

B. Welding: Weld corners and seams continuously. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. All exposed connections, finish welds and surfaces smooth with contour of welded surface matching those adjacent.

C. Fabricate pipe bollards/guard posts from 6" dia. x 8' Schedule 40 steel pipe to be filled with concrete.

D. STEEL AND IRON FINISHES

1. Prepare uncoated ferrous metal surfaces to comply with SSPC-SP 3, "Power Tool Cleaning," and paint with a rust-inhibitive primer complying with performance requirements of F5 TT-P64.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Perform cutting, drilling, and leveling required for installing miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack.

B. Fit exposed connections accurately together to form hinged joints.

C. Install pipe bollards/guard posts 3/8" below grade into 24" dia. hole filled with concrete.

END OF SECTION 0550

SECTION 0610 - MISCELLANEOUS CARPENTRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Model code evaluation reports for engineered wood products.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

A. Dressed Lumber, S4S, 19 percent maximum moisture content for 2-inch (38-mm) thickness or less, marked with grade stamp of inspection agency.

2.2 TREATED MATERIALS

A. Pressure-Treated Materials: AWPAC2 lumber and AWPAC3 plywood, labeled by an inspection agency approved by AISC's Board of Review. After treatment, kiln-dry lumber and plywood to 19 and 15 percent moisture content, respectively. Use treated framing members in contact with masonry or concrete.

1. Concealed members in contact with masonry or concrete.

2. Wood framing members less than 18 inches (460 mm) above grade.

3. Wood floor plates installed over concrete slabs directly in contact with earth.

2.3 LUMBER

A. Miscellaneous Lumber: No. 3 or Standard grade of any species for railors, blocking, and similar mem-bers.

2.4 PANEL PRODUCTS

A. Wood-Based Structural-Use Panels: DOC PS 2. Provide plywood complying with DOC PS 1, where plywood is indicated.

1. Factory mark panels evidencing compliance with grade requirements.

2. Miscellaneous Concealed Panels: APA-rated sheathing, Exposure 1, span rating to suit framing in each location.

3. Miscellaneous Exposed Plywood: A-D Interior, thickness as indicated, but at least 1/2 inch (12.7 mm).

2.5 MISCELLANEOUS PRODUCTS

A. Fasteners of size and type indicated. Where carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of Type 304 stainless steel.

1. Power-Driven Fasteners: CABO NER-272.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Fit carpentry to other construction; scribe and cope for accurate fit. Correlate location of furring, block-ing, and similar supports to allow attachment of other construction.

B. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.

C. Installation of Structural-Use Panels: Comply with applicable recommendations contained in APA Form No. E30.

END OF SECTION 0610

SECTION 06402 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. The general provisions of the contract, including General and Supplementary Conditions and Division 1-General Requirements, apply to the work specified in this section.

B. Submittals: Product Data for high-pressure, decorative laminates, Shop Drawings and Samples showing the full range of colors, textures, and patterns available for each type of finish.

C. Quality Standard: Architectural Woodwork Institute's "Architectural Woodwork Quality Standards."

D. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet-work is completed, and HVAC system is operating.

E. Work Included:

1. All finish carpentry items such as cabinetry, laminated surfaces, etc.

2. Delivery of all millwork items to job site.

3. Cabinet hardware.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Hardboard: AHA A133.4.

B. Medium-Density Fiberboard: ANSI A208.2.

C. Particleboard: ANSI A208.1, Grade M-2.

D. Softwood Plywood: PS 1.

E. Hardwood Plywood and Face Veneers: HPVA HP-1.

F. High-Pressure Decorative Laminate: NEMA LD 3.

1. Formica Corporation.

2. Newdecor Laminates.

3. Wilsonart International.

4. Colors and Patterns: As selected by Architect from manufacturer's full range of available samples.

5. Thermoseal Decorative Overlay: Comply with ALA 1992.

H. Stairwell Display Board: White laminate or melamine over medium density fiberboard (MDF), grooved at 4" centers, with mill finish aluminum metal inserts.

1. Spacewall International, Low Pressure Laminate (LPL).

2. Marfilite #104203 Displayboard DW6750 with 9101 inserts.

D. CABINET HARDWARE AND ACCESSORY MATERIALS

A. Hardware Standard: Comply with BHMA A156.9 for items indicated by reference to BHMA numbers or referenced to this standard.

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

1. Finish: Satin Chrome, BHMA 626 or BHMA 652.

C. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to 15 percent moisture content.

