

SECTION 06411

CUSTOM CASEWORK / Premium Grade

PART 1 GENERAL

1.1 SUMMARY

- A. Products Supplied But Not Installed Under This Section
 - 1. Custom casework

- C. Related Sections
 - 1. Section 06201 - Installation
 - 2. Section 06401 - General Architectural Woodwork Requirements
 - 3. Section 15010 - Plumbing

1.2 SUBMITTALS

- A. Product Data - Manufacturer's literature or cut sheets for hardware.

- B. Shop Drawings
 - 1. Confirm compliance with Contract Document requirements as to configuration and dimensions of custom casework.
 - 2. Include plan and elevation views, materials used, standing and running trim profiles, assembly methods, joint details, fastening methods, accessories, and hardware.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Wood Materials
 - 1. Semi-exposed And Concealed - Species as acceptable for AWI premium grade.

- B. Panel Product
 - 1. Cores -
 - a. Cabinet Doors - Medium density fiberboard (MDF) with minimum weight of 48 lbs per cu ft.
 - b. All Other - Industrial grade particle board with minimum density of 45 lbs per cu ft.
 - 2. Facings -
 - a. Hardwood veneer shall be plain sliced Red Oak AWI Grade A, or equal by HPVA, NWWDA, or APA.
 - b. Melamine or Kortron.
 - 3. Edgings -
 - a. Cabinet Doors And Drawer Fronts Higher Than 8 Inches - 3/4 inch by 1/4 inch edge-band of wood species matching hardwood face veneer.
 - b. Shelves And Exposed Panel Product Edges - Hot-glued, 2 mm thick minimum, PVC edge-banding. Wood-grained, except color matching Melamine or Kortron surface at shelf edges.
 - c. Semi-Exposed Panel Product Edges - Hot-glued, 0.018 inch thick minimum, wood grained PVC edge-banding.
 - 4. Glues used in manufacture and fabrication of panel products shall be Type I or II.
 - 5. Moisture content shall be same as specified for lumber.

2.2 COMPONENTS

- A. Casework Doors - Panel Product.

- B. Cabinet And Drawer Hardware
 - 1. Cabinet And Drawer Pulls -

- a. US26D steel-plated, brushed stainless wire handles, 4 inches long minimum.
- 2. Cabinet Adjustable Shelf Supports -
 - a. 32mm System - Casework Fabricator's standard
 - b. Standard System -
 - 1) Quality Standard -
 - a) 255 and 256 by Knappe & Vogt
 - b) Equal as approved by Architect before installation. See Section 01600.
- 3. Cabinet Hinges -
 - a. European style, self-closing, 170 degree opening minimum.
 - b. Doors 48 inches High or Less - Two hinges
 - c. Approved Products -
 - 1) 71.6500 by Julius Blum
 - 2) 3903 by Grass America
 - 3) 2661 by Knappe & Vogt
 - 4) 61DS by Mepla-Alfit
- 4. Drawer Guides -
 - a. Standard Drawers -
 - 1) Full extension, steel ball bearings, 100 lb load rating.
 - 2) Approved Models -
 - a) Series 3832 by Accuride
 - b) Series KV8400 by Knappe & Vogt

2.3 MANUFACTURERS

- A. Accuride, Santa Fe Springs, CA (888) 459-8624 or (562) 903-0200 www.accuride.com
- B. CompX National Lock, Mauldin, SC (864) 297-6655 www.nclnet.com
- C. Grass America Inc, Kernerville, NC (800) 334-3512 or (336) 996-4041 www.grassusa.com
- D. Julius Blum Inc, Stanley, NC (800) 438-6788 or (201) 438-4600 www.blum.com
- E. Knappe & Vogt, Grand Rapids, MI (800) 253-1561 or (616) 459-3311 www.kv.com
- F. Mepla-Alfit Inc, Lexington, NC (800) 858-4957 or (336) 956-4600 www.mepla-alfit.com
- G. Rockford Process Control, Inc (RPC) Rockford, IL (815) 966-2000 www.members.aol.com/rpcinc
- H. Ives, Wallingford, CT (203) 294-4837
- I. National Cabinet Lock, Mauldin, SC (864) 297-6655 www.nclnet.com
- J. Olympus Lock Inc, Seattle, WA (800) 525-0954 or (206) 362-3290 www.olympus-lock.com
- K.

2.4 FABRICATION

- A. Construction
 - 1. Cabinet Body -
 - a. Use AWI Flush Overlay construction on cabinet bodies.
 - b. If used, install Standard System adjustable shelf supports recessed.
 - 2. Drawers -
 - a. Fabricate with separate, screw-attached drawer front.
 - b. Joints shall be dowel and pressure glued, or lock shoulder, glued, and pin nailed.
 - c. Set bottoms into sides, backs, and subfront with 1/4 inch deep groove with 3/8 inch minimum standing shoulder.
 - d. Every drawer shall have specified drawer guides installed.
 - 3. Hinges - Install hinges using plastic insertion dowels for hinges and 'Euro screws' for baseplates.
- B. Cabinet Component Thickness And Material
 - 1. Use hardwood veneer facing on panel product except on the following surfaces, where Kortron or Melamine shall be used.
 - a. Cabinet interiors and shelving faces behind cabinet doors in all rooms.
 - b. Cabinet interiors and shelving faces exposed to view, except in Offices.
 - c. Cabinet exteriors permanently not exposed to view.
 - d. Drawer sides, backs, bottoms, and subfronts.
 - 2. Ends, Divisions, Bottoms, Tops - 3/4 inch panel product.

3. Rails - 3/4 inch panel product.
 4. Shelves -
 - a. Panel product
 - b. Thickness -
 - 1) 30 Inch Span And Less - 3/4 inch thick.
 - 2) Spans Over 30 Inches To 42 Inches - One inch thick.
 - 3) Spans Over 42 Inches - One inch thick and provide Hafele or equal center supports.
 5. Backs - 1/4 inch nominal panel product.
 6. Doors - 3/4 inch panel product.
 7. Drawer Sides, Backs, And Subfronts - 1/2 inch minimum panel product.
 8. Drawer Bottoms - 1/4 inch nominal panel product.
 9. Separate Drawer Front - 3/4 inch solid hardwood
- C. Install plastic grommets in cable access holes in countertops.

PART 3 EXECUTION - Not Used

END OF SECTION

**SECTION 06415
PLASTIC LAMINATE**

PART 1 GENERAL

1.1 SUMMARY

- A. Products Supplied But Not Installed Under This Section
 - 1. Wall-hung counters
 - 2. Countertops for custom casework
- B. Related Sections
 - 1. Section 06201 -
 - a. Installation of wall-hung counters
 - b. Installation of countertops for custom casework
 - 2. Section 15400 - Plumbing

1.2 REFERENCES

- A. American National Standards Institute
 - 1. ANSIA161.2-1979(R1987), 'Performance Standards for Fabricated High Pressure Decorative Laminate Countertops'
- B. American National Standards Institute / National Electrical Manufacturer's Association
 - 1. ANSI / NEMA LD 3-1995, 'High Pressure Decorative Laminates'

1.3 SUBMITTALS

- A. Product Data
 - 1. Manufacturer's literature for plastic laminate
 - 2. Color selections for all available series, patterns and colors.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Plastic Laminates
 - 1. Quality -
 - a. Countertops shall have post-formed front edge, except where detailed otherwise, with plastic laminate meeting requirements of ANSI / NEMA LD 3 - PF 42. No raised lip on front edge, except on front edge of counters with kitchen type sinks.
 - b. Other laminates shall meet requirements of ANSI / NEMA LD 3 -
 - 1) Vertical Applications - GP 28.
 - 2) Horizontal (other than countertops) - GP 38.
 - c. Balancing Material - BK 20
 - d. AWI Quality Grade - Premium
 - 2. Assemblies -
 - a. Countertops shall meet requirements of ANSI A161.2.
 - b. Adhesives for other than post-formed types shall be spray grade, high heat resistant, neoprene contact adhesive.
 - 3. Color Quality Standard - From complete manufacturer's available series, patterns and colors.
 - 4. Approved Manufacturers -
 - a. Formica, Cincinnati, OH (800) 367-6422 or (513) 786-3525 www.formica.com, all matte finish
 - b. Nevamar, Odenton, MD (800) 638-4380 or (410) 551-5000 www.nevamar.com
 - c. Pioneer Plastics Corp, Auburn, ME (800) 746-6483 or (207) 784-9111 www.pionitelaminates.com
 - d. WilsonArt, Temple, TX (800) 433-3222 or (254) 207-7000 www.wilsonart.com
 - e. Equal as approved by Architect and County Representative prior to bidding.

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 06650

SOLID POLYMER FABRICATIONS

PART 1 — GENERAL

1.1 SUMMARY

- A. Furnish and install Solid Counter Top Surfaces at nurses' stations and half wall as indicated and as specified in construction documents.
- B. Related Work:
 - 1. 12322 – Plastic Laminate-Faced casework
 - 2. 15400 – Basic Plumbing Requirements
 - 3. 16010 – Basic Electrical Requirements

1.2 REFERENCES

- A. American Society for Testing and Materials
 - 1. (ASTM): C501 Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abrader.
 - 2. D256 Impact Resistance of Plastics and Electrical Insulating Materials.
 - 3. D570 Water Absorption of Plastics.
 - 4. D638 Tensile Properties of Plastics.
 - 5. D696 Coefficient of Linear Thermal Expansion of Plastics.
 - 6. D2583 Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.
 - 7. E84 Surface Burning Characteristics of Building Materials.
- B. National Electrical Manufacturers Association (NEMA) LD.3 High Pressure Decorative Laminates.

1.03 SUBMITTALS

- A. Samples: Submit samples of all available manufacturer's series, types, patterns and colors for selection by Architect. Submit an 8" square sample of each selected color.
- B. Shop Drawings: Fabricator shall provide detailed and dimensioned shop drawings showing all details of fabrication, edging, sink installation, coving, and seams. Indicate fastener types and locations, sealant proposed for use, and fabrication details of support brackets.
- C. Manufacturer's Instructions: Submit complete manufacturer's fabrication and installation instructions.
- D. Upon completion, furnish the Owner one set of manufacturer's recommended cleaning procedures.

