

Construction  
Specs.

**A NEW MAIN STATION**

E (minimum modulus of elasticity); 1,700,000 psi.

**TIMBERS:**

**For timbers** (5" and thicker), provide material complying with the following requirements:

Douglas Fir Select Structural Grade per WCLIB rules.

**MISCELLANEOUS LUMBER:**

Provide wood for support or attachment of other work including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes indicated, worked into shapes shown, and as follows:

**Moisture content:** 19 percent maximum for lumber items not specified receive wood preservative treatment.

**Grade:** Construction Grade light framing size lumber of any species or board size lumber as required. No. 2 Common or Standard grade boards per WCLIB or WWPA rules.

**CONSTRUCTION PANELS:**

**Construction Panel Standards:** Comply with PS 1 "U.S. Product Standard for Construction and Industrial Plywood" for plywood panels and, for products not manufactured under PS 1 provisions, with American Plywood Associates (APA) "Performance Standard and Policies for Structural-Use Panels", Form No. E445.

**Trademark:** Factory-mark each construction panel with APA trademark evidencing compliance with grade requirements.

**Concealed APA Performance-Rated Panels:** Where construction panels will be used for the following concealed types of applications, provide APA Performance-Rated Panels complying with requirements indicated for grade designation, span rating, exposure durability classification, edge detail (where applicable) and thickness.

**Wall Sheathing:** APA RATED SHEATHING. (Plywood or OSB Panels)

**Exposure Durability Classification:** EXPOSURE 1.

**Span Rating:** 24/0 for stud spacing of 16" or less.

**Thickness:** 15/32"

**Roof Sheathing:** APA RATED SHEATHING. (Plywood Panels)

**Exposure Durability Classification:** EXPOSURE 1.

**Span Rating:** 24/16, minimum.

**Thickness:** 19/32"

**Plywood Backing Panels:** For mounting electrical or telephone equipment, provide fire-retardant treated plywood panels with grade designation, APA C-D PLUGGED INT with exterior glue, in thickness indicated, or, if not otherwise indicated, not less than 15/32".

**MISCELLANEOUS MATERIALS:**

**Fasteners and Anchorages:** Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts,

**Standing and Running Trim for Transparent Finish:** Plain Sliced Red Oak manufactured to sizes and patterns (profile) shown from selected First Grade lumber (NHLA); complying with following grade requirements of referenced woodworking standard, for quality of materials and manufacture:

**Grade:** FAS 1 & 2

**Standing and Running Trim for Painted Finish:** MDF material manufactured to sizes and patterns (profile) shown from selected First Grade lumber (NHLA); complying with following grade requirements of referenced woodworking standard, for quality of materials and manufacture:

**Grade:** Custom. (AWI)

### **Miscellaneous Materials:**

**Fasteners and Anchorage's:** Provide nails, screws and other anchoring devices of the type, size, material and finish required for application indicated to provide secure attachment, concealed where possible, and complying with applicable Federal Specifications. Where finish carpentry is exposed on exterior or in areas of high relative humidity, provide fasteners and anchorages with a hot-dipped zinc coating (ASTM A 153).

## **PART 3 – EXECUTION**

### **PREPARATION:**

**Condition wood materials to average** prevailing humidity conditions in installation areas prior to installing. **Backprime lumber** for painted finish exposed on the exterior or, where indicated, to moisture and high relative humidities on the interior. Comply with requirements of section on painting within Division 9 for primers and their application.

**Pre-installation Meeting:** Meet at project site prior to delivery of finish carpentry materials and review coordination and environmental controls required for proper installation and ambient conditioning in areas to receive work. Include in meeting the Contractor, Architect and other Owner Representatives (if any), Installers of finish carpentry, wet work including plastering, other finishes, painting, mechanical work and electrical work, and firms and persons responsible for continued operation (whether temporary or permanent) of HVAC system as required to maintain temperature and humidity conditions. Proceed with finish carpentry on interior only when everyone concerned agrees that required ambient conditions can be properly maintained.

### **INSTALLATION:**

**Discard units of material** which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate work with minimum of joints or optimum jointing arrangements, or which are of defective manufacturer with respect to surfaces, sizes or patterns.

**Install the work plumb,** level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-0" for plumb and level countertops; and with 1/16" maximum offset in flush adjoining 1/8" maximum offsets in revealed adjoining surfaces.

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

### **Standing and Running Trim:**

Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns,

## **DELIVERY, STORAGE, AND HANDLING**

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

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

## **PROJECT CONDITIONS**

**Environmental Conditions:** 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.

**Field Measurements:** Where woodwork is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before manufacturing woodwork; show recorded measurements on final shop drawings. Coordinate manufacturing schedule with construction progress to avoid delay of Work.

## **PART 2 - PRODUCTS**

### **HIGH PRESSURE DECORATIVE LAMINATE MANUFACTURERS**

**Manufacturer:** Subject to compliance with requirements, provide high pressure decorative laminates of one or more of the following:

Formica Corp.  
Ralph Wilson Plastics Co.  
Nevamar  
Pionite

## **MATERIALS**

**General:** Provide materials that comply with requirements of the AWI woodworking standard for each type of woodwork and quality grade indicated and, where the following products are part of woodwork, with requirements of the referenced product standards that apply to product characteristics indicated:

Hardboard: ANSI/AHA A135.4

High Pressure Laminate: NEMA LD 3.

Chemical Resistant Laminate: NEMA LD 3-1980, for GP50.

Medium Density Fiberboard: ANSI A208.2.

Particleboard: ANSI A208.1

Softwood Plywood: PS 1.

**Core Materials and locations:**

**Cabinet Boxes:** M-3 Particle Board w/ MR-50 Particle Board at all sink cabinets and all cabinetry in Phase 1.

**Cabinet Backs:** MDF at all locations.

**Cabinet Doors:** VG Douglas Fir B & Better include all edges at wood cabinets, particle board or MDF at other locations.

**Laminated Tops:** MDF Grade 130 MR 50 at all Phase 1 locations and all restroom or wet locations.

**Formaldehyde Emission Levels:** Comply with formaldehyde emission requirements of each voluntary standard referenced below:

Particleboard: NPA 8.

Medium Density Fiberboard: NPA 9.

Hardwood Plywood: HPM A FE.

**FABRICATION, GENERAL**

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

**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 less than 1 inch in nominal thickness: 1/16 inch.

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

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

**Factory-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 and, where located in countertops and similar exposures, seal edges of cutouts with a water-resistant coating.

**Field-cut openings,** installer will be required to cut openings as required for exposed plumbing pipes to be contained within cabinet spaces. This is required due to window wall locations. Coordinate with plumber to make cuts clean and as tight as possible to piping.

**Coordinate depths** of drawer units as required to allow for such piping.

**Provide dust panels** of 1/4-inch plywood or tempered hardboard above compartments and drawers except where located directly under tops.