2.3 INTERIOR WOODWORK

A. Complete fabrication before shipping to Project site to maximum extent possible. Disassemble only as needed for shipping and installing. Where necessary for fitting at Project site, provide for scribing and trimming.

B. Backout or groove backs of flat trim members, kerf backs of other wide, flat members, except for mem-bers with ends exposed in finished work.

C. Laminate-Cast Cabinets (Plastic-Covered Casework): Custom grade.

1. AWI Type of Cabinet Construction: Flush overlay.

2. Laminate Cladding: Horizontal surface other than tops, HGS; postformed surfaces, HGP; vertical surfaces, HGS; Edges, PVC tape; semiexposed surfaces, thermoseal decorative overlay.

3. Drawer Slides and Backs: Thermoseal decorative overlay.

4. Drawer Bottoms: Thermoseal decorative overlay.

5. Plastic-Laminate Countertops: Custom grade.

1. Laminate Grade: HGS.

2. Grain Direction: Parallel to cabinet fronts.

3. Edge Treatment: Same as laminate cladding on horizontal surfaces.

2.4 INSTALLATION

A. Condition woodwork to prevailing conditions before installing.

B. Install woodwork to comply with AWI Section 1700 for grade specified.

C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install to a tolerance of 1/8 inch in 96 inches (8 mm in 2400 mm) for level and plumb.

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

E. Install trim with minimum number of joints possible, using full-length pieces to the greatest extent possible. Stagger joints in adjacent and related members.

F. Anchor countertops securely to base units. Seal space between backplash and wall.

2.5 CABINET HARDWARE AND ACCESSORY SCHEDULE

A. Concealed (European-Type) Hinges: B01602.

B. Pulls: See Drawings.

C. Drawer Slides: Side-mounted, zinc-plated steel drawer slides with steel ball bearings, complying with BHMA A156.9, Grade 1 and rated for the following loads:

1. Box Drawer Slides: 100 lbf (440 N).

2. File Drawer Slides: 200 lbf (890 N).

3. Pencil Drawer Slides: 45 lbf (200 N).

D. Grommets for cable passage through countertops: 2-inch (50-mm) OD black, molded-plastic grommets with black plastic cap.

END OF SECTION 06402

SECTION 07210 - BUILDING INSULATION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data for each type of insulation product specified.

B. Insulation provided as part of the Portland Cement Plaster (Stucco) specified in Section 09220.

C. Insulation provided as part of the Pre-Engineered Metal Building specified in Section 13125.

PART 2 - PRODUCTS

2.1 INSULATION PRODUCTS

A. Mineral-Fiber-Blanket Insulation: ASTM C 665, Type III, Class A, foil-scrim-kraft, foil-scrim, or foil-scrim-polyethylene vapor-resistor membrane on one face with fibers manufactured from glass, slag wool, or rock wool.

1. R-Value: 11, unless otherwise indicated on Drawings.

2. Location: Above and supported by Acoustical Grid Ceiling (AGC).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install insulation in areas and in thicknesses indicated or required to produce R-values indicated. Cut and fit tightly around obstructions and fill voids with insulation.

END OF SECTION 07210

SECTION 07620 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Scope: This section covers the furnishing of all labor, equipment and material to complete the Sheet Metal Flashing and Trim as shown on the drawings and specified herein.

B. The general provisions of the contract, including General and Supplementary Conditions and Division 1-General Requirements, apply to the Work specified in this section.

C. Submittals: Product Data, Shop Drawings, and Samples.

PART 2 - PRODUCTS

2.1 SHEET METAL

A. Hot-Dipped Galvanized Prefinished Metal: ASTM A448-86 Grade C G90 Coating A525-86 24 gauge core steel or prefinished Galvalume ASTM 792-96 A52.

1. Finish shall be full strength Kynar 500 fluoropolymer coating, applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.70 to 0.90 mil over 0.25 to 0.35 mil prime coat, to provide a total dry film thickness of 0.95 to 1.25 mil.

2. Color: As selected from full range of manufacturers standard colors.

3. Strippable film shall be applied to the top side of the painted coil to protect the finish during fabri-cation, shipping and field handling. This strippable film must be removed before installation.

2.2 FLASHING AND TRIM

A. Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item in-dicated.

B. Fabricate sheet metal items in thickness or weight needed to comply with performance requirements but not less than that listed below for each application and metal.