1.04 QUALITY ASSURANCE

- A. Where homogeneous plastic or solid polymer is indicated on drawings, the material shall be "Avonite Surfaces," manufactured by ARISTECH ACRYLICS LLC, 7350 Empire Drive, Florence, KY 41042, 800-428-6648 or Equal as approved by Architect and County Representative prior to bidding.
- B. Installer Qualifications: Installation of Solid Surfaces shall be by a firm that is authorized by Manufacturer to fabricate and install solid Surfaces, and that can demonstrate successful experience in installing finished carpentry items similar in type and quality to those required for this project.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Transport and handle sheets and fabricated items by methods that will prevent damage and defacing.
- B. Storage: If units are not installed immediately upon delivery to site, store in covered location, off the ground or floor, and cover with moisture- and stain-resistant paper or plastic.

1.06 ENVIRONMENTAL CONDITIONS

- A. Obtain and comply with Manufacturers advice for optimum temperature and humidity conditions for Solid Surfaces during its storage and installation.

1.07 WARRANTY

- A. Furnish the manufacturer's ten year warranty against defective materials and workmanship. Submit Manufacturer's written warrantee with project description and client name. Provide copy in Operations and Maintenance Manual.

PART 2 — PRODUCTS

2.01 MATERIAL

- A. Solid Surfaces shall be non-porous, homogeneous blend of polyester or acrylic alloys and fillers to create a material that cuts like wood. The color and pattern shall extend throughout the material. The material shall be in or 1/2" thickness, in one piece wherever possible.
- B. Properties: The material shall conform to the following properties:

TECHNICAL DATA
PROPERTY

TYPICAL VALUES

	STUDIO CLASS I	FOUNDATION S™ ACRYLIC	STUDI OCLAS S III	CRYSTELL E CLASS I	CRYSTELL E CLASS III	TEST METHO D
Specific Gravity	25.5	27.7	19.5	27.0	20.6	(grams/c u. in.)
Hardness	55	60	45	58	45	ASTM D2583
Elongation (percent)	0.42	2.2	0.55	0.36	0.38	ASTM D638
Tensile strength (psi)	4,200	4,200	3,000	3,520	2,440	ASTM D638
Tensile modulus	11x105	11x105	5x105	11x105	6.5x105	ASTM D638
Abrasion resistance @ 1000 cycles, grams	0.4	—	0.4	0.9	0.5	ASTM C501
Water absorption after 24 hours, percent	.06	.07	.08	.05	.03	ASTM D570
Izod impact foot pounds per inch	0.2	0.3	0.2	0.3	0.2	ASTM D256
Impact resistance 1/2 pound	No fracture	No fracture	No fracture	No fracture	No fracture	NEMA LD3-3.3
Linear thermal expansion	1.8x10-5	2.0x10-5	3.4x10-5	2.4x10-5	3.3x10-5	ASTM D696
High temperature resistance	No effect	Slight effect	No effect	No effect	No effect	NEMA LD3-3.6

Boiling water resistance	No effect	No effect	No effect	No effect	No effect	NEMA LD3-3.5
Stain resistance	No effect	No effect	No effect	No effect	No effect	NEMF LD3-3.9
Weight per sq. ft., 1/2" (12mm) thickness, pounds	4.0	4.4	3.1	4.0	3.1	
Flame spread classification	I	I	III	I	III	ASTM E84

C. Fabrication and Installation Materials.

- a. Joint Adhesive: Type recommended by manufacturer, in color to match Solid Surfaces.
- b. Silicone sealant: Type recommended by manufacturer.

2.02 FABRICATION

- A. Solid Surfaces shall be fabricated by an authorized Solid Surfaces fabricator.
- B. Solid Surfaces countertops shall be the thickness indicated, one piece wherever possible, and with flush joints sealed with joint adhesive where required. Manufacturer guarantees color match within the crate. Follow Solid Surfaces standard "Color Matching" procedures (see Fabrication Manual) when joining sheets from outside the crate. Shop shall fabricate in the largest sections possible for transporting and building access.
- C. Ease top and front edges and corners.
- D. Solid Surfaces shall be fabricated to field measurements. Seams shall be located where shown on approved shop drawings. Provide seam blocks under all seams where necessary in accordance with manufacturer's recommendations.
- E. Edge detail shall be as selected by Architect or Designer.
- F. Backsplash height shall be according to detail provided.
- G. Back splashes shall be field installed, with tight, sealed joints.
- H. Coves: Provide shop fabricated integrally molded coves at back and ends where against walls or other vertical surfaces, with 3/8" radius between top and splash. I. Finish of exposed surfaces shall be (matte, satin or polished) according to the methods prescribed by the manufacturer.
- I. Cutouts for sinks furnished by others shall be smooth and uniform without saw marks. The top and bottom of sink openings shall be finished smooth. Corners of sink cutouts must be a minimum of 1/4" (6mm) radius.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that counters and supports are suitable for installation in accordance with shop drawings.

3.02 INSTALLATION

- A. Install tops in locations indicated, conforming to manufacturer's recommended installation procedures.
Set tops on supports, and anchor using fasteners shown on approved submittals.
- B. Use silicone sealant for attaching back splashes and reveal edges. Seal all joints with sealant.
- C. Field joints shall be hard seamed unless otherwise specified.

3.03 CLEANING

- A. At completion of work, remove all excess material, dirt, dust, trash and other materials resulting from the installation. Clean surfaces, remove all labels and leave the area clean.

3.04 PROTECTION

- A. Provide suitable protection on counters and other Solid Surfaces to protect the installation from damage until final acceptance.

END OF SECTION

DIVISION 07

THERMAL AND MOISTURE PROTECTION

07200 THERMAL PROTECTION

- 07211 UNFACED BATT INSULATION
- 07261 UNDER-SLAB VAPOR RETARDERS

07500 MEMBRANE ROOFING

- 07511 COLD APPLIED BUILT-UP ASPHALT ROOFING

07600 FLASHING AND SHEET METAL

- 07621 FLASHING AND COUNTERFLASHING / Galvanized Steel

07800 SMOKE AND FIRE PROTECTION

- 07816 CEMENTITIOUS FIREPROOFING
- 07840 FIRESTOPPING

07900 JOINT SEALERS

- 07920 JOINT SEALANTS

END OF TABLE OF CONTENTS

SECTION 07211

UNFACED BATT INSULATION

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install acoustical batt insulation in interior walls and ceilings requiring sound attenuation as described in Contract Documents.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM C 665-98, 'Standard Specification for Mineral-Fiber Thermal Insulation For Light Frame Construction and Manufactured Housing'
 - 2. E 84 Test Method for Surface Burning Characteristics of Building Materials.
 - 3. E 136 Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 deg C.
 - 4. ASTM C 518 Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter.
 - 5. ASTM C 423 Test Method for Sound Absorption Coefficient by the Reverberation Room Method.

1.3 Submittals

- A. Product Data
 - 1. Submit product literature and installation instructions for specified insulation.

1.4 Delivery, Storage and Handling

- A. Protect insulation from physical damage and from becoming wet, soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage and protection during installation.
- B. Label insulation packages to include material name, production date and /or product code.

1.5 Limitations

- A. Do not use unfaced insulation in exposed applications where there is potential for skin contact and irritation.
- B. Kraft and standard foil facings will burn and must not be left exposed. The facing must be installed in substantial contact with the unexposed surface of the ceiling, wall or floor finish. Protect facing from any open flame or heat source.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Insulation
 - 1. 'Friction-Fit' unfaced batts, either 16 or 24 inches wide according to framing spacing. Thickness shall be the thickness of the wall framing.
 - 2. Type for Sound Attenuation Batts: Design Standard, Unfaced glass fiber acoustical insulation, Quiet Zone Acoustic' by Owens Corning complying with ASTM C 665, Type II, Class C.
 - 3. Sound Transmission Class 'STC' rating - 60
 - 4. Surface Burning Characteristics

- a. Maximum flame spread: Not rated
- b. Maximum smoke developed: Not rated
- 5. Fire Resistance Ratings
 - a. Passes ASTM E 119 as part of a complete fire tested wall assembly
- 6. Dimensional Stability
 - a. Linear shrinkage less than 0.1%
- 7. Acceptable Manufacturers -
 - a. Certainteed Corp, Valley Forge, PA (800) 233-8990 or (610) 341-7739
www.certainteed.com
 - b. Guardian Fiberglass, Albion, MI (800) 968-8258 www.guardianfiberglass.com
 - c. Knauf Fiber Glass, Shelbyville, IN (800) 825-4434 or (317) 398-4434
www.knauffiberglass.com
 - d. Owens Corning Fiberglass Corporation, Toledo, OH (800) 832-3585 or
(419) 248-8000 www.owens-corning.com
 - e. Johns Manville, Denver, CO (800) 654-3103 or (303) 978-2000 www.jm.com
 - f. Thermafiber, Wabash, IL (888) 834-2371 or (219) 563-2111 www.thermafiber.com
 - g. Equal as approved by Architect before bidding. See Section 01600.

2.2 SOURCE QUALITY CONTROL

- A. Insulation shall be manufactured to be in compliance with CBC or other applicable building codes.

PART 3 EXECUTION

3.1 Inspection and Preparation

- A. Examine substrates and conditions under which insulation work is to be performed.
- B. Obtain installer's written report listing conditions detrimental to performance of work in this section. Do not proceed with installation of insulation until unsatisfactory conditions have been corrected.
- C. Clean substrates of substances harmful to insulation

3.1 INSTALLATION

- A. Install in compliance with CBC or other applicable building codes, and as follows
 - 1. Leave no gaps in insulation envelope.
 - 2. Install insulation between framing, behind plumbing and wiring, around duct and vent pipe penetrations, and in similar places.
 - 3. Fit ends of batts snug against plates.
 - 4. Do not cover recessed light fixtures with insulation. Cut out insulation to provide 6 inch minimum clearance around recessed lighting fixtures.