**WOOD CABINETS (CASEWORK) FOR TRANSPARENT FINISH (Alternate #1 as noted on interior elevations at kitchen and training room)**

**WOOD CABINETS (CASEWORK) FOR TRANSPARENT FINISH**

**Quality Standard:** Comply with AWI Section 400 and its Division 400A "Wood Cabinets."

**Store materials** inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic and other causes. Neatly stack gypsum boards flat to prevent sagging.

**Handle gypsum boards** to prevent damage to edges, ends, and surfaces. Do not bend or otherwise damage metal corner beads and trim.

**PROJECT CONDITIONS:**

**Environmental Conditions, General:** Establish and maintain environmental conditions for application and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer's recommendations.

**Minimum Room Temperatures:** For nonadhesive attachment of gypsum board to framing, maintain not less than 40 deg F (4 deg C). For adhesive attachment and finishing of gypsum board maintain not less than 50 deg F (10 deg C) for 48 hours prior to application and continuously thereafter until drying is complete.

**Ventilate** building spaces to remove water not required for drying joint treatment materials. Avoid drafts during dry, hot weather to prevent materials from drying too rapidly.

**PART 2 - PRODUCTS**

**MANUFACTURERS:**

**Manufacturer:** Subject to compliance with requirements, provide products of one of the following:

**Steel Framing and Furring:**

Bostwick Steel Framing Co.  
Dale Industries, Inc.  
Gold Bond Building Products Div., National Gypsum Co.  
Incor, Inc.  
Marino Industries Corp.  
United States Gypsum Co.

**Gypsum Boards and Related Products:**

Georgia-Pacific Corp.  
Gold Bond Building Products Div., National Gypsum Co.  
United States Gypsum Co.  
Domtar  
Pabco

**GYPSUM BOARD:**

**General:** Provide gypsum board of types indicated in maximum lengths available to minimize end -to-end joints.

**Thickness:** Provide gypsum board in thicknesses indicated, or if not otherwise indicated, inch or 5/8 inch thicknesses to comply with ASTM C 840 for application system and support spacing indicated.

**Gypsum Wallboard:** ASTM C 36, and as follows:

***GYPSUM BOARD 09250A-2***

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**Type:** Type X  
**Edges:** Tapered.  
**Thickness:** 5/8 inch

**Water-Resistant Gypsum Backing Board:** ASTM C 630, and as follows:

**Type:** Type X  
**Thickness:** 5/8 inch

**STEEL FRAMING FOR WALLS AND PARTITIONS:**

**Steel Studs and Runners:** ASTM C 645, with flange edges of studs bent back 90 deg and doubled over to form 3/16" minimum lip (return) and complying with the following requirements for minimum thickness of base (uncoated) metal and for depth:

**Thickness:** 0.0270 inch where indicated.

**Depth:** 2-1/2 inches where indicated.

**Depth:** 1-5/8 inches where indicated.

**Fasteners:** Provide fasteners of type, material, size, corrosion resistance, holding power and other properties required to fasten steel framing and furring members securely to substrates involved; complying with the recommendations of gypsum drywall manufacturers for applications indicated.

**TRIM ACCESSORIES:**

**General:** Provide manufacturer's standard trim accessories of types indicated for drywall work, formed of galvanized steel unless otherwise indicated, with either knurled and perforated or expanded flanges for nailing or stapling, and beaded for concealment of flanges in joint compound. Provide corner beads, L-type edge trim beads, U-Type edge trim beads, special L-kerf type edge trim-beads, and one-piece control joint beads.

**Cornerbead and Edge Trim for Interior Installation:** Comply with ASTM C 840 and the following:

**Cornerbead** formed from zinc alloy, with flanges knurled and perforated or of fine-mesh expanded metal.

**Steel Edge trim** formed from galvanized steel, types per Fig. 1 of ASTM C 840 as follows:

**GYPSUM BOARD JOINT TREATMENT MATERIALS:**

**General:** Provide materials complying with ASTM C 475, ASTM C 840, and recommendations of manufacturer of both gypsum board and joint treatment materials for the application indicated.

**MISCELLANEOUS MATERIALS:**

**General:** Provide auxiliary materials for gypsum drywall construction, which comply with referenced standards and the recommendations of the manufacturer of the gypsum board.

**END OF PART A - SECTION 09250**

**PART B - SECTION 09250B – GYPSUM DRYWALL**

**Fastening Adhesive for Wood:** ASTM C 557.

**Fastening Adhesive for Metal:** Special adhesive recommended for laminating gypsum boards to steel framing.

**Gypsum Board Screws:** ASTM C 1002.

**Concealed Acoustical Sealant:** Nondrying, nonhardening, nonskinning, nonstaining, nonbleeding, gunnable sealant complying with requirement specified in Division-7 section "Joint Sealers."

**Sound Attenuation Blankets:** Unfaced mineral fiber blanket insulation produced by combining mineral fibers of type described below with thermosetting resins to comply with ASTM C 665 for Type I (blankets without membrane facing); and as follows:

**Mineral Fiber Type:** Fibers manufactured from glass.

**TEXTURE FINISH MATERIALS:**

**Primer:** Of type recommended by manufacturer of texture finish.

**Products:** Subject to compliance with requirements, provide one of the following products:

**Light Orange Peel Finish.** USG "Spray Texture" or approved on all gypsum board surfaces scheduled to be painted unless smooth texture indicated below: Finish Level V

**Smooth Texture required at following locations:**

Restroom Walls & Ceilings  
Kitchen Walls  
Apparatus Ceilings  
Mechanical & JC Walls and Ceilings  
Decontamination Walls and Ceilings

**Apparatus & Decontamination Walls & Ceilings shall receive WR gyp. board typical.**

**PART 3 - EXECUTION**

**EXAMINATION:**

**Examine substrates** to which drywall construction attaches or abuts, preset hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of drywall construction. Do not proceed with installation until unsatisfactory conditions have been corrected.

**PREPARATION**

**Ceiling Anchorages:** Coordinate installation of ceiling suspension system with installation of overhead structural systems. Verify that inserts and other structural anchorage provisions have been installed to receive ceiling hangers in a manner that will develop their full strength and at spacing required to support ceiling.



**Frame door openings** to comply with details indicated, with GA-219 and with applicable published recommendations of gypsum board manufacturer. Attach vertical studs at jambs with screws either directly to frames or to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

Extend vertical jamb studs through suspended ceilings and attach to underside of floor or roof structure above.

**Frame openings other than door openings** to comply with details indicated, or if none indicated, in same manner as required for door openings; and install framing below sills of openings to match framing required above door heads.

**Install thermal insulation as follows:**

Erect insulation vertically and hold in place with Z-furring members spaced 16 inches on center.

Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches on center.

