-30] [Satin, 31-45] [Semigloss, 46-60] [Gloss, 61 or greater] gloss units.

Opaque Lacquer Finish (OP-2):

Grade: Premium.
AWI Finish System: Factory Opaque Finish System No. 2, Precatalyzed Lacquer Finish.
Wash Coat for Stained Finish: Apply a wash-coat sealer to woodwork made from closed-grain wood before staining and finishing.
Open-Grain Woods: Prior to finish, apply paste wood filler to open-grain woods and wipe off excess. Tint filler to match wood.
Color: <insert color>.
Sheen: Satin finish.

Opaque Varnish Finish (OP-5):

Grade: Premium.
AWI Finish System: OP-5 Conversion varnish or Catalyzed vinyl.
Color: <insert color>.
Sheen: [<insert color>.

Unexposed Wood Finish: Alkyd type primer-sealer.

Field Painted Woodwork: Prime and back prime lumber for painted finish exposed on the exterior. Comply with requirements for surface preparation and application in Division 9 Section "Painting" for field painted woodwork.

PART 3 - EXECUTION

PREPARATION

Condition woodwork to average prevailing humidity conditions in installation areas before installation.

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

Coordinate with installation of architectural woodwork items attached to wall partitions with the installation of fire retardant wood and gypsum drywall partitions to support imposed items.

INSTALLATION

Grade: Install woodwork to comply with AWS requirements for the same grade specified in Part 2 for fabrication of the type of woodwork involved.

Assemble cabinets and complete fabrication at Project site to the extent that it was not completed in the shop.

Install woodwork level, plumb, true, and straight. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm), with no variations in flushness of adjoining surfaces. Shim as required with concealed shims.

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

Fire-Retardant-Treated Wood: Handle, store, and install fire-retardant-treated wood to comply with recommendations of chemical treatment manufacturer, including those for adhesives used to install woodwork.

Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure tp grounds. stripping and blocking with countersunk, concealed fasteners, z-clips, and blind nailing as required for complete installation. Except where prefinished matching fastener heads are required, use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.

Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.

Install cabinets with no more than 1/8 inch in 96-inch (3 mm in 2400-mm) sag, bow, or other variation from a straight line.
Maintain veneer sequence matching of cabinets with transparent finish.
Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches (400 mm) o.c. beginning 3 inches of outside end, vertically within 3 inches of outside top or bottom of the cabinet penetrating the anchor strip and as follows:

Wood Framing, Blocking, or Hanging Strips: Provide No. 10 x 3 inch wafer-head screws sized for 1-1/2 inch (38-mm) penetration.
Metal Backing or Framing: Provide No. 10 wafer-head sheet metal screws of sufficient length to penetrate total thickness of material including gaps, with a minimum of 3 exposed threads.
Where wall mounted cabinets are greater than 48 inches in height, fasten not more than 12 inches on center.

Fasten adjacent cabinets together at the front with min. two #8 x 1-1/4 inch flat, oval or pan head screws max. 30 inches on center.
Seal seams between plastic laminate panels with plastic seam fill.

Banquettes: Install banquettes level and plumb, with fasteners and shims concealed, according to manufacturer's written instructions. Tighten threaded connections so threads are concealed.

Install cushioning in accordance with shop drawings to provide a firm surface. Cover entire cushion assembly with cushion overlay prior to upholstering banquette.
Lay upholstery material smooth and even.
Cut evenly along intersecting surfaces.
Provide buttoned upholstery where shown.
For channeled upholstery, seams shall be inconspicuously concealed between the channels.
All upholstery material shall be aligned so that lines of channels are straight and continuous and with channels parallel to each other, and with vertical lines perpendicular.

Upholster material smooth with sufficient tension so that the finished installation is free of tacks, scraps, ripples, scallops or puckers.
All seams shall be sewn in lieu of wrapped.
Apply fabrics to surfaces shown using application methods and fastenings as recommended by the fabric manufacturer to achieve a smooth, undistorted finish to the satisfaction of the Architect.
Coordinate with Electrical work for outlets and plates.

Countertops, General: Install countertops level to a tolerance of 1/8 inch in 8 feet, 1/4 inch maximum. Do not exceed 1/64-inchdifference between planes of adjacent units.

Fasten countertops by screwing through corner blocks of base units into underside of countertop. Predrill holes for screws as recommended by manufacturer. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
Fasten subtops to cabinets by screwing through subtops into cornerblocks of base cabinets. Shim as needed to align subtops in a level plane.
Secure countertops to subtops with adhesive according to solid surface material manufacturer's written instructions. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.
Install backsplashes and end splashes by adhering to wall and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.
Install aprons to backing and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears. Fasten by screwing through backing. Predrill holes for screws as recommended by manufacturer.
Apply sealant to gaps at walls; comply with Division 07 Section "Joint Sealants."

Plastic Laminate Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.

Install countertops with no more than 1/8 inch in 96 inch sag, bow, or other variation from a straight line.
Secure backsplashes to tops with concealed metal brackets at 16 inches o.c.
Seal seams between plastic laminate panels and between top and backsplash with plastic seam filler.
Seal space between backsplash and walls with sanitary sealant.