END OF SECTION

SECTION 07261

UNDER-SLAB VAPOR RETARDER

PART 1 GENERAL

1.1 SUMMARY

- A. Products Supplied But Not Installed Under This Section
 - 1. Vapor retarder, seam tape, and penetration accessories for installation under interior slabs-on-grade.
- B. Related Sections
 - 1. Section 02316 - Installation

1.2 REFERENCES

- A. American Society for Testing and Materials
 - 1. ASTM E 1745-97, 'Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs'

1.3 SUBMITTALS

- A. Quality Control / Assurance
 - 1. Independent laboratory test results showing compliance with ASTM Standard.
 - 2. Manufacturer's installation, seaming, and penetration boot instructions.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Vapor Retarder
 - 1. Conform to requirements of ASTM E 1745, Class A minimum.
 - 2. Approved Products -
 - a. Moistop Ultra 'A' by Fortifiber, Reno, NV (800) 773-4777 or (775) 333-6400
www.fortifiber.com
 - b. T-65G or Griffolyn 15 mil by Reef Industries, Houston, TX (800) 231-6074 or (713) 507-4200 www.reefindustries.com
 - c. VaporBlock 10 or 15 by Raven Industries, Sioux Falls, SD (800) 635-3456 or (605) 335-0174 www.ravenind.com
 - d. Stego Wrap by Stego Industries, San Juan Capistrano, CA (877) 464-7834 or (949) 943-5460 www.stegoindustries.com

2.2 ACCESSORIES

- A. Seam Tape - As recommended by Membrane Manufacturer for continuous taping of seams and sealing of penetration boots.
- B. Penetration Boots at Utility Penetrations
 - 1. Moistop And Reef Industries - Factory fabricated pipeboots
 - 2. All Others - Field fabricated from same material as vapor retarder membrane.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Ensure vapor retarder has a minimum of six inch overlap with existing. Remove any material which could prevent a complete seal when applying the seam tape.

END OF SECTION

SECTION 07511

COLD APPLIED BUILT-UP ROOFING

PART 1 GENERAL

1.1 SCOPE OF WORK

- A. Furnish and install specified roofing, rigid insulation and related components to install fill-in patching, roof extension and flashing at new curbs and parapet. Furnish and install roof penetration flashings at vents and pipes. This roof patching and extension as specified for fill in and extension of field areas is a roof system assembly that is:
1. Underwriter's Laboratory Class A Fire Rated for slopes to 1/2" in 12"
 2. Fully OSHPOD Approved as a roof system assembly
 3. A low odor, low environmental impact application
 4. Entirely cold applied with no hot kettles and free of smoke.
- B. Work includes:
1. Installation of the following roof fill-in patching over concrete decks and parapet walls:
 - a. Remove all material required by project specifications.
 - b. Fill in decks with specified fill and allow to dry before application of new roofing.
 - c. Clean adjacent roof surfaces to 24" around entire patch in fill, new curb area and roof extension.
 - d. New substrate shall be clean, dry, even and smooth.
 - e. Prime substrates and perimeter of roof tie-ins with Tremprime WB primer at 200 sq.ft. per gal. Let dry.
 - f. Install new insulation fill flush to existing insulation height:
 - 1) Fill roof insulation consisting of six side coated approximately 3/4" wood fiber board set in a ribbon (every 6") application of Fas-n-Free solvent free insulation adhesive at 1.5 gals. Per 100 sq.ft..
 - g. Cold process Tremco Burmastic built-up roofing system.
 - 1) Burmastic Glass Ply 33# Base sheet set in 2 gal. per 100 sq.ft. of PowerPly Std Cold Adhesive.
 - 2) Two plies of Burmastic Glass Ply 33# Base sheet set in 2 gal. per 100 sq.ft. of PowerPly Std Cold Adhesive.
 - 3) PowerPly Std FR granulated modified bitumen cap sheet set in 2 gal. per 100 sq.ft. of PowerPly Std Cold Adhesive.
 - 4) All plies shall be fully broomed in with no voids or holidays
 - 5) Edges of all patched shall be feathered over existing roof to 6", 12" and 18" to allow smooth transition and edge shall be five coursed with Polyroof SF and 4" and 6" Burmesh webbing.
 - h. Curb flashings consisting of:
 - 1) Coated wood fiber cants - 4" bias cut set in Fas-n-Free insulation at base of new curbs.
 - 2) Burmastic Glass Ply 33# Base sheet set in a full bedding of Polyroof SF Mastic.
 - 3) PowerPly Std FR granulated modified bitumen cap sheet set in a full bedding of Polyroof SF Mastic.
 - 4) Tie in curb base and flashings to field of roof 4" out from base of cants.
 - 5) All vertical laps shall be three coursed with Polyroof SF Mastic and Burmesh webbing.
 - 6) Base of flashing and all corners shall be five coursed with Polyroof SF Mastic and Burmesh webbing.
 - 7) Top termination line of all curb flashings shall be nailed off at 8" o.c. and three coursed with Polyroof SF and 4" Burmesh webbing. Nail line and top of flashing sheet shall be fully covered and sealed to substrate.
 - i. All bleed out, mastic and spillage shall be fully covered with fresh #11 Ceramic Granules patted into fresh mastic surface. Completely cover black with fresh granules.
 - j. Penetration flashing consisting of:
 - 1) Each line, conduit or pipe gets an individual hole and penetration flashings. Eg the gas line, the condensate line, the refrigeration line, the thermostat line and any electrical power line all have their own dedicated hole and flashing.
 - 2) Each flashing penetration should be at least 18" o.c. apart and at least 12" form the base of any curb or wall etc....
 - 3) The pipe or conduit should be smooth (no junction boxes or joints) to at least 8" high above the

- finished roof surface.
- 4) Curbs should be at least 10" high to allow for a minimum of 8" flashing termination above the finished roof surface height.
 - 5) If the curb is for a side draft HVAC unit, roof entirely over the top of the curb and then install a sheet metal pan over the roofed curb.
 - 6) Pans shall be at least 24ga galvanized and all seams soldered. The pan sides should counter flash over the roof flashing termination at least 4".
 - 7) For all pipe penetration flashings required a 4LB lead flashing, fully soldered with 6" flanges. Prime the flanges set in Polyroof SF mastic and strip in with Polyroof SF and Burmesh webbing under the cap sheet. Put a cant of Polyroof SF around the base of the flashing clamped over Trem Flash Tape with a stainless steel drawband clamp and caulked.
- k. Equal as approved by Architect, County Representative and OSHPD prior to installation. Contractor to acquire OSHPD approval.
- C. Contractor shall acquire not less than two (2) days of Job Site Inspection by roofing system manufacturer to inspect application of specified roofing products.
- D. Regulatory requirements:
1. California Building Code (2007 CBC)
 2. UL Classified Fire Rating - UL 790.
 - a. Class A.
 3. Roofing and flashing systems shall have been fully approved and permitted on OSHPD governed health and hospital facilities.
- E. Delivery of materials:
1. Deliver materials to job-site in new, dry, unopened, and well-marked containers showing product and manufacturer's name.
 2. Deliver materials in sufficient quantity to allow continuity of work.
 3. Coordinate delivery with Owner.
- F. Do not order project materials or start work before receiving Owner's written approval.
- G. Storage of materials:
1. Store roll goods on ends only. Discard rolls which have been flattened, creased, or otherwise damaged. Place materials on pallets. Store roll goods on level pallets. Do not stack pallets.
 2. For insulation, remove plastic packaging shrouds. For felt rolls, slit the top of the plastic shrink wrap only. Cover top and sides of all stored materials with tarpaulin (not polyethylene). Secure tarpaulin.
 3. Rooftop storage: Disperse material to avoid concentrated loading.
 4. Do not store materials in open or in contact with ground or roof surface.
 5. Store all materials on a raised platform covered with secured canvas tarpaulin (not polyethylene), top to bottom. Cover all materials when project is not in progress and maintain the ability at all times to cover the materials when required, such as during an unanticipated rain shower.
 6. Contractor shall assume full responsibility for the protection and safekeeping of products stored on premises.
- H. Material handling:
1. Handle materials to avoid bending, tearing, or other damage during transportation and installation.
 2. Material handling equipment shall be selected and operated so as not to damage existing construction or applied roofing. Do not operate or situate material handling equipment in locations that will hinder smooth flow of vehicular or pedestrian traffic.

PART 2 PRODUCTS

2.1 GENERAL

- A. Comply with quality control, references, specifications, and manufacturer's data. Products containing asbestos are prohibited on this project. Use only asbestos-free products.
- B. Use products with personal protection. User must read container label and material safety data sheets

prior to use.

2.2 ACCEPTABLE MANUFACTURER

- A. Tremco Inc., Vernon CA 800-282-4343.
 - 1. Jeff Jeffers - Riverside CA 951-545-4007
 - 2. Equal as approved by Architect, County Representative and OSHPD prior to installation

2.3 CANTS AT CURBS

- A. Wood cants: 4" x 4" (100 mm x 100 mm) cut on bias.
- B. Wood Fiber cants: Coated 4" x 4" (100 mm x 100 mm) cut on bias.
- C. Equal as approved by Architect, County Representative and OSHPD prior to installation

2.4 INSULATION

- A. Approximately ¾" Fill:
 - 1. Wood fiber roof insulation:
 - a. ASTM C 208-94, Type II.
 - b. Surface coating: Asphalt coating on six (6) sides..
- B. Insulation adhesive:
 - 1. FAS-N-FREE by Tremco.
 - 2. Equal as approved by Architect, County Representative and OSHPD prior to installation

2.5 ROOFING MATERIALS

- A. Adhesives:
 - 1. Base ply adhesive:
 - a. PowerPly Std cold adhesive by Tremco.
 - 2. Interply adhesive:
 - a. PowerPly Std cold adhesive by Tremco.
 - 3. PowerPly Std FR Cap Sheet adhesive:
 - a. PowerPly Std cold adhesive by Tremco.
 - 4. Equal as approved by Architect, County Representative and OSHPD prior to installation
- B. Base ply:
 - 1. ASTM D 4601-95, Type II, 33 lb/SQ minimum weight.
 - a. BURmastic Glass Ply - 33 LB. by Tremco.
 - b. Equal as approved by Architect, County Representative and OSHPD prior to installation
- C. Ply sheet:
 - 1. ASTM D 4601-95, Type II, 33 lb/SQ minimum weight.
 - a. BURmastic Glass Ply - 33 LB. by Tremco.
 - b. Equal as approved by Architect, County Representative and OSHPD prior to installation
- D. Modified Bitumen Granulated Cap sheet for field and flashings:
 - 1. PowerPly Std FR by Tremco.
 - 2. Equal as approved by Architect, County Representative and OSHPD prior to installation
- E. Related materials:
 - 1. Asphalt mastic:
 - a. Polyroof SF by Tremco.
 - 2. Primers:
 - a. Tremprime WB by Tremco
 - 3. Cant strip:
 - a. ASTM C 208-94, coated fiberboard.