At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw attach short flange of furring channel to web of attached channel. Start from this furring channel with standard width insulation panel and continue in regular manner. At interior corners, space second member no more than 12 inches from corner and cut insulation to fit.

Until gypsum board is installed hold insulation in place with 10 inch staples fabricated from 0.0625 inch (16 gage) diameter tie wire and inserted through slot in web of member.

**Install polyethylene vapor retarder** on interior of framing members of exterior insulated walls to comply with the following requirements:

**Extend vapor retarder** to extremities of exterior insulated walls and to cover miscellaneous voids in insulated substrates, including those which have been stuffed with loose thermal insulation.

**Seal vertical joints** in vapor retarders over framing by lapping not less than 2 wall studs. Fasten vapor retarders to framing at top, end, and bottom edges, at perimeter of wall openings, and at lap joints; space fasteners 16 inches on center.

**Seal joints** in vapor retarder caused by pipes, conduits, electrical boxes and similar items penetrating vapor retarders with cloth or aluminized tape which bonds permanently to vapor retarder.

**Repair any tears** or punctures in vapor retarder immediately before concealment by application of gypsum board or other construction.

**APPLICATION AND FINISHING OF GYPSUM BOARD, GENERAL:**

**Gypsum Board Application and Finishing Standard:** Install and finish gypsum board to comply with ASTM C 840.

**Install sound attenuation blankets** where indicated, prior to gypsum board unless readily installed after board has been installed.

**Locate exposed end-butt joints** as far from center of walls and ceilings as possible, and stagger not less than 24 inches in alternate courses of board.

**Install ceiling boards** across framing in the manner which minimizes the number of end-butt joints, and which avoids end joints in the central area of each ceiling. Stagger end joints at least 24 inches.

**Install wall/partition boards** in manner, which minimizes the number of end-butt joints or avoids them entirely where possible and complies with fire ratings as required.

**Install exposed gypsum board** with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16 inch open space between boards. Do not force into place.

**Locate either edge or end joints** over supports, except in horizontal applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.

**Attach gypsum board** to supplementary framing and blocking provided for additional support at openings and cutouts.

Fit gypsum board around ducts, pipes, and conduits.

**Where sound-rated** drywall construction is indicated, seal construction at perimeters, control and expansion joints, openings and penetrations with a continuous bead of acoustical sealant including a bead at both faces of partitions. Comply with ASTM C 919 and manufacturer's recommendations for location of edge trim, and close off sound-flanking paths around or through construction including sealing of partitions above acoustical ceilings.

**Space fasteners** in gypsum boards in accordance with referenced gypsum board application and finishing standard and manufacturer's recommendations.

### **METHODS OF GYPSUM BOARD APPLICATION:**

**Single-Layer Application:** Install gypsum wallboard as follows:

**On ceilings** apply gypsum board prior to wall/partition board application to the greatest extent possible.

**On partitions/walls** apply gypsum board in a manner, which will minimize end joints.

**In "dry" areas** install gypsum backing board or wallboard with tapered edges taped and finished to produce a flat surface.

**At restrooms and similar "wet" areas,** install water-resistant gypsum backing board to comply with ASTM C 840 and recommendations of gypsum board manufacturer.

**Single-Layer Fastening Methods:** Apply gypsum boards to supports as follows:

Fasten with screws.

**In "dry" areas** install gypsum backing board or wallboard with tapered edges taped and finished to produce a flat surface.

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**At showers, tubs** and similar "wet" areas, install water-resistant gypsum backing board to comply with ASTM C 840 and recommendations of gypsum board manufacturer.

**Double-Layer Application:** Install gypsum backing board for base layer and gypsum wallboard for face layer.

**On ceilings** apply base layer prior to application of base layer on walls/partitions; apply face layers in same sequence. Offset joints between layers at least 10 inches. Apply base layers at right angles to supports unless otherwise indicated. Comply with fire resistive testing requirements.

**On partitions/walls** apply base layer and face layers vertically (parallel to framing) with joints of base layer over supports and face layer joints offset at least 10 inches with base layer joints.

**On Z-furring members** apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.

**INSTALLATION OF DRYWALL TRIM ACCESSORIES:**

**General:** Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges to comply with manufacturer's recommendations.

**Install radius corner beads** at all external corner shown on details. Provide at all locations in Alternate Bid as scheduled.

**Install metal edge trim** whenever edge of gypsum board would otherwise be exposed or semi-exposed, and except where plastic trim is indicated. Provide type with face flange to receive joint compound except where "U" bead (semi-finishing type) is indicated.

Install "LC" bead where drywall construction is tightly abutted to other construction and back flange can be attached to framing or supporting substrate.

Install "LK" bead where substrate is kerfed to receive long flange of trim.

Install "L" bead where edge trim can only be installed after gypsum board is installed.

Install U-type trim where edge is exposed, revealed, gasketed, or sealant-filled (including expansion joints).

**FINISHING OF DRYWALL:**

**General:** Apply joint treatment at gypsum board joints (both directions); flanges of corner bead, edge trim, and control joints; penetrations; fastener heads, surface defects and elsewhere as required to prepare work for decoration.

**Prefill open joints** and rounded or beveled edges, if any, using setting-type joint compound.

**Apply joint tape** at joints between gypsum boards, except where trim accessories are indicated.

**Finish interior gypsum wallboard** by applying the following joint compounds in 3 coats (not including prefill of openings in base), and sand between coats and after last coat:

**Partial Finishing:** Omit third coat and sanding on concealed drywall construction, which is indicated for drywall finishing or which requires finishing to achieve fire-resistance rating, sound rating or to act as air or smoke barrier.

**APPLICATION OF TEXTURE FINISH:**

**Surface Preparation and Primer:** Prepare and prime drywall and other surfaces in strict accordance with texture finish manufacturer's instructions. **Painter shall apply first primer coat to all surfaces to receive texture finish, prior to application of texture, and architect shall inspect for coverage prior to texture process.** Painter shall apply second primer coat to all surfaces after texture has been applied.

**Finish Application:** Mix and apply finish to drywall and other surfaces indicated to receive finish in strict accordance with manufacturer's instructions to produce a uniform texture matching Architect's sample without starved spots or other evidence of thin application, and free of application patterns.

**Remove any texture droppings** or overspray from door frames, windows and other adjoining construction.

**PROTECTION:**

**Provide final protection** and maintain conditions, in a manner suitable to Installer, which ensures gypsum drywall construction being without damage or deterioration at time of substantial completion.