Solid Surface and Simulated Stone Countertops: Install countertops over plywood subtops with a full spread of water-cleanable epoxy adhesive.

Bond seams with manufacturer recommended seam adhesive and draw tight as countertops are set. Mask areas of countertops adjacent to seams to prevent adhesive smears. Use clamps to ensure countertop units are properly aligned and seams are minimum width.
Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts while cutting to prevent damage.
Install integral coved back and end splashes by adhering to wall with water-cleanable epoxy adhesive and to countertops with seam adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.
Seal space between backsplash and walls with sanitary sealant.

Stone Countertops, Backsplash and End panels: Install countertops, backsplash and end panels over plywood substrate with full spread of water-cleanable epoxy adhesive.

Do not cut stone in field, unless otherwise indicated. If stone countertops or splashes require additional fabrication not specified to be performed at Project site, return to fabrication shop for adjustment.

Set stone to comply with requirements indicated on final shop drawings.
Shim and adjust stone to locations indicated, with uniform joints of widths indicated and with edges and faces aligned according to established relationships and indicated tolerances

Paneling: Install paneling in accordance with AWI and as follows:

Provide a system of concealed panel hanger clips and corresponding wall clips to support the panel systems. Face nailing shall not be permitted.
Install paneling in designated locations level, plumb, true, and straight with no distortions. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm). Install with no more than 1/16 inch in 96-inch (1.6 mm in 2400-mm) vertical cup or bow and 1/8 inch in 96-inch (3 mm in 2400-mm) horizontal variation from a true plane.
For flush paneling with revealed joints, install with variations in reveal width, alignment of top and bottom edges, and flushness between adjacent panels not exceeding 1/32 inch (0.8 mm).
Scribe and cut paneling to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
Anchor paneling to supporting substrate with concealed panel-hanger clips. Do not use face fastening unless otherwise indicated.
Frye Reglet "Graph System": Install modular wall system on drywall partitions, in accordance with manufacturer's installation instructions and final shop drawings. Install grid components plumb, true to line and level. Acclimatize wood panels to project environmental conditions prior to installation. Install wall panels plumb, level, square, true to line, securely anchored and in proper alignment and relationship to work of other trades. .
Where reveals are indicated, keep panels spaced so that reveals are parallel and of widths shown.

Standing and Running Trim: Install standing and running trim in accordance with AWI. Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 60 inches (1500 mm) long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.

Scarf running joints and stagger in adjacent and related members. Cope at returns, miter at corners. Plane backs of casings to provide uniform thickness across joints, if required
Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base, if finished.
Miter cut all running joints, butt joints are prohibited. Cut running joints away from direction of major view.
Install trim after gypsum board joint finishing operations are completed.
Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping.
Countersink fastener heads on Touch up finishing work specified in this Section after installation of woodwork. Fill nail holes with matching filler where exposed. Comply with VOC requirements for touch up work.
Install wall railings on indicated metal brackets securely fastened to wall framing.
Install standing and running trim with no more variation from a straight line than 1/8 inch in 96 inches (3 mm in 2400 mm).

Closet and Storage Shelving: Provide closet and storage shelving at the locations shown. Provide hang rods where shown. Set adjustable center hangers.

Provide fixed and adjustable shelving at the locations shown.
Provide hang rods within closets, where shown. Set adjustable center hangers.

Install sliding doors plumb, level, in alignment, and adjust as required for a smooth, quiet operation. Provide rubber bumpers to stop doors when in the fully open position and provide rubber bumpers at top leading edge of doors to soften landing of doors when closed.

Installation of Accessories: Install in a precise manner in accordance with manufacturer’s directions. Turn screws to a flat seal; do not drive. Adjust moving parts to operate freely without excessive bind.

Hardware Adjustment: Adjust and lubricate operable hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

Complete the finishing work specified in this Section to extent not completed at shop or before installation of woodwork. Fill nail holes with matching filler where exposed. Apply specified finish coats, including stains and paste fillers if any, to exposed surfaces where only sealer/prime coats were applied in shop.

Apply sanitary sealant to seal gaps between countertops and wall finishes, items penetrating countertops, including sinks, soap dispensers, trash chutes and millwork, and elsewhere as indicated.

Touch up finishing work specified in this Section after installation of woodwork. Fill nail holes with matching filler where exposed. Comply with VOC requirements for touch up work.

Refer to Division 09 Section “Painting” for final finishing of installed architectural woodwork.

FIELD QUALITY CONTROL

Inspect the in-wall blocking and other concealed support elements before walls are completed.

Verify that wall mounted casework is properly fastened.

Submit inspection reports as part of Closeout Submittals.

PROTECTION

Provide final protection and maintain conditions, in a manner acceptable to fabricator and Installer that ensures exposed horizontal surfaces are without damage or deterioration at the time of Substantial Completion.

ADJUSTING AND CLEANING

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

Clean, lubricate, and adjust hardware.

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

END OF SECTION