4. Cant strip adhesive:
 - a. Fas n Free Adhesive by Tremco.
5. Flashing adhesive:
 - a. Polyroof SF, by Tremco.
6. Flashing surfacing:
 - a. High Build Reflective Coating by Tremco.
7. Pitch pan cement:
 - a. ASTM C 928-92a, rapid hardening non shrink grout.
8. Pitch pan mastic:
 - a. Polyroof SF by Tremco.
9. Sealants:
 - a. Drawband sealant:
 - 1) Reglet Joint Sealant by Tremco.
10. Equal as approved by Architect, County Representative and OSHPD prior to installation

PART 3 EXECUTION

3.1 GENERAL

- A. Do not remove more roof than can be patched and completed in one work day.
- B. Ensure that the building is water tight at the end of each work day.
- C. The building must be protected from water damage for the entire construction period. If water damage has occurred because the building was not protected and kept water tight during the entire construction period, the contractor will repair and replace any damaged caused to the building structure, building materials, equipment and/or any other items not listed above at no expense to the owner.

END OF SECTION

SECTION 07621

FLASHING AND COUNTERFLASHING / Galvanized Steel

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install flashing and counterflashing as described in Contract Documents and not specified to be of other material.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM A 361-94, 'Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process for Roofing'

PART 2 PRODUCTS

2.1 MATERIALS

- A. Sheet Metal
 - 1. Galvanized iron or steel meeting requirements of ASTM A 361, G 90.
 - a. 22 ga for hold-down clips and refrigerant line covers.
 - b. 24 ga for all other.
 - 2. Finish -
 - a. Metal exposed to view shall have face coating of polyvinylidene Fluoride (PVF₂) Resin-base finish (Kynar 500 or Hylar 5000) containing 70 percent minimum PVF₂ in resin portion of formula. Thermo-cured two coat system consisting of corrosion inhibiting epoxy or acrylic latex primer and top coat factory applied over properly pre-treated metal. Reverse side coating shall be thermo-cured system consisting of corrosion inhibiting epoxy primer applied over properly pre-treated metal.
 - b. Color as selected by Architect from Manufacturer's standard colors.
 - 3. Acceptable Manufacturers -
 - a. Copper Sales Inc, Minneapolis, MN (800) 426-7737 or (612) 576-9595
www.unaclad.com
 - b. Englert Inc, Perth Amboy, NJ (800) 610-1975 or (732) 826-8614 www.englertinc.com
 - c. Metal Sales Manufacturing Corp, Sellersburg, IN (800) 999-7777 or (812) 246-1866
www.mtlsales.com
 - d. Reynolds Metals Company, Richmond, VA (800) 841-7774 or (804) 281-3939
www.rmc.com
 - e. Equal as approved by Architect prior to bidding.
- B. Screws, Bolts, Nails, And Accessory Fasteners - Of strength and type consistent with function.

2.2 FABRICATION

- A. Form accurately to details.
- B. Profiles, bends, and intersections shall be even and true to line.
- C. Fold exposed edges 1/2 inch to provide stiffness

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install with small, watertight seams.
- B. Slope to provide positive drainage.
- C. Provide sufficient hold down clips to insure true alignment and security against wind.
- D. Provide 4 inch minimum overlap.
- E. Allow sufficient tolerance for expansion and contraction.
- F. Insulate work to prevent electrolytic action.

3.2 CLEANING

- A. Leave metals clean and free of defects, stains, and damaged finish.

END OF SECTION

SECTION 07816

CEMENTITIOUS FIREPROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To:
 - 1. Furnish and install sprayed cementitious fireproofing on structural steel and metal decking as described in Contract Documents.
- B. Related Requirements:
 - 1. Section 05129: Miscellaneous Structural Steel.

1.2 REFERENCES

- A. Reference Standards:
 - 1. American Society For Testing And Materials:
 - a. ASTM E84-09, 'Standard Test Method for Surface Burning Characteristics of Building Materials.'
 - b. ASTM E119-08a, 'Standard Test Methods for Fire Tests of Building Construction and Materials.'
 - c. ASTM E136-04, 'Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C.'
 - d. ASTM E605-93(2006), 'Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members.'
 - e. ASTM E736-00(2006), 'Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members.'
 - f. ASTM E759-92(2005), 'Standard Test Method for Effect of Deflection on Sprayed Fire-Resistive Material Applied to Structural Members.'
 - g. ASTM E760-92(2005), 'Standard Test Method for Effect of Impact on Bonding of Sprayed Fire-Resistive Material Applied to Structural Members.'
 - h. ASTM E859-93(2006), 'Standard Test Method for Air Erosion of Sprayed Fire-Resistive Materials (SFRMs) Applied to Structural Members.'

1.3 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data: Manufacturer's product literature for each fireproofing material to be used.
 - 2. Samples: Sample of sprayed fireproofing material.
- B. Informational Submittals:
 - 1. Test And Evaluation Reports:
 - a. Copies, in duplicate, of UL listing of Fire Hazard Classifications (ASTM E84) and UL Designs in accordance with ASTM E119 for proposed products suitable to construction of this project.
 - b. Independent laboratory reports, in duplicate, of product proposed for use, which indicates performance to criteria specified.
 - 2. Manufacturer Instructions: Specifications and application instructions for each fireproofing material to be used.
 - 3. Qualification Statements: Certification by Manufacturer that Applicator has attended required factory-training program.

- C. Closeout Submittals: Upon completion of work, complete Manufacturer's official certification form in duplicate, identifying Project and recording fireproofing material used, fire ratings achieved, and other pertinent information concerning this application as required by Code or by insurance authorities. Include copy in Operations And Maintenance Manual specified in Section 01 7800.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Product, execution, and fireproofing system thickness and density shall conform to UL Designs as published in UL Fire Resistance Directory.
 - 2. Designs submitted for product proposed shall be as tested to attain specified fire resistance rating in accordance with ASTM E119.
 - 3. Fireproofing materials shall have approval of governing code authorities.
- B. Certification: Applicator of fireproofing shall be licensed by Manufacturer of fireproofing materials.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver fireproofing material in Manufacturer's original unopened packaging, clearly identified with Manufacturer's name, brand, batch number, and UL label.
- B. Store materials above ground in dry location, protected from weather. Remove damaged packages found unsuitable for use from job site.

1.6 FIELD CONDITIONS

- A. Ambient Conditions:
 - 1. Maintain temperature of substrate and ambient air at 40 deg F minimum for 24 hours before, during, and after application of fireproofing. If required, use heaters to maintain minimum temperatures.
 - 2. Provide ventilation to allow proper curing and drying of material during and after application.

1.7 WARRANTY

- A. Provide Manufacturer's two-year guarantee that fireproofing will remain free of cracking, dusting, flaking, and loss of bond.
- B. Failed areas will be repaired at no additional cost to Owner.

PART 2 - PRODUCTS

- A. Manufacturers:
 - 1. Contact Information:
 - a. Grace Construction Products, Cambridge, MA www.na.graceconstruction.com.
 - b. Isolatek International, Stanhope, NJ www.cafco.com.
 - c. Equal as approved by Architect, County Representative and OSHPD.
- B. Materials:
 - 1. Fireproofing materials shall have following minimum physical properties
 - a. Thickness and Density: Minimum in accordance with UL and tested in accordance with ASTM E605.
 - b. Deflection: Material shall not crack or delaminate in accordance with ASTM E759.
 - c. Bond Impact: Material shall not crack or delaminate in accordance with ASTM E760.
 - d. Bond Strength: Meet requirements of ASTM E736.

- 1) 80 psf for general fireproofing applications that will be exposed to view or concealed by suspended ceilings, wallboard, masonry, etc.
- 2) 200 psf for fireproofing material exposed to possible damage by mechanical forces such as mechanical and electrical closets, stairwells, etc.
- e. Air Erosion: Less than 0.025 grams per square foot in accordance with ASTM E859.
- f. Compression: Less than 10 percent when subjected to 500 psf compression.
- g. Combustion Characteristics: Passes ASTM E136.
- h. Type One Acceptable Products:
 - 1) For general fireproofing applications which will be exposed to view or concealed by suspended ceilings, wallboard, masonry, etc:
 - a) Monokote MK-6 by Grace.
 - b) Cafco Blaze-Shield and Deck-Shield by Isolatek.
 - c) Equal approved by Architect before bidding. See Section 01 6000.
 - 2) For fireproofing applications which will be exposed to possible damage by mechanical forces such as mechanical and electrical closets, stairwells, etc:
 - a) Type 106 with Topkrete by Grace.
 - b) Cafco Deck-Shield 460 by Isolatek.
 - c) Equal approved by Architect before bidding. See Section 01 6000.
- 2. Water: Potable and free of substances which will adversely affect fireproofing materials.
- 3. Adhesive / Sealers / Top Coating: Where required by UL / ULC Design or as recommended by Fireproofing Manufacturer.
- 4. Expanded Metal Lath, Fiber: Where required by UL / ULC Design or as recommended by Fireproofing Manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive fireproofing for conditions that may impair bonding and application.
- B. Ensure ducts, piping, conduit, and other suspended equipment that would interfere with proper application of fireproofing are not positioned until fireproofing work is completed.
- C. Verify clips, hangers, supports, sleeves, and other attachments penetrating sprayed fireproofing are placed before installing fireproofing.