**END OF SECTION 09250**

**SECTION 09650 - RESILIENT FLOORING**

**PART 1 - GENERAL**

**RELATED DOCUMENTS:**

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

**DESCRIPTION OF WORK:**

**Extent** of resilient flooring and accessories is shown on drawings and in schedules.

**QUALITY ASSURANCE:**

**Manufacturer:** Provide each type of resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, sealants, and leveling compounds. Flooring subcontractor is responsible to attend pre-construction meeting and provide tile manufacturers written specifications for concrete slab sealants and curring compounds, and moisture content requirements. Flooring subcontractor will be required to take moisture meter readings and provide written assurance and acceptance of concrete slab floor prior to laying floor tile

**Critical Radiant Flux (CRF):** Not less than the following rating as per ASTM E 648. 0.45 watts per sq. cm.

**Flame Spread:** Not more than 75 per ASTM E 84.

**Smoke Developed:** Not more than 450 per ASTM E 84.

**Smoke Density:** Not more than 450 per ASTM E 662.

**Installer's Qualifications:** Engage Installer who is certified in writing by resilient flooring manufacturer as qualified for installation of sheet vinyl employing heat welded seams, and installing vinyl tile.

**SUBMITTALS:**

**Product Data:** Submit manufacturer's technical data for each type of resilient flooring and accessory.

**Samples for Verification Purposes:** Submit the following samples of each type, color, and pattern of resilient flooring required, showing full-range of color and pattern variations.

- 6" x 9" samples of sheet flooring.
- 2-1/2" long samples of resilient flooring accessories.
- 24" long sample of LVT flooring

**Maintenance Instructions:** Submit 2 copies of manufacturer's recommended maintenance practices for each type of resilient flooring and accessory required.

**PROJECT CONDITIONS:**

**Maintain minimum temperature** of 65oF (18oC) in spaces to receive resilient flooring for at least 2 weeks prior to installation, during installation, and for not less than 2 weeks after installation. Store resilient flooring materials

in spaces where they will be installed for at least 72 hours before beginning installation. Subsequently, maintain minimum temperature of 65oF (13oC) in areas where work is completed.

**Install resilient flooring and accessories** after other finishing operations, including painting, have been completed. Do not install resilient flooring over concrete slabs until the latter have been cured and are sufficiently dry to achieve bond with adhesive as determined by manufacturer's recommended bond and moisture test. Provide written certification of such compliance prior to installation.

**Storage:** Cartons of LVT flooring shall be evenly stacked no more than five high on a flat surface and away from heating and cooling ducts or direct sunlight.

## **PART 2 - PRODUCTS**

### **ACCEPTABLE MANUFACTURERS:**

**Manufacturer:** Subject to compliance with requirements, provide products of one of the following:

#### **LVT Flooring**

Moduleo Luxury Vinyl Tile and Plank LVT Click by IVC US Horizon Wood

#### **Manufacturers of solid Heat Welded Seam Vinyl:**

Tarkett, Optima  
Armstrong, Medintech  
Mannington BioSpec

#### **Manufacturers of Rubber Wall Base:**

Burke Flooring Products, Division  
Flexco Div., Textile Rubber Co.  
Roppe Rubber Corp.

### **RESILIENT FLOORING COLORS AND PATTERNS:**

**Provide color and patterns** as indicated, or if not otherwise indicated, as selected by Architect from manufacturer's complete line of colors.

### **VINYL SHEET FLOORING:**

Provide Homogeneous Vinyl Sheet Flooring, nonlayered and nonbacked, manufactured by Armstrong World Industries, Inc., or Tarkett, in color selected from the range currently available from manufacturers, 72 in. (1.83 m) wide, having a nominal total thickness of 0.080 in. (2.0 mm). The smooth, polyurethane-coated wear surface shall be composed of polyvinyl chloride resin, plasticizers, stabilizers, fillers, and pigments comprising a through-grain vinyl chip visual with pattern and color uniformly dispersed throughout the entire thickness. The design shall merge subtle color accents with a detailed, terrazzo-like image providing a monolithic appearance. Vinyl sheet flooring shall meet ASTM F 1913, "Standard Specification for Vinyl Sheet Floor Covering without Backing."

Provide solid color vinyl weld rod as produced by manufacturer, and intended for heat welding of seams. Color shall be compatible with field color of flooring or as selected by Architect to contrast with field color of flooring. Color selected from the range currently available from Manufacturer.

**WALL BASE MATERIALS @ VINYL SHEET FLOORING**

For integral flash cove base: Provide integral flash cove wall base by extending sheet flooring 6 in. (15.24 cm) up the wall using adhesive, welding rod, and accessories recommended and approved by the flooring manufacturer.

**ADHESIVES**

Provide Armstrong [S-575 Vinyl-Back Flooring Adhesive] [S-240 High-Performance Epoxy Flooring Adhesive] for field areas and Armstrong [S-580 Flash Cove Adhesive at flash coving] [S-725 Wall Base Adhesive at the wall base] as recommended by the flooring manufacturer. **8# Mastic is required.**

**ACCESSORIES**

For patching, smoothing, and leveling monolithic subfloors (concrete, terrazzo, quarry tile, ceramic tile, and certain metals), provide Armstrong [S-183 Fast-Setting Cement-Based Underlayment] [S-184 Fast-Setting Cement-Based Patch and Skim Coat] [S-194 Fast-Setting Cement-Based Patch and Underlayment].

For sealing joints between the top of wall base or integral cove cap and irregular wall surfaces such as masonry, provide plastic filler applied according to the manufacturer's recommendations.

Provide top edge trim caps of anodized aluminum for integral flash cove as approved by the Architect.

Provide a fillet support strip for integral cove base with a minimum radius of 1 in. (2.54 cm) of wood or plastic.

Provide transition/reducing strips tapered to meet abutting materials.

Provide threshold of thickness and width as shown on the drawings.

Provide resilient edge strips of width shown on the drawings, of equal gauge to the flooring, homogeneous vinyl or rubber composition, tapered or bullnose edge, with color to match or contrast with the flooring, or as selected by the Architect from standard colors available.

Provide metal edge strips of width shown on the drawings and of required thickness to protect exposed edges of the flooring. Provide units of maximum available length to minimize the number of joints. Use butt-type metal edge strips for concealed anchorage, or overlap-type metal edge strips for exposed anchorage. Unless otherwise shown, provide strips made of extruded aluminum with a mill finish.

**Rubber Wall Base:**

Provide rubber base complying with FS SS-W-40, Type I, with matching end stops and preformed or molded corner units, and as follows:

**Height:** 4"

**Thickness:** 1/8" gage

**Resilient Edge Strips:**

1/8" thick, homogeneous vinyl or rubber composition, tapered or bullnose edge, color to match flooring or as selected by Architect from standard colors available; not less than 1" wide.

**ACCESSORIES:**

**Adhesives (Cements):** Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions.

**Concrete Slab Primer:** Non-staining type as recommended by flooring manufacturer.

**Leveling Compound:** Latex type as recommended by flooring manufacturer.

**PART 3 - EXECUTION**

**INSPECTION:**

**Inspection:** Before starting installation work, examine the parts of the building affecting work under this section. If previous work prevents proper execution of work in this Section, have work corrected by trades responsible for the incorrect work. Do not proceed with work under this Section, until all corrections have been made.