1. Exposed Trim (Window Trim): Fabricate from the following material:

A. Hot-Dipped Galvanized Prefinished Metal: 0.0276 inch (0.7 mm) thick.

2.3 ACCESSORIES

A. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with metal being fastened.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Unless otherwise indicated, install sheet metal flashing and trim to comply with performance re-quirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Anchor units of Work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently weathertight and watertight.

B. Treated Materials

1. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.

2. Repair, Refill, or Replace: Repair or replace doors damaged during installation, as directed by Architect.

3. Separations: Separate metal from noncompatible metal or corrosive substrates by coating concealed sur-faces, at locations of contact, with asphalt mastic or other permanent separation as recommended by manufacturer.

3.2 CLEANING AND PROTECTION

A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

B. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

C. Remove all scrap and construction debris from the site.

END OF SECTION 07620

SECTION 07920 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Scope: This section covers the furnishing of all labor, equipment and material to complete the Joint Seal-ants as shown on the drawings and specified herein.

B. The general provisions of the contract, including General and Supplementary Conditions and Division 1-General Requirements, apply to the Work specified in this section.

C. Submittals: Product Data and color Samples.

D. Work Included:

1. All exterior joints of materials and expansion joints.

2. Exterior perimeter of window frames, doorframes, louvers, etc.

3. All interior joints of dissimilar materials where movement can be expected due to shrinkage, settlement, etc.

4. Joints between ceramic tile and other building materials.

5. Joints between countertops and backsplashes and adjoining walls.

6. Joints in exterior paving, exterior walls and sidewalks.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS

A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions.

B. Elastomeric Sealants: Comply with ASTM C 550.

1. Multi-component, nonsag urethane sealant, Type M; Grade NS; Class 25; and Uses NT, M, A, and O. For exterior joints in masonry walls and general exterior use between dissimilar materials.

2. Single-component, pourable urethane sealant, Type S; Grade P, Class 25; Uses T, M, G, A, and O. Use for exterior traffic-bearing joints.

3. Single-component, mildew-resistant silicone sealant, Type S; Grade NS; Class 25; Uses NT, G, A, and O; formulated with fungicide. Use for interior sealants in ceramic tile, and other hard surfaces in toilet rooms and around plumbing fixtures.

C. Latex Sealant: Single-component, nonsag, mildew-resistant, paintable, acrylic-emulsion sealant complying with ASTM C 834. For interior use only at perimeter of doors and window frames.

D. Acoustical Sealant for Exposed Joints: Nonsag, paintable, nonstaining, latex sealant complying with ASTM C 834. For interior use only at acoustical assemblies.

2.2 JOINT FILLERS FOR CONCRETE PAVING

A. Bituminous Fiber Joint Filler: Preformed strips of asphalt saturated fiberboard, complying with ASTM D 1751, in thicknesses as indicated.

2.3 JOINT SEALANT BACKING

A. Plastic Foam Joint Filler: Preformed compressible, resilient, nonstaining, nonwaxing, nonextruding strips of flexible plastic foam of material in size, shape and density to control sealant depth and otherwise con-tribute to producing optimum sealant performance.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Comply with ASTM C 1193.

C. Comply with ASTM C 919 for use of joint sealants in acoustical applications.

D. Install sealants by proven techniques to comply with the following and at the same time backings are in-stalled:

1. Piece substrates so they directly contact and fully wet joint substrates.

2. Completely fill recesses provided for each joint configuration.

3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Clear off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

F. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

END OF SECTION 07920

SECTION 08160 - PREFINISHED STEEL DOORFRAMES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. The general provisions of the contract, including General and Supplementary Conditions and Division 1-General Requirements, apply to the Work specified in this section.

B. Submittals: Provide the following:

1. Shop Drawings: Indicate frame elevations, reinforcement, anchor types and spacings, location of cut-outs for hardware and finish.

2. Manufacturer's Installation Instructions: Indicate special installation instructions.

C. Anchor frame with one (1) drywall screw adjacent to each casing clip.

C. Comply with ANSISD 100.

D. Fire-Rated Door Assemblies: NFPA 80, tested per ASTM E 152, and labeled and listed by UL, ITS, or another testing and inspecting agency acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Rediflame, Dumbarton Corp., Dothan, AL.