3.2 PREPARATION

- A. Surface:
 - 1. Treat non-compatible paints, new galvanized steel, and similar high gloss surfaces as specified in Manufacturer's latest printed application instructions.
 - 2. Clean substrate of dirt, dust, grease, oil, loose material, mill scale, or other matter that may affect bond of sprayed fireproofing to substrate.
- B. Protection of Adjacent Surfaces:
 - 1. Protect finished surfaces, such as painted walls, floors, exposed ceilings, tile, windows, and in-place equipment from damage.
 - 2. Provide temporary enclosures to prevent overspray from escaping work area.
 - 3. Protect adjacent surfaces and equipment from danger by overspray. Mask adjacent work if necessary.
 - 4. Close off and seal duct work in areas where fireproofing is being applied.
- C. Do not commence application of fireproofing to underside of deck assemblies until roofing and roof top equipment is completely installed and watertight. Prohibit roof traffic upon commencement of sprayed fireproofing application and until fireproofing is fully cured.

- D. Do not commence application of fireproofing to underside of steel floor decks until completion of concrete work on deck.
- E. Beginning application work shall indicate acceptance of surface, and this Section shall be held accountable for unsatisfactory results.

3.3 APPLICATION

- A. Interface With Other Work:
 - 1. Install fireproofing after steel is in place but before ducts, pipework, equipment, and similar obstructions are in place.
 - 2. Patch damaged or removed fireproofing before concealment of fireproofing by other work.
- B. Mix and apply fireproofing materials in accordance with Manufacturer's printed instructions and fire resistive ratings specified.
 - 1. Apply primer adhesive, sealer or abrasive resistant coating where required or recommended by Fireproofing Manufacturer.
 - 2. Apply fireproofing materials at required thickness and density to achieve following ratings:
 - a. Columns: Four hours.
 - b. Beams: Three hours.
 - c. Other structural steel: Two hours.
 - 3. Determine thickness of application by frequent, random probings with approved measuring device to assure adequate applied thickness to match approved sample.

3.4 FIELD QUALITY CONTROL

- A. Field Tests:
 - 1. County Representative may arrange for Independent Testing Agency to perform random test as follows:
 - a. Thickness and density testing following test methods specified in ASTM E605.
 - b. Cohesion / adhesion testing following test methods specified in ASTM E736.
 - 2. Correct unacceptable work and retest as required to prove acceptability of installation at no additional cost to Owner.

3.5 CLEANING

- A. Remove overspray in each area as work in area is completed.
- B. Remove fireproofing from materials and surfaces not specifically required to be fireproofed.

3.6 PROTECTION

- A. Restrict other trades from working on or adjacent to freshly applied fireproofing for at least 24 hours after application has been completed.
- B. Protect fireproofing until permanent cover is installed or until completion where exposed to view.

END OF SECTION

SECTION 07840

FIRESTOPPING

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install firestopping not involving penetrations as described in Contract Documents.
 - 2. Quality of firestopping materials and systems used for penetrations on Project, including submittal requirements.
- B. Related Sections
 - 1. Furnishing and installing of penetration firestopping specified under Section installing work penetrating structure.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM E 814-00, 'Standard Test Method for Fire Tests of Through-Penetration Fire Stops'
- B. International Conference of Building Officials
 - 1. ICBO, 'Uniform Building Code (UBC), Volume 1, Administrative, Fire and Life Safety, and Field Inspection Provisions'
- C. Underwriter's Laboratories
 - 1. UL 1479, 'Fire Tests of Through-Penetration Firestops'
 - 2. Fire Resistance Directory, current edition, contains listing of approved Penetration Firestop Systems

1.3 DEFINITIONS

- A. Penetration Firestop System - An assemblage of specific materials or products that are designed, tested, and fire resistive in accordance with UBC Standard 7-5 to resist passage of fire through penetrations for prescribed period of time.

1.4 SUBMITTALS

- A. Shop Drawings - Show each type of Penetration Firestop System with design approval reference number.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements
 - 1. Each Penetration Firestop System shall be UL listed for that type of penetration occurring on Project.
 - 2. Ratings shall be in accordance with ASTM E 814, UL 1479, or UBC Standard No 43-6 as acceptable to local code authority.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Sealant, packing material, or collar system required by Firestop Manufacturer for Firestop Penetration System to comply with listed design.

2.2 ACCEPTABLE MANUFACTURERS

- A. FlameStop V by Flame Stop Inc, Keller, TX (817) 431-3747 www.flamestop.com
- B. High Performance Firestop Systems by Hilti, Tulsa, OK (800) 333-1150 or (918) 252-6000
www.hilti.com
- C. Specified Technologies Inc, Somerville, NJ (800) 992-1180 or (908) 526-8000
www.stifirestop.com
- D. 3M Fire Protection Products by 3M, St Paul, MN (800) 328-1687 or (612) 733-4755
www.mmm.com
- E. Tremco Firestopping Systems by Tremco, Beachwood, OH (800) 562-2728 or (216) 292-5000
www.tremcosealants.com
- F. Equal as approved by Architect prior to bidding. Subject to OSHPD approval.

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 07920

JOINT SEALANTS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install sealants not specified to be furnished and installed under other Sections.
 - 2. Quality of sealants to be used on Project not specified elsewhere, including submittal, material, and installation requirements.

- B. Related Sections
 - 1. Removing existing sealants specified in Sections where work required.
 - 2. Furnishing and installing of sealants is specified in Sections specifying work to receive new sealants.

 - 3. Section 09822 - Acoustical sealants

1.2 SUBMITTALS

- A. Product Data
 - 1. Manufacturer's literature and installation recommendations for each Product.
 - 2. Schedule showing joints requiring sealants. Show also backing and primer to be used.

- B. Quality Assurance / Control - Certificate from Manufacturer indicating date of manufacture.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Handle to prevent inclusion of foreign matter, damage by water, or breakage.

- B. Deliver and keep in original containers until ready for use.

- C. Do not use damaged or deteriorated materials.

- D. Store in a cool place, but never under 40 deg F.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Sealants
 - 1. Sealants provided shall meet Manufacturer's shelf-life requirements.
 - 2. Building Elements -
 - a. Joints and cracks around windows
 - b. Aluminum entrance perimeters and thresholds
 - c. Door frames
 - d. Columns
 - e. Wall penetrations
 - f. Connections
 - g. Joints at wall-sill for sound insulated walls
 - g. Other joints necessary to seal off building from outside air and moisture
 - h. Approved Products -
 - 1) Dow Corning -
 - a) Primer - 1200

- b) Sealant - 791
 - 2) General Electric -
 - a) Primer - SCP 3154
 - b) Sealant - Silpruf
 - 3) Tremco -
 - a) Primer -
 - (1) Metal - No. 20
 - (2) Other - No. 23
 - b) Sealant - Spectrum 1
 - 3. Exterior Sheet Metal And Miscellaneous -
 - a. Roof vents and flues
 - b. Mechanical units and mechanical curbs
 - c. Flashings
 - d. Approved Products -
 - 1) 791 or 790 by Dow Corning
 - 2) Sikaflex 15LM by Sika Corp
 - 3) Tremsil 600 by Tremco
 - 4. Interior -
 - a. Inside jambs and heads of exterior door frames
 - b. Inside perimeters of windows
 - c. Miscellaneous gaps between substrates
 - d. Joints at wall sill for sound insulated walls, both sides
 - e. Approved Products -
 - 1) Trademate Paintable by Dow Corning
 - 2) Acrylic Latex 834 by Tremco
 - 5. Interior At Exposed Masonry Walls -
 - a. Both sides of interior door frames
 - b. Approved Products -
 - 1) Trademate Paintable by Dow Corning
 - 2) Acrylic Latex 834 by Tremco
 - 7. Interior Joints Formed By -
 - a. Countertops and backsplash to wall
 - b. Sinks and lavatories to countertops
 - c. Termination joints in showers
 - d. Approved Products -
 - 1) Trademate Tile & Ceramic Sealant by Dow Corning
 - 2) Sanitary 1700 by General Electric
 - 3) Tremsil 200 by Tremco
 - 8. Color - As selected by Architect from Manufacturer's standard colors.
- B. Backing - Flexible closed cell, non-gassing polyurethane or polyolefin rod or bond breaker tape as recommended by Sealant Manufacturer for joints being sealed.

2.2 MANUFACTURERS

- A. Dow Corning Corp, Midland, MI (800) 248-2481 or (517) 496-6000 www.dowcorning.com
- B. G E Silicone Products, Waterford, NY (800) 255-8886 or (518) 237-3330
www.ge.com/silicones/sealants
- C. Sika Corporation, Lyndhurst, NJ (800) 933-7452 or (201) 933-9379 www.sika.com
- D. Tremco, Cleveland, OH (800) 321-7906 or (216) 292-5000 www.tremcosealants.com

PART 3 EXECUTION

3.1 PREPARATION

- A. Remove existing sealants where specified. Surfaces shall be clean, dry, and free of dust, oil, grease, dew, or frost.

- B. Apply primer.
- C. Joint Backing
 - 1. Rod for open joints shall be at least 1-1/2 times width of open joint and of thickness to give solid backing. Backing shall fill up joint so depth of sealant bite is no more than 3/8 inch deep.
 - 2. Apply bond-breaker tape in shallow joints as recommended by Sealant Manufacturer.

3.2 APPLICATION

- A. Apply sealant with hand-calking gun with nozzle of proper size to fit joints. Use sufficient pressure to insure full contact to both sides of joint to full depth of joint.
- B. Tool joints immediately after application of sealant if required to achieve full bedding to substrate or to achieve smooth sealant surface.
- C. Depth of sealant bite shall be 1/4 inch minimum and 1/2 inch maximum, but never more than one half or less than one fourth joint width.
- D. Do not apply calking at temperatures below 40 deg F.
- E. Calk gaps between painted or coated substrates and unfinished or pre-finished substrates. Calk gaps between painted or coated substrates larger than 3/16 inch.

3.3 CLEANING

- A. Clean adjacent materials which have been soiled immediately (before setting) as recommended by Manufacturer.