Beginning of installation means acceptance of existing conditions.

Inspect subfloors prior to installation to determine that surfaces are free from curing, sealing, parting and hardening compounds; residual adhesives; adhesive removers; and other foreign materials that might prevent adhesive bond. Visually inspect for evidence of moisture, alkaline salts, carbonation, dusting, mold, or mildew.

Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.

Failure to call attention to defects or imperfections will be construed as acceptance and approval of the subfloor. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.

**PREPARATION:**

**Require Installer** to inspect subfloor surfaces to determine that they are satisfactory. A satisfactory subfloor surface is defined as one that is smooth and free from cracks, holes, ridges, coatings preventing adhesive bond, and other defects impairing performance or appearance. See certification requirements listed above.

**Prepare subfloor surfaces** as follows:

**Use leveling and patching compounds** as recommended by resilient flooring manufacturer for filling small cracks, holes and depressions in subfloors. Fill concrete slab cracks less than 1/16" wide and depressions less than 1/8" deep with crack filler. Correct cracks which are larger as per manufacturer's recommendations. Comply with Manufacturer specifications for levelness with a minimum of 1/8" in 20 lineal feet.

**Remove coatings** from subfloor surfaces that would prevent adhesive bond, including curing compounds incompatible with resilient flooring adhesives, paint, oils, waxes and sealers.

**Perform subfloor Calcium Chloride Tests** (and Bond Tests) as described in publication F-5061, "Armstrong Guaranteed Installation System," to determine if surfaces are dry; free of curing and hardening compounds, old adhesive, and other coatings; and ready to receive flooring.

**Broom clean or vacuum** surfaces to be covered, and inspect subfloor.

**Apply concrete slab primer**, if recommended by flooring manufacturer, prior to application of adhesive. Apply in compliance with manufacturer's directions.

**District Additional Requirements:**

Remove all subfloor ridges and bumps.

Fill spots, cracks, joints, holes, and other defects with subfloor filler.

Prohibit traffic from area until filler is cured.

Vacuum clean substrate to remove all loose debris.

**LVT Flooring Requirements:** As per mfr for concrete flatness, moisture, cleanliness and ph.

**INSTALLATION:**

**INSTALLATION, GENERAL:**



**Where movable partitions** are shown, install resilient flooring before partitions are erected.

**Install resilient flooring** using method indicated in strict compliance with manufacturer's printed instructions. Extend flooring into toe spaces, door reveals, and into closets and similar openings.

**Scribe, cut, and fit resilient flooring to permanent fixtures**, built-in furniture and cabinets, pipes, outlets and permanent columns, walls and partitions.

**Maintain reference markers**, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other non-permanent marking device.

**Install resilient flooring on covers** for telephone and electrical ducts, and other such items as occur within finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on these covers. Tightly cement edges to perimeter of floor around covers and to covers.

**Tightly cement resilient flooring** to subbase without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections. Hand roll resilient flooring at perimeter of each covered area to assure adhesion.

### **INSTALLATION OF SHEET FLOORING:**

**Install flooring** in strict accordance with the latest edition of "Armstrong Guaranteed Installation System", F-5061.

**Install flooring wall to wall** before the installation of floor-set cabinets, casework, furniture, equipment, movable partitions, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings as shown on the drawings.

**If required**, install flooring on pan-type floor access covers. Maintain continuity of color and pattern within pieces of flooring installed on these covers. Adhere flooring to the subfloor around covers and to covers.

**Scribe, cut, and fit** or flash cove to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets.

**Adhere flooring** to the subfloor without cracks, voids, raising and puckering at the seams. Roll with a 100-pound (45.36 kilogram) roller in the field areas. Hand-roll flooring at the perimeter and the seams to assure adhesion. Refer to specific rolling instructions of the flooring manufacturer.

**Lay flooring to provide a minimum number of seams**. Avoid cross seams, filler pieces, and strips. Match edges for color shading and pattern at the seams in compliance with the manufacturer's recommendations.

**Install flooring** with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel notching, open times, and working times.

**Prepare heat-welded seams** with special routing tool supplied for this purpose and heat weld with vinyl welding rod in seams. Use methods and sequence of work in conformance with written instructions of the flooring manufacturer. Finish all seams flush and free from voids, recesses, and raised areas.

**Provide integral flash cove** wall base where shown on the drawings, including cove fillet support strip and top edge cap trim. Construct flash cove base in accordance with the flooring manufacturer's instructions. Heat-weld seams as specified for those on the floor.

**INSTALLATION OF PLANKS:**

When using planks from two or more cartons, check to be sure all pattern and lot numbers are the same to ensure proper color match. On larger installations, open several cartons and mix them as they are installed to help blend any slight shade differences from one carton to the next.

Products with directional arrows on the back should be installed with the arrows all pointing the same direction unless you are installing custom layouts.

Before installing the material, plan the layout so plank joints fall at least 6 inches away from joints in concrete. Find the center point in the room. Divide the room into equal quadrants by marking two perpendicular lines on the subfloor intersecting at the center point. Depending on your layout, you may also start your row along the wall. Since walls are not always straight, snap a chalk line. Do not install over expansion joints.

Complete installation strictly according to manufacturer's instructions.

**INSTALLATION OF ACCESSORIES:**

**Apply wall base** to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required. Install base in lengths as long as practicable, with preformed corner units, or fabricated from base materials with mitered or coped inside corners. Tightly bond base to substrate throughout length of each piece, with continuous contact at horizontal and vertical surfaces.

**Apply overlap metal edge strips** where shown on drawings, and after flooring installation. Secure units to substrate with countersunk stainless steel anchors, complying with edge strip manufacturer's recommendations.

**Place resilient edge strips** tightly butted to flooring and secure with adhesive. Install edging strips at edges of flooring which would otherwise be exposed.

**CLEANING AND PROTECTION:**

**Perform following operations** immediately upon completion of resilient flooring:

**Sweep or vacuum** floor thoroughly.

**Do not wash floor** until time period recommended by resilient flooring manufacturer has elapsed to allow resilient flooring to become well-sealed in adhesive.

**Damp-mop floor** being careful to remove black marks and excessive soil.

**Remove any excess adhesive** or other surface blemishes, using appropriate cleaner recommended by resilient flooring manufacturers. Adhesive that continues to bleed up through joints will not be acceptable and will result in the subcontractor removing and replacing any such areas.

**Protect flooring** against damage during construction period to comply with resilient flooring manufacturer's directions.

**Protect resilient flooring** against damage from rolling loads for initial period following installation by covering with plywood or hardboard. Use dollies to move stationary equipment or furnishings across floors.

**Cover resilient flooring** with undyed, untreated building paper until inspection for substantial completion.

**EXTRA STOCK:**

Deliver stock of maintenance materials to Owner. Furnish maintenance materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.