2. Timely Industries, Inc., Pacoima, CA.

2.2 STEEL DOORFRAMES

A. Fabricate steel frames to be rigid, neat in appearance, and free from defects, warp, or buckle.

1. Interior Frames: Formed from 0.0269-inch- (0.9 mm) (20 ga) thick, cold-rolled sheet steel con-forming to ASTM A 368.

2. Anchor frame with one (1) drywall screw adjacent to each casing clip.

1. Fasteners: Type 'G' drywall screws, 1-1/4" min.

C. Prepare frames to receive mortise and concealed hardware according to SDI 107.

1. All frames to have 14 gauge hinge-reinforcement plates with extruded tapered holes, for a mini-mum of 3/16" thread penetration depth.

D. Strikes: Provide adjustable 2-3/4" strike.

E. Provide standard, field-applied reinforcement for surface mounted hardware.

F. Provide UL-listed, fire-rated frames as shown in Door Schedule on Drawings.

G. Door Silencers: Provide on strike jambs of single-door frames and on heads of double-door frames.

H. Factory Finish: Impact-resistant polyester baked enamel.

1. Steel: Chemically cleaned, bonderized, primed and painted in coils.

2. Provide aerosol touch-up paint for after installation, on-site repair as recommended by manufac-turer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that rough opening sizes and wall thicknesses are acceptable.

C. Verify finish hardware requirements for each opening to provide proper reinforcement, preparation and anchorage.

3.2 INSTALLATION

A. Coordinate installation with other trades to avoid conflict.

B. Place steel frames to comply with SDI 105.

C. Use actual door in opening to assure proper alignment and clearances.

D. Anchor frame with one (1) drywall screw adjacent to each casing clip.

E. Align all parts with proper clearance to allow fit, light trimmers and desired performance.

F. Cleaning: Wipe frames with moist cloth and mild glass cleaner to remove grease, dust or other debris.

G. Factory Finish Repair: Immediately after erection, repair any damaged finish with manufacturer supplied touch-up paint.

H. Replace any frames shown to be defective under the terms of the manufacturer's warranty.

END OF SECTION 08160

SECTION 08211 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Samples for flush wood doors.

B. Quality Standard: NMDMA 1.S.1-A.

C. Fire-Rated Wood Doors: Labeled by a testing and inspecting agency acceptable to authorities having jurisdiction based on testing per NFPA 252. Test at atmospheric pressure.

PART 2 - PRODUCTS

2.1 FLUSH WOOD DOORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Mohawk Flush Doors, Inc.

B. Doors for Plain Finish: Custom grade.

C. Finish: 1-1/4" x 1/8" tempered hardboard.

2. Primer: White oil silk sides.

C. Interior Veneer-Faced Solid Core Doors: Particleboard core with stiles and rails securely bonded to core.

D. Blocking for Doors with Particleboard Cores: Top rail blocking at crossovers and mid-rail blocking at exit devices.

E. Fire-Rated Solid Core Doors: Core construction to provide fire-rating indicated, faces and grade to match non-fire-rated doors.

1. Composite blocking where required, to eliminate through-bolting hardware.

2. Laminated-edge construction.

3. Formed steel edges and astragals for pairs of fire-rated doors.

2.2 FABRICATION AND FINISHING

A. Factory fit doors to suit frame-opening sizes indicated and to comply with referenced quality standard.

1. Comply with NFPA 80 for fire-resistance-rated doors.

2. Factory machine doors for hardware that is not surface applied.

C. Cut and trim openings to comply with referenced standards.

1. Trim light openings with moldings indicated.

2. Factory install louvers in prepared openings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install doors to comply with referenced quality standard.

1. Install fire-rated doors to comply with NFPA 80.

B. Align fit doors in frames with uniform clearances and bevels. Machine doors for hardware. Seal cut surfaces after fitting and machining.

C. Align factory-fitted doors in frames for uniform clearances.

D. Repair, refinish, or replace doors damaged during installation, as directed by Architect.

END OF SECTION 08211

SECTION 08334 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data and Shop Drawings.

B. Installer Qualifications: Engage an experienced installer who is an authorized representative of the over-head coiling door manufacturer for both installation and maintenance of units required for this project.

PART 2 - PRODUCTS

2.1 OVERHEAD COILING DOORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. The Cookson Company.

2. Cornell Iron Works.

3. Raynor Garage Doors.

B. Door Curtain Slats: Galvanized steel, 20 gauge, flat slats.

C. Bottom Bar: Manufacturer's standard continuous channel, tubular shape or 2 angles, finished to match grille.

D. Head: Form to entirely enclose coiled curtain and operating mechanism at opening head. Fabricate steel hoods not less than 24 gauge thick and finished to match the curtain.