END OF SECTION

DIVISION 08
DOORS AND WINDOWS

08100 METAL DOORS AND FRAMES

08115 STANDARD STEEL FRAMES

08200 WOOD AND PLASTIC DOORS

08211 FLUSH WOOD DOORS / Field-Finished

08300 SPECIALTY DOORS

08310 ACCESS DOORS AND PANELS

08400 ENTRANCES AND STOREFRONTS

08411 ALUMINUM-FRAMED STOREFRONTS

08500 WINDOWS

08581 STEEL WINDOWS

08700 HARDWARE

08710 DOOR HARDWARE

08800 GLAZING

08810 GLASS

END OF TABLE OF CONTENTS

1. Provide three jamb anchors minimum for each jamb. On hinge side, install one anchor at each hinge location. On strike side, install one anchor at strike level and anchors at same level as top and bottom hinges. Tack weld anchors on frames intended for installation in framed walls.
2. Frames installed before walls are constructed shall be provided with extended base anchors in addition to other specified anchors.
3. Anchor types and configurations shall meet wall conditions.

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 08211

FLUSH WOOD DOORS / Field-Finished

PART 1 GENERAL

1.1 SUMMARY

- A. Products Supplied But Not Installed Under This Section
 - 1. Flush wood doors

- B. Related Sections
 - 1. Section 06202 - Installation

1.2 SUBMITTALS

- A. Product Data
 - 1. Manufacturer's product literature.
 - 2. Maintenance and repair instructions.

- B. Shop Drawings - Schedule showing type of door at each location. Included shall be size, veneer, core type, fire rating, hardware prep, openings, blocking, etc.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver in clean truck and, in wet weather, under cover. Deliver to building site after taping compound are dry.

- B. Store doors in a space having controlled temperature and humidity range between 25 and 55 percent. Store flat on level surface in dry, well ventilated space. Cover to keep clean but allow air circulation. Do not subject doors to direct sunlight, abnormal heat, dryness, or humidity.

- C. Handle with clean gloves and do not drag doors across one another or across other surfaces.

1.4 WARRANTY

- A. Manufacturer's standard full door warranty for lifetime of original installation
 - 1. Warranty shall include finishing, hanging, and installing hardware if manufacturing defect was discovered after door was finished and installed.
 - 2. Warranty to include defects in materials including following -
 - a. Delamination in any degree.
 - b. Warp or twist of 1/4 inch or more in door panel at time of one year warranty inspection.
 - c. Telegraphing of core assembly - Variation of 1/100 inch or more in a 3 inch span.

PART 2 PRODUCTS

2.1 MANUFACTURED UNITS

- A. Wood Doors
 - 2. For Opaque Finish -
 - a. Type - AWI PC-5
 - b. Grade - AWI Economy
 - c. Face Veneer - Paint grade Birch.
 - d. Adhere all glue lines with Type II adhesive minimum, including veneer lay-up.
 - 1. Core -
 - a. Fully bonded to stiles and rails and sanded as a unit prior to applying veneers.
 - b. Non-Rated And Fire-Rated, AWI FD 1/3 -

- 1) 32 lb density meeting requirements of ANSI A 208.1 Mat Formed Wood Particle Board, Grade 1-L-1 minimum.
- 2) Stiles -
 - a) 1-3/8 inches deep minimum before fitting.
 - b) 1/4 inch minimum of stile face to be hardwood matching face veneer material.
- 3) Rails -
 - a) 1-1/8 inches
 - b) Manufacturer's option.

2.2 APPROVED MANUFACTURERS

- A. Oshkosh Architectural Door Co, Oshkosh, WI
- B. VT Industries, Holstein, IA
- C. Marshfield Door Systems Inc, Marshfield, WI

2.3 FABRICATION

- A. Doors shall be factory-machined. Coordinate with Section 08115 and Sections under 08700.

2.4 SOURCE QUALITY CONTROL

- A. Verification of Performance
 1. Doors shall have following information permanently affixed on top of door -
 - a. Manufacturer
 - b. Door designation or model
 - c. Veneer species

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 08310

ACCESS DOORS AND PANELS

PART 1 GENERAL

1.1 SUMMARY

- A. Products Supplied But Not Installed Under This Section
 - 1. Manufactured access doors.
- B. Related Sections
 - 1. Section 06201 -Installation

PART 2 PRODUCTS

2.1 MANUFACTURED UNITS

- A. Ceiling or Wall Access Doors
 - 1. Manually operated with key operated lock, single cam handle, and continuous piano hinge hardware.
 - 2. Factory powder-coated prime finish.
 - 3. Non-Fire-Rated Quality Standards -
 - a. Acoustical Tile - DSC-210 by Karp
 - b. Plaster - DSC-210 PL by Karp
 - c. Drywall - KDW or Sesame (KSTDW or KSTE) by Karp
 - d. Masonry - DSC-214M by Karp
 - 4. Fire-rated Quality Standard -
 - a. KRP-250FR or KRP-450FR by Karp
 - 5. Manufacturers -
 - a. Dur-Red Products, Cudahy, CA (323) 771-9000 www.dur-red.com
 - b. Elmdor Stoneman, City of Industry, CA (800) 591-9181 or (626) 968-8699 www.elmdor.com
 - c. Jensen Industries, Los Angeles, CA (800) 325-8351 or (213) 235-6800
 - d. Karp Associates Inc, Maspeth, NY (800) 888-4212 or (718) 784-2105 www.karpinc.com
 - e. Equal as approved by Architect before bidding.

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 08411

ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install aluminum storefront including hardware and calking, as described in Contract Documents.
- B. Related Sections
 - 1. Section 07920 - Quality of sealants
 - 2. Section 08810 - Quality of glass and glazing

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM B 221-00, 'Standard Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes'

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements
 - 1. Products of this Section are to be furnished and installed in accordance with procedures established in Contract Document requirements.

1.4 SUBMITTALS

- A. Product Data
 - 1. Manufacturer's literature or cut sheets for storefront system and for each item of hardware.
 - 2. Color and finish selections
 - 3. Maintenance, adjustment, and repair instructions
 - 4. Parts lists
- B. Shop Drawings
 - 1. Show locations, sizes of windows.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all parts of door, together with hardware, to Project at same time.

PART 2 PRODUCTS

2.1 COMPONENTS

- A. Frames
 - 1. Aluminum - 6063-T5 aluminum alloy or meeting requirements of ASTM B 221, alloy GS 10A-T5)
 - 2. Sealer Tape - 3M
 - 3. Fasteners - Aluminum or non-magnetic stainless steel. Concealed fastenings shall be cadmium or zinc-plated steel.
 - 4. Finish - Match existing storefront system's dark bronze finish. Field verify prior to ordering.
 - 5. Frames shall be from same Manufacturer as doors.
 - a. Kawneer
 - b. Vistawall

- c. Equal as approved by architect and County Representative
- 6. Approved Products -
 - a. Double Glazed -
 - 1) Trifab '451' by Kawneer
 - 2) Series FG3000 2x4-1/2 by Vistawall
- B. Glazing Characteristics
 - 1. Interior Glazing - Clear
 - 2. Exterior Doors And Storefront Opening -
 - a. Clear interior pane and exterior pane Gray tinted with Low E treatment on surface 2. Match existing.
 - 3. All glazing shall be tempered.

2.2 FABRICATION

- A. Construction shall meet Manufacturer's recommendations. Joints shall be tightly closed.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Use sealer tape to prevent electrolytic action.
- B. Set plumb, square, level in correct alignment, and securely anchor.
- C. Calk joints between frames and walls, both interior and exterior.

END OF SECTION

SECTION 08581

STEEL WINDOWS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Furnish all labor and materials to complete the fabrication of fixed and sliding windows as shown on plans and as specified herein. All work shall include, but not be limited to, the following:
2. Steel double weather-stripped lift and slide windows and frames.
3. Steel fixed windows and frames.
4. All window anchors, mullions, covers and trim
5. Factory applied finish.

B. Related work specified elsewhere:

1. Glass, glazing and glazing materials, Section 08810.
2. Perimeter caulking, Section 07920.
3. Miscellaneous structural items, Section 05100.

1.2 QUALITY ASSURANCE

A. Manufacturer shall have not less than (5) years experience in the fabrication of custom formed steel windows.

B. Installation of windows shall be done by experienced window installers with at least five years experienced installing similar applications.

C. Allowable tolerances: Size dimensions + 1/16 inch.

D. Source quality control:

1. Quality of e-coat/ top-coat combination shall meet or exceed the following ASTM designations:
 - a. ASTM D714- Paint Blistering Test
 - b. ASTM D4585 – Humidity Test
 - c. ASTM D4541 – Pull Off Strength of Coating Test.
2. Upon request, the window manufacturer shall provide a test report from a qualified independent U.S. testing laboratory regularly engaged in testing windows to verify that his products conform to these test requirements.

1.3 SUBMITTALS

A. Samples:

1. Typical window corner with glazing beads.
2. Sample of specified muntin, showing welded intersections and glazing beads.
3. Color sample of finish.
4. Hardware.

B. Shop drawings and manufacturer's literature:

1. Submit for approval shop drawings showing window and installation details, including anchorage, fastening and recommended sealing methods.
2. Dimensioned elevations showing window opening and window sizes.
3. The manufacturer shall not commence any work until shop drawings have been approved.
4. Color charts for finishes.

1.4 PRODUCT, STORAGE AND HANDLING

- A. The General Contractor shall be responsible for the protection and storage of the windows after delivery to the site.
- B. Store in designated areas in an upright position on wood slats or on a dry floor in a manner that will prevent damage. Ventilate canvas or plastic coverings to prevent humidity buildup.

1.5 WARRANTY

- A. Provide standard (10) year manufacturer's Limited Warranty. Submit project specific written warranty to include but not limited to project name, address and owner information.