**Sheet Flooring:** Furnish not less than 5 linear yards for each type, color and pattern installed.

**Plank Flooring:** Furnish not less than 2% additional planks for future repairs and replacements.

**END OF SECTION 09650**

**SECTION 09900 - PAINTING**

**PART 1 - GENERAL**

**RELATED DOCUMENTS**

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.

**SUMMARY**

**This Section includes** surface preparation, painting, and finishing of exposed interior and exterior items and surfaces.

Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.

**Paint exposed surfaces** whether or not colors are designated in "schedules," except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available.

**Painting includes** field painting exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.

**Painting** is not required on prefinished items unless noted, finished metal surfaces, concealed surfaces, operating parts, and labels.

**Prefinished items** not to be painted include the following factory-finished components:

- Metal toilet enclosures.
- Acoustic materials.
- Architectural casework.
- Finished mechanical and electrical equipment.
- Light fixtures.
- Switchgear.
- Distribution cabinets.

**Concealed surfaces** not to be painted include wall or ceiling surfaces in the following generally inaccessible areas:

- Furred areas.
- Pipe spaces.
- Duct shafts.

**Finished metal surfaces** not to be painted include:

- Anodized aluminum.
- Stainless steel.
- Chromium plate.
- Copper.
- Bronze.
- Brass.

**Operating parts** not to be painted include moving parts of operating equipment such as the following:

Valve and damper operators.  
Linkages.  
Sensing devices.  
Motor and fan shafts.

**Labels:** Do not paint over Underwriter's Laboratories, Factory Mutual or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

**Related Sections:** The following sections contain requirements that relate to this section:

**Division 6 Section "Architectural Woodwork"** for shop priming architectural woodwork. **Division 7**

**Section 7 "Water Repellants"** for exterior sealer of CMU.

**Division 8 Section "Steel Doors"** for shop priming steel doors.

## **DEFINITIONS**

**"Paint"** includes coating systems materials, primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate, or finish coats.

## **SUBMITTALS**

**Product Data:** Manufacturer's technical information, label analysis, and application instructions for each material proposed for use.

List each material and cross-reference the specific coating and finish system and application. Identify each material by the manufacturer's catalog number and general classification.

**Samples for initial color selection** in the form of manufacturer's color charts.

After color selection, the Architect will furnish color chips for surfaces to be coated.

**Samples for verification purposes:** Provide samples of each color and material to be applied, with texture to simulate actual conditions, on representative samples of the actual substrate. Define each separate coat, including block fillers and primers. Use representative colors when preparing samples for review. Resubmit until required sheen, color, and texture are achieved.

Provide a list of material and application for each coat of each sample. Label each sample as to location and application.

Submit samples on the following substrates for the Architect's review of color and texture only:

**Painted Wood:** Provide two 12- by 12-inch samples of each color and material on specified wood.

## **QUALITY ASSURANCE**

**Single-Source Responsibility:** Provide primers and undercoat paint produced by the same manufacturer as the finish coats.

**Coordination of Work:** Review other sections in which primers are provided to ensure compatibility of the total systems for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

Notify the Architect of problems anticipated using the materials specified.

**Material Quality:** Provide the manufacturer's contractors line paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.

**Proprietary names** used to designate colors or materials are not intended to imply that products named are required or to exclude equal products of other manufacturers.

**FINAL FINISH COATS SHALL NOT BE APPLIED UNTIL DIRECTED BY THE GENERAL CONTRACTORS PROJECT SUPERINTENDENT.**

### **DELIVERY, STORAGE, AND HANDLING**

**Deliver materials** to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:

- Product name or title of material.
- Product description (generic classification or binder type). Federal Specification number, if applicable.
- Manufacturer's stock number and date of manufacture. Contents by volume, for pigment and vehicle constituents. Thinning instructions.
- Application instructions.
- Color name and number.

**Store materials** not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.

Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

### **JOB CONDITIONS**

**Apply water-based paints** only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 deg F (10 deg C) and 90 deg F (32 deg C).

**Apply solvent-thinned paints** only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 deg F (7 deg C) and 95 deg F (35 deg C).

**Do not apply paint** in snow, rain, fog, or mist, when the relative humidity exceeds 85 percent, at temperatures less than 5 deg F (3 deg C) above the dew point, or to damp or wet surfaces.

Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by the manufacturer during application and drying periods.

### **EXTRA STOCK:**

Provide two gallons in unopened, original container of each color and surface texture to Owner, minimum. Label each container with color, color mix formula, texture and room locations, in addition to the manufacturer's label.

**COLORS:**

Provide draw downs of all colors selected on 8.5 x 11 standard sheets for control samples. Keep one set of approved draw downs on the job at all times. Colors will be selected based on full range of colors provide by manufacturer. Colors may vary between classroom pods and shall be provided at no additional cost.

**PART 2 - PRODUCTS**

**MANUFACTURERS**

**Manufacturer:** Subject to compliance with requirements, provide products of one of the following: (If specific product not listed for each mfr., submit equal product to architect for approval prior to bidding)

ICI  
Rodda Paint Co.  
Benjamin Moore and Co. (Moore).  
Pratt and Lambert (P & L).

**PRIMERS**

**Latex-Based Interior White Primer:** Latex-based primer coating used on interior gypsum drywall under a flat latex paint or alkyd semigloss enamel.

**ICI:** Ultra Hide PVA Interior Primer-Sealer  
**Rodda:** Rodda Roseal PVA #507701X  
**Moore:** Moore's Latex Quick-Dry Prime Seal #201.  
**P & L:** Latex Wall Primer Z96

**Synthetic, Rust-Inhibiting Primer:** Quick-drying, rust-inhibiting primer for priming ferrous metal on the exterior under full-gloss and flat alkyd enamel and on the interior under flat latex paint or odorless alkyd semigloss or alkyd gloss enamels:

**ICI:** Devoe Devguard 4160  
**Rodda:** Rodda Barrier III #708001X  
**Moore:** Iron-Clad Retardo Rust-Inhibitive Paint #163.  
**P & L:** TechGuard Primer S4551

**Galvanized Metal Primer:** Primer used to prime interior and exterior zinc-coated (galvanized) metal surfaces:

**ICI:** Devoe Devguard 4020  
**Rodda:** Rodda Galva-Cling #74079X  
**P & L:** Galvanized Metal Primer Z1308  
**Moore:** Ironclad Galvanized Metal Latex Primer #155.