E. Finish: Powder coating polyester finish system, with color selected from manufacturer's full range of available finishes

F. Operation: Manual with side bolt for locking with padlock (supplied by Owner) for Doors #5 & #6.

G. Operation: Jack-shaft type electric operator for Door #7.

H. Tracks, Supports, and Hardware: Manufacturer's standard.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install doors and operating equipment complete with necessary hardware, according to Shop Drawings, manufacturer's written instructions, and as specified.

B. Lubricate bearings and sliding parts; adjust doors to operate easily, free from warp, twist or distortion and fitting tight for entire perimeter.

END OF SECTION 08334

SECTION 08411 - ALUMINUM-FRAMED STOREFRONTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Scope: This section covers the furnishing of all labor, equipment and material to complete the Aluminum-Framed Storefronts as shown on the drawings and specified herein.

B. The general provisions of the contract, including General and Supplementary Conditions and Division 1-General Requirements, apply to the Work specified in this section.

C. Air Infiltration: Limited to 0.08 cfm/ft. (0.3 L/s per sq. m) of system surface area when tested accord-ing to ASTM E 283 at a static-air-pressure difference of 1.57 lbf/sq. ft. (75.2 Pa).

D. Water Penetration: System do not evidence water leakage when tested according to ASTM E 331 at a minimum differential pressure of 20 percent of inward acting wind load design pressure but not less than 6.24 lbf/sq. ft. (299 Pa).

E. Submittals: Product Data, Shop Drawings, and color Samples.

1. For entrance systems, include hardware schedule and locations.

PART 2 - PRODUCTS

2.1 ALUMINUM-FRAMED STOREFRONTS AND WINDOWS

A. Manufacturer: Subject to compliance with requirements, provide products from one of the following:

1. Marko Window Systems, Inc., 2450 Series.

2. Kawneer Company Inc., Inscuitac 450 Series.

3. Vistalume Architectural Products, Series 3000.

D. Aluminum: ASTM B 209 (ASTM B 209M) sheet, ASTM B 221 (ASTM B 221M) extrusions.

E. Glazing: Specified in Division 8 Section "Glazing."

D. Sealants and Joint Fillers: For joints at perimeter of systems as specified in Division 7 Section "Joint Sealants."

E. Doors: 1-3/4-inch- (41.5-mm)-thick glazed doors with minimum 0.125-inch- (3.2-mm)-thick, extruded tubular rail and stile members, mechanically fastened corners with reinforcing brackets that are deep penetration and filled welded or that incorporate concealed tie-rods, snap-on extruded-aluminum glazing stops, and preformed gaskets.

1. Narrow stile doors: Provide compression weather stripping at fixed stops. At other locations, pro-vide sliding weather stripping retained in adjustable strip mortised into door edge.

2. Hardware: Provide manufacturer's standard pivot hinges, push and pull bars, closer, weatherstripping and threshold, complying with ADA accessibility standards. Lock cylinders will be as spec-ified in Division 8 Section "Door Hardware."

F. Fasteners and Accessories: Compatible with adjacent materials, corrosion-resistant, nonstaining, and nonbleeding. Use concealed fasteners except for application of door hardware.

G. Fabrication: Fabricate framing in profile indicated for flush glazing (without projecting stops). Provide subframes and reinforcing of types indicated or, if not indicated, provide subframes and reinforcing components to greatest extent possible. Disassemble components only as necessary for shipment and installation.

1. Door Framing: Reinforce to support imposed loads. Factory assemble door and frame units and factory install hardware to greatest extent possible. Reinforce door and frame units for hardware indicated. Cut, drill, and tap for factory-installed hardware before finishing components.

H. Aluminum Finishes: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Prod-ucts." Clear anodic, Architectural Class II: AA-M12C2A231.

1. Color: Clear (exterior storefronts and window).

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Comply with manufacturer's written instructions for protecting, handling and installing entrance and storefront systems. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure nonmovement joints. Seal joints weathertight.

B. Isolate metal surfaces in contact with incompatible metal or corrosive substrates, including wood, by painting contact surfaces with bituminous coating or primer, or by applying sealant or tape recommended by manufacturer.

C. Install components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.

D. Set continuous sill members and flashing in a full sealant bed to provide weathertight construction, unless otherwise indicated. Comply with requirements of Division 7 Section "Joint Sealants."