PART 2 - PRODUCT AND FABRICATION

2.1 MATERIALS

- A. Windows shall be fabricated by Hope's Windows, Inc., 84 Hopkins Ave., Jamestown, New York, 716-665-5124. Hope's window products are used to establish the standard of workmanship and quality of construction required for this project. Contractor may submit substitution for equal products as approved by Architect, County Representative and OSHPD. Any substitutions shall be approved by OSHPD prior to ordering, fabricating or installation of windows.
- B. Frames shall be manufactured from 12 gauge galvanized sheet steel.
- C. Hardware and weatherstrip adaptors shall be extruded aluminum Alloy 6063-T5 with a minimum thickness of .100 inches.
- D. Glazing beads shall be extruded aluminum Alloy 6063-T5 with a minimum thickness of .062 inches.
- E. Hardware reinforcements shall be 7, 10 or 12 gauge to suit specified hardware.
- F. All screws for hardware, trim, covers, anchoring, etc. shall be non-ferrous brass or stainless steel. Glazing bead screws are plated steel.
- G. Paint
 - 1. Pre-treatment.
 - 2. Primer - E-Coat (Electrodeposited epoxy primer).
 - 3. Finish coat – Factory applied polyurethane.

2.2 FABRICATION

- A. Fabricate steel windows in accordance with approved shop drawings.
- B. Perimeter frame corners shall be coped and fully welded for maximum strength and weathertightness with face welds dressed smooth.
- C. Window leaves shall have top and bottom rails coped and welded to the jamb stiles.
- D. Glazing
 - 1. All windows shall be designed for inside or outside glazing.
 - 2. Provide replaceable continuous snap-in glazing beads to suit the glass as specified.
 - 3. Glazing beads shall be cut and shop fitted to each glass lite prior to shipment.
- E. Factory Finishing
 - 1. Shot Blasting
 - a. Before any machining or welding is performed, all hot-rolled steel sections shall be cleaned by shot blasting to remove any loose scale.
 - 2. Bonderizing

- a. After fabrication, windows, mullions, covers, and trim shall be subjected to a 10 stage bonderizing pre-treatment process that produces a non-metallic phosphate coating on the surface of the steel in preparation for e-coat priming system.
3. E-Coat Prime Painting
 - a. Following the pretreatment, windows and accessories are e-coated with a cathodic epoxy primer of PPG Powercron[®] 8000 or equivalent to insure all surfaces are evenly covered. Spray or dip primers shall not be acceptable.
 - b. Immersed in a rinse of ultra-filtered RO water for 3 min to remove all the excess paint and removing any runs.
 - c. A spray of ultra-filtered RO water repeats the above process to further improve surface conditions.
 - d. The primer is oven baked to 335 degrees F for 15 minutes to a dry film thickness of 0.7 - 1.0 mil.
 - e. The material is then cooled in preparation for the finish coat.
4. Ultrathane Finish Painting
 - a. Following the prime coat, all windows and accessories are given a spray coat of acrylic polyurethane and oven baked at 225 degrees F for 15 minutes to dry film thickness of 1.5 to 2.0 mils.
 - b. The combined overall dry film thickness of the prime coat and finish coat shall be 2.2 - 3.0 mils.
 - c. The architect shall choose from an unlimited color selection. Some colors may require clear coats for added protection.
5. E-Coat/top coat combination shall provide full documented compliance with all ASTM designations as outlined in Quality Assurance portion of the specifications.

2.3 OPERABLE HARDWARE

- A. Heavy duty 4-wheel carriage composed of plated steel and zinc die cast components with needle bearings for smooth operation.
- B. Multipoint lift-locking gear device with interior lever handle.
- C. Head and sill tracks shall be extruded aluminum Alloy 6063-T5.
- D. Weather-stripping shall be vinyl extrusions specially design to fit into aluminum adaptors around the perimeter of the window leaf with air blocks strategically attached at the corners to complete the air seal.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Window openings shall conform to details, dimensions and tolerances shown on the window manufacturer's approved shop drawings.
- B. Conditions which may adversely affect the window installation must be corrected before installation commences.

3.2 INSTALLATION

- A. Windows specified under this section shall be installed by experienced personnel.
- B. Install windows in openings in strict accordance with approved shop drawings.
 1. Set units plumb, level and true to line, without warp or rack of frames.
 2. Anchor units securely to surrounding construction with approved fasteners.
 3. The exterior joints between the windows, trim and mullions shall be properly sealed water-tight with an approved sealant and neatly pointed.

- C. Attach window hardware, as required, and adjust windows to operate smoothly free from twist and to be weather-tight when closed.
- D. Repair any abraded areas of the factory finish.

3.3 CLEANING

- A. Window installer shall leave window surfaces clean after installation and ready to receive glass and glazing. The window installer will not be responsible for final cleaning.

End of Section

SECTION 08710

DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Door Hardware.
 - 2. Storefront and entrance door hardware.
- B. Related Sections:
 - 1. Section 06200 - Finish Carpentry: Finish Hardware Installation
 - 2. Section 07900 - Joint Sealers – exterior thresholds
 - 3. Section 08100 - Metal Doors and Frames
 - 4. Section 08200 - Wood and Plastic Doors
 - 5. Section 08400 - Entrances and Storefronts
- C. Specific Omissions: Hardware for the following is specified or indicated elsewhere.
 - 1. Cabinets, including open wall shelving and locks.
 - 2. Installation.
 - 3. Rough hardware.

1.2 REFERENCES:

- A. American National Standards Institute – ANSI 156.18 – Materials and Finishes.
- B. ICC/ANSI A117.1 - 1998 – Specifications for making buildings and facilities usable by physically handicapped people.
- C. ADA – Americans with Disabilities Act of 1990
- D. BHMA – Builders Hardware Manufacturers Association
- E. DHI – Door and Hardware Institute
- F. NFPA – National Fire Protection Association
 - 1. NFPA 80 – Fire Doors and Windows
 - 2. NFPA 105 – Smoke and Draft Control Door Assemblies
 - 3. NFPA 252 – Fire Tests of Door Assemblies
- G. UL – Underwriters Laboratories
 - 1. UL10C – Positive Pressure Fire Tests of Door Assemblies.
- H. WHI – Warnock Hersey Incorporated State of California Building Code
- I. SDI – Steel Door Institute
- J. WI – Woodwork Institute
- K. AWI – Architectural Woodwork Institute

- L. NAAMM – National Association of Architectural Metal Manufacturers

1.3 SUBMITTALS & SUBSTITUTIONS

- A. SUBMITTALS: Submit six copies of schedule. Only submittals printed one sided will be accepted and reviewed. Organize vertically formatted schedule into "Hardware Sets" with index of doors and headings, indicating complete designations of every item required for each door or opening. Include following information:
 - 1. Type, style, function, size, quantity and finish of hardware items.
 - 2. Use BHMA Finish codes per ANSI A156.18.
 - 3. Name, part number and manufacturer of each item.
 - 4. Fastenings and other pertinent information.
 - 5. Location of hardware set coordinated with floor plans and door schedule.
 - 6. Explanation of abbreviations, symbols, and codes contained in schedule.
 - 7. Mounting locations for hardware.
 - 8. Door and frame sizes, materials and degrees of swing.
 - 9. List of manufacturers used and their nearest representative with address and phone number.
 - 10. Catalog cuts.
 - 11. Manufacturer's technical data and installation instructions for electronic hardware.
 - 12. Date of jobsite visit.
- B. Bid and submit manufacturer's updated/improved item if scheduled item is discontinued.
- C. Deviations: Highlight, encircle or otherwise identify deviations from "Schedule of Finish Hardware" on submittal with notations clearly designating those portions as deviating from this section.
- D. If discrepancy between drawings and scheduled material in this section are identified, submit RFI prior to bidding.
- E. Substitutions. Include product data and indicate benefit to the Project. Furnish operating samples on request.
- F. Furnish as-built/as-installed schedule with closeout documents, including keying schedule, wiring diagrams, manufacturers' installation, adjustment and maintenance information, and supplier's final inspection report.

1.4 QUALITY ASSURANCE:

- A. Qualifications:
 - 1. Hardware supplier: direct factory contract supplier who employs a certified architectural hardware consultant (AHC), available at reasonable times during course of work for project hardware consultation to Owner, Architect and Contractor.
 - a) Responsible for detailing, scheduling and ordering of finish hardware. Detailing implies that the submitted schedule of hardware is correct and complete for the intended function and performance of the openings.
- B. Hardware: Free of defects, blemishes and excessive play. Obtain each kind of hardware (latch and locksets, exit devices, hinges and closers) from one manufacturer.

- C. Exit Doors: Operable from inside with single motion. In patient areas, exit doors shall only be opened with the use of a key by attending staff in order to prevent patients from leaving Suite unattended.
- D. Fire-Rated Openings: NFPA 80 compliant. Hardware UL10C / California State Fire Marshal Standard 12-7-4 (positive pressure) compliant for given type/size opening and degree of label. Provide proper latching hardware, non-flaming door closers, approved-bearing hinges, and resilient seals. Coordinate with wood door section for required intumescent seals. Furnish openings complete.
- E. Note: scheduled resilient seals may exceed selected door manufacturer's requirements.
- F. See 2.6.E for added information regarding resilient and intumescent seals.
- G. Furnish hardware items required to complete the work in accordance with specified performance level and design intent, complying with manufacturers' instructions.

1.5 DELIVERY, STORAGE AND HANDLING:

- A. Delivery: coordinate delivery to appropriate locations (shop or field).
 - 1. Permanent keys and cores: secured delivery direct to Owner's representative.
- B. Acceptance at Site: Items individually packaged in manufacturers' original containers, complete with proper fasteners and related pieces. Clearly mark packages to indicate contents, locations in hardware schedule and door numbers.
- C. Storage: Provide securely locked storage area for hardware, protect from moisture, sunlight, paint, chemicals, dust, excessive heat and cold, etc.