**A NEW MAIN STATION**

**Exterior Primer Coating:** Exterior alkyd wood primer for priming wood & under latex or alkyd gloss enamels, flat lusterless finish, and wood trim under medium shade or deep color high-gloss alkyds:

**ICI:** Ultra-Hide Durus Primecoat 2110  
**Rodda:** Rodda Control Primer #701501X  
**Moore:** Moorwhite Primer #100  
**P & L:** Prohide Alkyd Primer C 29

**MASONRY BLOCK FILLER: High Performance Latex-Block Filler:** Heavy Duty interior latex block filler used for filling open textured interior and exterior concrete masonry block before application of top coats.

**ICI:** Devoe 4000 Bloxfil Acrylic Latex Block Filler  
**Rodda:** Rodda Block Filler #501901X  
**Moore:** Moorecraft Block Filler #173.  
**P & L:** Pro-Hide Plus Block Filler.

**UNDERCOAT MATERIALS**

**Interior Enamel Undercoat:** Ready-mixed enamel for use as an undercoat over a primer on ferrous or zinc-coated metal under interior alkyd semigloss enamel or a full-gloss alkyd enamel:

**ICI:** Devguard Rustguard 4160  
**Rodda:** Rodda Variseal #703401X.  
**Moore:** Moore's Alkyd Enamel Underbody #217.  
**P & L:** Interior Trim Primer.

**EXTERIOR FINISH PAINT MATERIAL**

**Exterior Acrylic Semi-Gloss Latex:** A latex house and trim paint for wood surfaces and primed surfaces.

**ICI:** Dulux Pro 2406 Exterior 100% Acrylic Satin Latex  
**Rodda:** Rodda AC-909 #52110XX  
**Moore:** MooreGlo House and Trim Paint  
**P & L:** Prohide Plus House Paint

**Exterior Alkyd Semi-Gloss:** A latex house and trim paint for wood surfaces and primed surfaces, and metal doors and frames.

**ICI:** Ultra-Hide Durus 2516 Exterior Alkyd Semi-Gloss Finish  
**Rodda:** Rodda Porsalite Semi-Gloss #74500XX.  
**Moore:** Moorglo #096

**INTERIOR FINISH PAINT MATERIAL**

**Interior Latex Eggshell Enamel:** A premium quality water-thinned, vinyl acrylic latex enamel for interior use on new or previously painted wallboard, plaster or masonry surfaces; primed or previously painted wood and metal.

**ICI:** Ultra-Hide Latex Eggshell Interior Wall & Trim Enamel 1432  
**Rodda:** Rodda Unique Eggshell Acrylic #54200XX.



**Moore:** Regal AquaVelvet 319  
**P & L:** Prohide latex Satin

**STAINED WOODWORK:**

**Stained-Varnish Rubbed Finish:** A penetrating oil stain made with permanent, non-bleeding pigments for use on interior wood trim, & doors.

**ICI:** WoodPride Wood Finishing Stain 1700  
**Rodda:** Rodda Modern Wood Stain #71600XX  
**Moore:** Benwood Penetrating Stain 234

**Sanding Sealer:** Quick drying, rosin-free, clear, general purpose sanding sealer for use on the interior over stained and natural -finished woodwork for a clear finish.

**ICI:** Wood Pride Interior Quick Dry Sanding Sealer 1916.  
**Rodda:** Rodda Quick Drying Sanding Sealer #705100XX.  
**Moore:** 413 Moore's Interior Wood Finishes Quick Dry Sanding Sealer

**Paste Wood Filler:** Solvent based, air-drying, paste-type wood filler for use on open grained wood on interior wood surfaces:

**Moore:** Benwood Paste Wood Filler.

**Oil Rubbing Varnish:** Clear, oil-type rubbing semi- gloss varnish for use on interior stained or natural-finished woodwork, such as trim and doors.

**ICI:** WoodPride Interior Satin Polyurethane Varnish 1802  
**Rodda:** Rodda AquaMaster Polyurethane Varnish # 745100X  
**Moore:** Benwood Acrylic Polyurethane Varnish 422

**Interior Semi-Gloss Alkyd Enamel:** A premium quality soyz alkyd semi-gloss enamel for interior use on new or previously painted hollow metal doors and frames or other metal surfaces.

**ICI:** Dulux Ultra Traditional Alkyd Semi-Gloss 1507  
**Rodda:** Rodda Porsalite Semi-Gloss #74510XX  
**Moore:** Moore's Alkyd Dulamel  
**P & L:** Prohide Alkyd Semi-Gloss Enamel

**Interior Two-Part Epoxy Enamel:** A premium quality 2 part epoxy semi-gloss enamel for interior use on new restroom walls.

**ICI:** Tru-Glaze WB 4408  
**Moore:** Moore's Acrylic Epoxy M43

**END OF PART A - SECTION 09900**

**PART B - SECTION 09900**

**PART 3 - EXECUTION**

**EXAMINATION**

Examine substrates and conditions under which painting will be performed for compliance with requirements for application of paint. Do not begin paint application until unsatisfactory conditions have been corrected.

Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

**FINAL FINISH COATS SHALL NOT BE APPLIED UNTIL DIRECTED BY THE GENERAL CONTRACTORS PROJECT SUPERINTENDENT.**

**PREPARATION**

**General Procedures:** Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items if necessary for complete painting of the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.

Clean surfaces before applying paint or surface treatments. Remove oil and grease prior to cleaning. Schedule cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

**Surface Preparation:** Clean and prepare surfaces to be painted in accordance with the manufacturer's instructions for each particular substrate condition and as specified.

Provide barrier coats over incompatible primers or remove and reprime. Notify Architect in writing of problems anticipated with using the specified finish-coat material with substrates primed by others.

**Cementuous Materials:** Prepare concrete, concrete masonry blocks, cement plaster, exterior insulation and finish systems, and mineral-fiber reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.

Use abrasive blast-cleaning methods if recommended by the paint manufacturer.

Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturers printed directions.

**Wood:** Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.

Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer before application of primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.

Prime, stain, or seal wood to be painted immediately upon delivery. Prime edges, ends, faces, undersides, and backsides of wood, including cabinets, counters, cases, and paneling. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately upon delivery.

**Gypsum Board:** Clean surfaces of dirt, oil, and other foreign substances as required. Sand surfaces exposed to view smooth and dust off. **Prime gypsum board prior to receiving texture coat, and have architect inspect to verify coverage,** and again after texture coat has been applied. Verify that no bleeding through of taped joints are visible prior to proceeding with finish coats.

**Ferrous Metals:** Clean nongalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with recommendations of the Steel Structures Painting Council.

Blast steel surfaces clean as recommended by the paint system manufacturer and in accordance with requirements of SSPC specification SSPC-SP 10.

Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.

**Touch up bare areas and shop-applied prime coats** that have been damaged. Wire-brush, clean with solvents recommended by the paint manufacturer, and touch up with the same primer as the shop coat.

**Galvanized Surfaces:** Clean galvanized surfaces with non-petroleum-based solvents so that the surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

**Materials Preparation:** Carefully mix and prepare paint materials in accordance with manufacturer's directions.

Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.

Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

Use only thinners approved by the paint manufacturer, and only within recommended limits.

## **APPLICATION**

Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.

Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.

Paint colors, surface treatments, and finishes are indicated in "schedules."

Provide finish coats that are compatible with primers used.

The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even smooth surface in accordance with the manufacturer's directions.

Apply additional coats when undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.

The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convactor covers, covers for finned tube radiation, grilles, and similar components are in place. Extend coatings in these areas as required to maintain the system integrity and provide desired protection.

Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture with prime coat only before final installation of equipment.

Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, nonspecular black paint.

Paint back sides of access panels and removable or hinged covers to match exposed surfaces.

Finish exterior doors on tops, bottoms, and side edges same as exterior faces.

Sand lightly between each succeeding enamel and varnish coat.

Omit primer on metal surfaces that have been shop-primed and touch up painted.

**Scheduling Painting:** Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure and where application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

**Minimum Coating Thickness:** Apply materials at not less than the manufacturer's recommended spreading rate. Provide a total dry film thickness of the entire system as recommended by the manufacturer.

**Mechanical and Electrical Work:** Painting mechanical and electrical work is limited to items exposed in mechanical equipment rooms and in occupied spaces.

**Mechanical items** to be painted include but are not limited to:

Piping, pipe hangers, and supports.  
Supports.

**Electrical items** to be painted include but are not limited to:

Conduit and fittings.

**Prime Coats:** Before application of finish coats, apply a prime coat of material as recommended by the manufacturer to material that is required to be painted or finished and has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to assure a finish coat with no burn through or other defects due to insufficient sealing.

**Pigmented (Opaque) Finishes:** Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

**Completed Work:** Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

**FIELD QUALITY CONTROL**

**FINAL FINISH COATS SHALL NOT BE APPLIED UNTIL DIRECTED BY THE GENERAL CONTRACTORS PROJECT SUPERINTENDENT.**

The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied:

The Owner will engage the services of an independent testing laboratory to sample the paint material being used. Samples of material delivered to the project will be taken, identified, sealed, and certified in the presence of the Contractor.

The testing laboratory will perform appropriate tests for the following characteristics as required by the Owner:

- Quantitative materials analysis.
- Abrasion resistance.
- Apparent reflectivity.
- Flexibility.
- Washability.
- Absorption.
- Accelerated weathering.
- Dry opacity.
- Accelerated yellowness.
- Recoating.
- Skinning.
- Color retention.
- Alkali and mildew resistance.

If test results show material being used does not comply with specified requirements, the Contractor may be directed to stop painting, remove noncomplying paint, pay for testing, repaint surfaces coated with rejected paint, and remove rejected paint from previously painted surfaces if, upon repainting with specified paint, the two coatings are noncompatible.

**Bid shall allow for exterior materials located above the belly accent band to be painted a contrasting color to the body below. Bid shall allow for one accent color wall in the lobby, training room, day room, sleeping rooms, and conference room.**

**CLEANING**

**Cleanup:** At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.

Upon completion of painting, clean paint-spattered surfaces, including glass. Remove spattered paint by washing and scraping, using care not to scratch or damage adjacent finished surfaces.

## **PROTECTION**

Protect work of other trades, whether to be painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.

Provide "wet paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.

At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

## **EXTERIOR PAINT SCHEDULE**

**General:** Provide the following paint systems for the various substrates indicated.

**Ferrous Metal:** Primer is not required on shop-primed items.

**Full-Gloss Alkyd Enamel:** 2 finish coats over primer.

**Primer:** Synthetic Rust-Inhibiting Primer (FS TT-P-664).

**First Coat:** Exterior Semi-Gloss Enamel (FS TT-E-489).

**Second Coat:** Exterior Semi-Gloss Enamel (FS TT-E-489).

**Zinc-Coated Metal:**

**High-Gloss Alkyd Enamel:** 2 finish coats over primer.

**Primer:** Galvanized Metal Primer (FS TT-P-641).

**First Coat:** Exterior Semi-Gloss Enamel (FS TT-E-489).

**Second Coat:** Exterior Semi-Gloss Enamel (FS TT-E-489).

**Painted Wood Soffits & Trim:**

**Acrylic Latex Satin Paint Finish:**

2 finish coats total, over primer. 3 coats at unprimed wood. Backpriming and primer shall be factory applied. Provide backprime and primer for 2x trim and touch up primer and backprimer at all cuts, as an additional coat. Finish coats shall be exterior acrylic latex satin paint. All coats shall be spray applied and backrolled.

**Painted Cement Siding:**

**Acrylic Latex Satin Paint Finish:**

2 finish coats total, over primer. 3 coats at unprimed product. Backpriming, and primer shall be factory applied. Provide backprime and primer for 2x trim and touch up primer and backprimer at all cuts, as an additional coat. Finish coats shall be exterior acrylic latex satin paint. All coats shall be spray applied and backrolled, and or brushed.

**Exterior Stone & Masonry Units:**

See Section 07175 Water Repellents and apply as specified.  
See Section 077160 Bituminous Dampproofing for concealed CMU located on exterior walls behind wood furring and siding.

**INTERIOR PAINT SCHEDULE**

**General:** Provide the following paint systems for the various substrates, as indicated.

**Gypsum Drywall Systems:**

**Interior Latex Eggshell Enamel Finish:** 4 coats with total dry film thickness not less than 2.8 mils.

<b><u>Primer prior to Texture:</u></b>	Interior Latex-Based White Primer (FS TT-P-65 0).
<b><u>Primer after Texture:</u></b>	Interior Latex-Based White Primer (FS TT-P-650).
<b><u>First Coat:</u></b>	Interior Latex-Based Eggshell Enamel (FS TT-P-650).
<b><u>Second Coat:</u></b>	Interior Latex-Based Eggshell Enamel (FS TT-P-650).

**(Use epoxy paint system where noted on finish schedule in areas of moisture)**

**Stained Woodwork & Doors:**

<b><u>Stain Coat:</u></b>	Wiping Wood Stain
<b><u>First Coat:</u></b>	Interior Varnish Sanding Sealer
<b><u>Second Coat:</u></b>	Interior Satin Varnish
<b><u>Third Coat:</u></b>	Satin Varnish

**Ferrous Metal: Semigloss Enamel Finish:** 2 coats over primer with total dry film thickness not less than 2.5 mils.

<b><u>Primer:</u></b>	Synthetic Rust-Inhibiting Primer (FS TT-P-664).
<b><u>Undercoat:</u></b>	Interior Enamel Undercoat (FS TT-E-543).
<b><u>Finish Coat:</u></b>	Interior Semi gloss Odorless Alkyd Enamel (FS TT-E-509).

**Exposed Interior CMU Walls:** 1 ct. block filler, 1 ct. primer, 2 coats semi-gloss alkyd finish.

**END OF SECTION 09900**