E. Install framing components true in alignment with established lines and grades to the following toler-ances:

1. Variation from Plane: Limit to 1/8 inch in 12 feet (3 mm in 3.7 m); 1/4 inch (6 mm) over total length.

2. Alignment: For surfaces abutting in line, limit offset to 1/16 inch (1.5 mm). For surfaces meeting at corners, limit offset to 1/32 inch (0.8 mm).

3. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch (3 mm).

F. Install doors without warp or rack.

3.2 ADJUSTING AND CLEANING

A. Adjust doors and hardware to provide tight fit at contact points and weather stripping, smooth operation and weathertight closure.

B. Remove excess sealant and glazing compounds, and dirt from surfaces.

END OF SECTION 08411

SECTION 08711 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Commercial door hardware for the following:

a. Swinging doors.

b. Cylinders for doors specified in other Sections.

b. Related Sections include the following:

1. Division 8 Section "Aluminum Entrances and Storefronts" for entrance door hardware, except cylinders.

2. Division 13 Section "Metal Building Systems" for door hardware, except cylinders.

1.3 SUBMITTALS

A. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

B. Keying Schedule: Prepared by or under the supervision of supplier, detailing Owner's final keying instructions for locks.

C. Fire-Rated Door Assemblies: Provide door hardware for assemblies complying with NFPA 80 that are 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.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.

B. Deliver keys to Owner.

1.5 WARRANTY

A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in this Section.

1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products equivalent in function and comparable in quality to named products.

2.2 HINGES AND PIVOTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Hinges:

a. Hager Companies (HAG).

b. McKinney Products Company, Div. of ESSEX Industries, Inc. (MCK).

c. Sargent Manufacturing Company, Div. of ESSEX Industries, Inc. (SGT).

d. Stanley Commercial Hardware, Div. of The Stanley Works (STH).

B. Standards: Comply with the following:

1. Butts and Hinges: BHMA A156.1.

C. Quantity: Provide the following, unless otherwise indicated:

1. Three Hinges: For doors with heights 61 to 90 inches (1549 to 2286 mm).

2. Hinge Weight: Unless otherwise indicated, provide the following:

a. Entrance Doors: Heavy-weight hinges.

2. Doors with Closers: Antifriction-bearing hinges.

3. Interior Doors: Standard-weight hinges.

E. Hinge Base Metal: Unless otherwise indicated, provide the following:

1. Exterior Hinges: Stainless steel, with stainless-steel pin body and brass protruding heads or Steel, with steel pin.

2. Interior Hinges: Brass, with stainless-steel pin body and brass protruding heads or Steel, with steel pin.

3. Hinges for Fire-Rated Assemblies: Steel, with steel pin or Stainless steel, with stainless-steel pin.

F. Hinge Options: Comply with the following where indicated in the Door Hardware Schedule or on Drawings:

1. Nonremovable Pins: Provide set screws in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the following applications:

a. Outswinging exterior doors.

2.3 LOCKS AND LATCHES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Mechanical Locks and Latches:

a. Corbin Russwin Architectural Hardware: Div. of Yale Security Inc. (CR).

b. McKinney Products Company, Div. of ESSEX Industries, Inc. (MCK).

c. Sargent Manufacturing Company, Div. of ESSEX Industries, Inc. (SGT).

d. Schlage Lock Company, an Ingersoll-Rand Company (SCH).

B. Standards: Comply with the following:

1. Bored Locks and Latches: BHMA A156.2.

2. Exit Locks: BHMA A156.5.

3. Bored Locks: BHMA Grade 1, unless Grade 2 is indicated; Series 4000.

D. Lock Trim: Comply with the following:

1. Lever: Wrought, forged, or cast.

2. Escutcheon (Rose): Wrought, forged, or cast.

3. Dummy Trim: Match lever lock trim and escutcheons.

E. Lock Functions: Function numbers and descriptions indicated in the Door Hardware Schedule comply with the following:

1. Bored Locks: BHMA A156.2.

F. Backset: 2-3/4 inches (70 mm), unless otherwise indicated.

2.4 EXIT DEVICES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Corbin Russwin Architectural Hardware: Div. of Yale Security Inc. (CR).

2. Sargent Manufacturing Company, Div. of ESSEX Industries, Inc. (SGT).

3. Von Duprin, an Ingersoll-Rand Company (VD).

B. Standards: BHMA A156.3.

1. BHMA Grade: Grade 1, unless Grade 2 is indicated.

C. Panic Exit Devices: Listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 309.

D. Fire Exit Devices: Complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and AAMA 252.

E. Outside Trim: Lever with cylinder; material and finish to match locksets, unless otherwise indicated.

1. Match design for locksets and latchsets, unless otherwise indicated.

2.5 CLOSERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. B Standards: Comply with the following:

1. Cylinders: BHMA A156.8.

2. Cylinder Grade: BHMA Grade 1, unless Grade 2 is indicated.

D. Cylinders: Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:

1. Number of Pins: [FIVE] [Six] [Seven].

2. Mortise Type: Threaded cylinders with rings and straight- or oblong-type cam.

3. Rim Type: Cylinders with back plate, flat-type vertical or cover-type cam, and raised trim ring.

4. Bored-Lock Type: Cylinders with tailpieces to suit locks.

E. Permanent Cores: Manufacturer's standard; finish grade to match lockset; complying with the following:

1. Interchangeable Cores: Core insert, removable by use of a special key, and usable with other manufacturers' cylinders.

F. Construction Keying: Comply with the following:

1. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.

G. Keying System: Unless otherwise indicated, provide a factory-registered keying system complying with the following requirements:

1. Master Key System: Cylinders are operated by a change key and a master key.

2. STRIKES

A. Standards: Comply with the following:

1. Strikes for Bored Locks and Latches: BHMA A156.2.

2. Strikes for Auxiliary Deadlocks: BHMA A156.5.

B. Strikes: Provide manufacturer's standard strike with strike box or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated.

2.7 CLOSERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Surface-Mounted Closers:

a. Corbin Russwin Architectural Hardware: Div. of Yale Security Inc. (CR).

b. DOW Closers, an Ingersoll-Rand Company (LCR).

c. Norton Door Controls, Div. of Yale Security Inc. (NDC).

d. Sargent Manufacturing Company, Div. of ESSEX Industries, Inc. (SGT).

B. Standards: Comply with the following:

1. Closers: BHMA A156.4.

2. Surface Closers: BHMA Grade 1, unless Grade 2 is indicated.

2.8 PROTECTIVE TRIM UNITS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Protective Trim Units:

a. Hager Companies (HAG).

b. Ives: H. B. Ives (IVS).

c. NT Quality Hardware, an Ingersoll-Rand Company (NTQ).

d. Rockwood Manufacturing Company (RM).

Standard: Comply with BHMA A156.6.

C. Materials: Fabricate protection plates from the following:

1. Aluminum: 0.050 inch (1.3 mm) thick; beveled top and 2 sides.

2. Stainless Steel: 0.050 inch (1.3 mm) thick; beveled top and 2 sides.

3. Plastic Laminate: 1/8 inch (3.2 mm) thick; NEMA LD 3, Grade HGS; beveled 4 sides.

4. Rigid Plastic: 0.050-inch- (1.5-mm)-thick, PVC or acrylic-modified vinyl plastic; beveled 4 sides.

5. Acrylic: 1/8 inch (3.2 mm) thick; beveled 4 sides.

a. Color and Texture: As selected by Architect from manufacturer's full range.

B. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units consisting of either machine or self-tapping screws.

E. Furnish protection plates sized 1-1/2 inches (38 mm) less than door width on push side and 1/2 inch (13 mm) less than door width on pull side, by height specified in Door Hardware Schedule.

2.9 STOPS AND HOLDERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Hager Companies (HAG).

2. Ives: H. B. Ives (IVS).

3. NT Quality Hardware, an Ingersoll-Rand Company (NTQ).

4. Rockwood Manufacturing Company (RM).

B. Standards: Comply with the following:

1. Stops and Bumpers: BHMA A156.16.

2. Door Silencers: BHMA A156.16.

C. Stops and Bumpers: BHMA Grade 1, unless Grade 2 is indicated.

D. Floor Stops: For doors, unless wall or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic.

1. Where floor or wall stops are not appropriate, provide overhead holders.

2.10 DOOR GASKETING

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Door Gasketing:

a. Hager Companies (HAG).

b. National Guard Products, Inc. (NGP).

c. Penko Manufacturing Co., Inc. (PEM).

d. Zero International, Inc. (ZRO).

2. Door Bottoms:

a. Hager Companies (HAG).

b. National Guard Products, Inc. (NGP).

c. Penko Manufacturing Co., Inc. (PEM).

d. Zero International, Inc. (ZRO).

B. Standard: Comply with BHMA A156.22.

1.3 SUBMITTALS

A. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

B. Keying Schedule: Prepared by or under the supervision of supplier, detailing Owner's final keying instructions for locks.

C. Gasketing Materials: Comply with ASTM D 2000 and AAMA 701/702.

2.11 THRESHOLDS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Hager Companies (HAG).

2. National Guard Products, Inc. (NGP).

3. Penko Manufacturing Co., Inc. (PEM).

4. Zero International, Inc. (ZRO).

2.12 MISCELLANEOUS DOOR HARDWARE

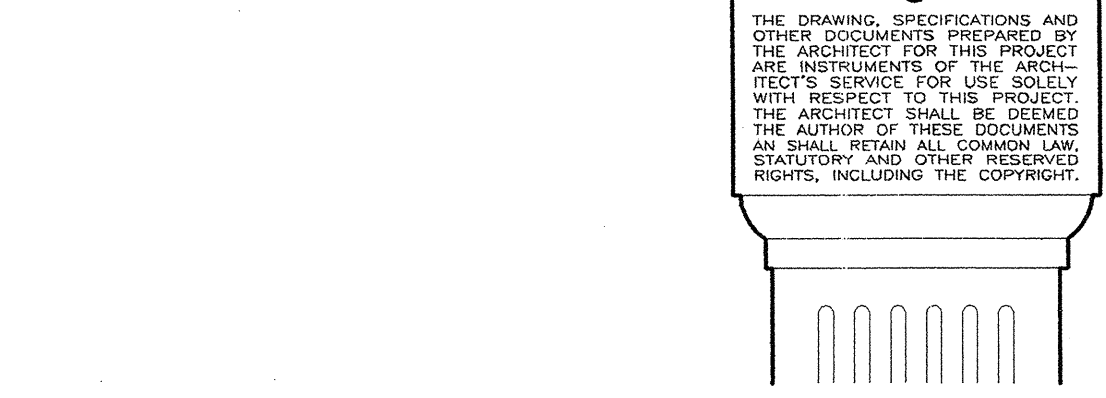
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Baldwin Hardware Corporation (BH).

2. Hager Companies (HAG).

3. Ives: H. B. Ives (IVS).

4. NT Quality Hardware, an Ingersoll-Rand Company (NTQ).



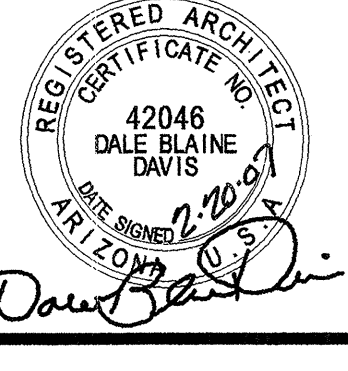
29756 Desert Willow Blvd  
Queen Creek, Arizona 85243  
PH: 480.892.9833  
Fax: 480.445.9795  
www.aecdesigns.com  
email:brian@aecdesigns.com

Architecture Plus L.L.C.  
GARDEN CITY - DODGE CITY - DENVER  
ARCHITECTURE

PLANNING  
INTERIORS

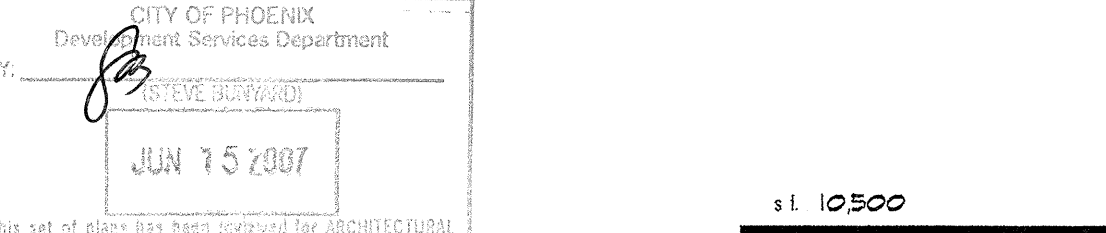
402 E. RULTON 602.276.2872  
GARDEN CITY, KANSAS 67846  
FAX 602.276.7679  
archplus@architectureplus.net

drawn by  
Brian



NATIONAL WATER WORKS  
NORTH PHOENIX BRANCH  
Parcel #209-03-104-A  
2140 W Williams Drive  
Phoenix, Arizona

job number  
0658  
title  
Specifications



sheet number  
10300  
A6.2