1.6 PROJECT CONDITIONS AND COORDINATION:

- A. Where exact types of hardware specified are not adaptable to finished shape or size of members requiring hardware, provide suitable types having as nearly as practical the same operation and quality as type specified, subject to Architect's approval.
- B. Coordination: Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents. Furnish related trades with the following information:
 - 1. Location of embedded and attached items to concrete.
 - 2. Location of wall-mounted hardware, including wall stops.
 - 3. Location of finish floor materials and floor-mounted hardware.
 - 4. Manufacturer templates to door and frame fabricators.
- C. Check Shop Drawings for doors and entrances to confirm that adequate provisions will be made for proper hardware installation.
- D. Prior to submittal, carefully inspect existing conditions to verify finish hardware required to complete Work, including sizes, quantities, existing hardware scheduled for re-use, and sill condition material. If conflict between the specified/scheduled hardware and existing conditions, submit request for direction from Architect. Include date of jobsite visit in the submittal.
 - 1. Submittals prepared without thorough jobsite visit by qualified hardware expert will be rejected as non-compliant.

1.7 WARRANTY:

- A. Part of respective manufacturers' regular terms of sale. Provide manufacturers' written warranties:
- | | | |
|----|----------------|-------------|
| 1. | Locksets: | Three years |
| 2. | Closers: | Ten years |
| 3. | Hinges: | One year |
| 4. | Other Hardware | Two years |

1.8 COMMISSIONING:

- A. Conduct these tests prior to request for certificate of substantial completion:
1. With installer present, test door hardware operation with climate control system and at rest and while in full operation.

PART 2 PRODUCTS

2.1 MANUFACTURERS:

- A. The Following manufactures are the design standards on the project.
- A. Manufacturers and their abbreviations used in this schedule:
- | | |
|-----|-------------------------|
| IVE | H. B. Ives |
| GLY | Glynn-Johnson Hardware |
| LCN | LCN Closers |
| NGP | National Guard Products |
| SCH | Schlage Lock Company |
- B. Equal as approved by Architect and County Representative prior to bidding.

2.2 HINGING METHODS:

- A. Drawings typically depict doors at 90 degrees, doors will actually swing to maximum allowable. Use wide-throw conventional or continuous hinges as needed up to 8 inches in width to allow door to stand parallel to wall for true 180-degree opening. Advise architect if 8-inch width is insufficient.
- B. Conform to manufacturer's published hinge selection standard for door dimensions, weight and frequency, and to hinge selection as scheduled. Where manufacturer's standard exceeds the scheduled product, furnish the heavier of the two choices, notify Architect of deviation from scheduled hardware.
- C. Conventional Hinges: Steel or stainless steel pins and concealed bearings. Hinge open widths minimum, but of sufficient throw to permit maximum door swing.
1. Outswinging exterior doors and interior doors: non-ferrous with non-removable (NRP) pins and security studs.
 2. Non-ferrous material exteriors and at doors subject to corrosive atmospheric conditions.
- D. Continuous Hinges:
1. Geared-type aluminum.
 - a) Use wide-throw units where needed for maximum degree of swing, advise architect if commonly available hinges are insufficient.

2.3 LOCKSETS, LATCHSETS, DEADBOLTS:

- A. Mortise Locksets and Latchsets: as scheduled.
1. Chassis: cold-rolled steel, handing field-changeable without disassembly.
 2. Latchbolts: 3/4 inch throw stainless steel anti-friction type.
 3. Lever Trim: through-bolted, accessible design, cast lever or solid extruded bar type levers as scheduled. Filled hollow tube design unacceptable.
 - a) Spindles: security design independent breakaway. Breakage of outside lever does not allow access to inside lever's hubworks to gain wrongful entry.
 4. Furnish solid cylinder collars with wave springs. Wall of collar to cover rim of mortise cylinder.
 5. Thumbturns: accessible design not requiring pinching or twisting motions to operate.
 6. Deadbolts: stainless steel 1-inch throw.
 7. Electric operation: Manufacturer-installed continuous duty solenoid.
 8. Strikes: 16 gage curved steel, bronze or brass with 1 inch deep box construction, lips of sufficient length to clear trim and protect clothing.
 9. Scheduled Lock Series and Design: Schlage L series, 06A design.
 10. Certifications:
 - a) ANSI A156.13, 1994, Grade 1 Operational, Grade 1 Security.
 - b) ANSI/ASTM F476-84 Grade 31 UL Listed.

2.4 CLOSERS:

- A. Surface Closers:
1. Full rack-and-pinion type cylinder with removable non-ferrous cover and cast iron body. Double heat-treated pinion shaft, single piece forged piston, chrome-silicon steel spring.
 2. ISO 2000 certified. Units stamped with date-of-manufacture code.
 3. Independent lab-tested 10,000,000 cycles.
 4. Non-sized and adjustable. Place closers inside building and rooms.
 5. Plates, brackets and special templating when needed for interface with particular header, door and wall conditions and neighboring hardware.
 6. Advanced Variable Backcheck (AVB): where scheduled, these units commence backcheck at approximately 45 degrees.
 7. Adjustable to open with not more than 5.0lbs pressure to open at exterior doors and 5.0lbs at interior doors. As allowed per California Building Code, Section 1133B.2.5, local authority may increase the allowable pressure for fire doors to achieve positive latching, but not to exceed 15lbs.
 8. Separate adjusting valves for closing speed, latching speed and backcheck, fourth valve for delayed action where scheduled.
 9. Extra-duty arms (EDA) at exterior doors scheduled with parallel arm units. EDA arms: rigid main and forearm, reinforced elbow.
 10. Exterior door closers: tested to 100 hours of ASTM B117 salt spray test, furnish data on request.

11. Exterior doors: seasonal adjustments not required for temperatures from 120 degrees F to -30 degrees F, furnish checking fluid data on request.
12. Non-flaming fluid, will not fuel door or floor covering fires.
13. Pressure Relief Valves (PRV) not permitted.

2.5 OTHER HARDWARE:

- A. Overhead Stops: Non-plastic mechanisms and finished metal end caps. Field-changeable hold-open, friction and stop-only functions.
- B. Kick Plates: Four beveled edges, .050 inches minimum thickness, height and width as scheduled. Sheet-metal vandal proof screws of bronze or stainless steel to match other hardware.
- C. Door Stops: Provide stops to protect walls, casework or other hardware.
 1. If neither can be used, provide overhead type.
 2. Locate overhead stops for maximum possible opening. Consult with Owner for furniture locations. Minimum: 90deg stop / 95deg deadstop. Note degree of opening in submittal.
- D. Seals: Finished to match adjacent frame color. Resilient seal material: polyurethane, polypropylene, nylon brush, silicone rubber or solid high-grade neoprene as scheduled. Do not furnish vinyl seal material. UL label applied to seals on rated doors. Substitute products: certify that the products equal or exceed specified material's thickness and durability.
 1. Proposed substitutions: submit for approval.
 2. Solid neoprene: MIL Spec. R6855-CL III, Grade 40.
 3. Non-corroding fasteners at in-swinging exterior doors.
 4. Sound control openings: Use components tested as a system using nationally accepted standards by independent laboratories. Ensure that the door leafs have the necessary sealed-in-place STC ratings. Fasten applied seals over bead of sealant.
 5. Fire-rated Doors, Resilient Seals: UL10C / UBC Standard 7-2 compliant. Coordinate with selected door manufacturers' and selected frame manufacturers' requirements. Where rigid housed resilient seals are scheduled in this section and the selected door manufacturer only requires an adhesive-mounted resilient seal, furnish rigid housed seal at minimum, or both the rigid housed seal plus the adhesive applied seal. Adhesive applied seals alone are deemed insufficient for this project where rigid housed seals are scheduled.
 6. Fire-rated Doors, Intumescent Seals: Furnished by selected door manufacturer. Furnish fire-labeled opening assembly complete and in full compliance with UL10C / UBC Standard 7-2. Where required, intumescent seals vary in requirement by door type and door manufacture -- careful coordination required
- E. Thresholds: As scheduled and per details. Comply with CBC Section 1133B.2.4.1. Substitute products: certify that the products equal or exceed specified material's thickness. Proposed substitutions: submit for approval.
 1. Exteriors: Seal perimeter to exclude water and vermin. Use sealant complying with requirements in Division 7 "Thermal and Moisture Protection". Non-ferrous 1/4inch fasteners and lead expansion shield anchors, or Red-Head #SFS-1420 (or approved equivalent) Flat Head Sleeve Anchors (SS/FHSL).
 2. Fire-rated openings, 90min or less duration: use thresholds to interrupt floor covering material under the door where that material has a critical radiant flux value less than 0.22 watts per square centimeter, per NFPA 253. Use threshold unit as scheduled. If none scheduled, request direction from Architect.

3. Acoustic openings: Set units in full bed of Division-7-compliant, leave no air space between threshold and substrate.
 4. Plastic plugs with wood or sheet metal screws are not an acceptable substitute for specified fastening methods.
 5. Fasteners: Generally, exposed screws to be Phillips or Robertson drive vandal resistant. Pinned TORX drive at high security areas. Flat head sleeve anchors (FHSL) may be slotted drive. Sheet metal and wood screws: full-thread. Sleeve nuts: full length to prevent door compression.
- F. Exposed Through-Bolts: Do not use SNB, grommet nuts, sleeve nuts or other such clamping type fasteners, intent is for minimal exposed hardware. Coordinate with wood doors; ensure provision of proper blocking to support wood screws for mounting panic hardware and door closers. Coordinate with metal doors and frames; ensure provision of proper reinforcement to support machine screws for mounting panic hardware and door closers.
- G. Silencers: Interior hollow metal frames, 3 for single doors, 4 for pairs of doors. Omit where adhesive mounted seal occurs. Leave no unfilled/uncovered pre-punched silencer holes.

2.6 FINISH:

- A. Generally BHMA 626 Satin Chromium.
1. Areas using BHMA 626 to have push-plates, pulls and protection plates of BHMA 630, Satin Stainless Steel, unless otherwise noted.
- B. Door closers: factory powder coated to match other hardware, unless otherwise noted.
- C. Aluminum items: match predominant adjacent material. Seals to coordinate with frame color.

2.7 KEYING REQUIREMENTS:

- A. Key System: Schlage keyway, interchangeable core. For estimate use factory GMK charge. Initiate and conduct meeting(s) with Owner and Supplier representatives to determine system requirements and keybow styles. Furnish Owner's written approval of the system.
- B. Keys
1. Existing factory registered master key system.
 2. Construction keying: furnish temporary keyed-alike cores. Remove at substantial completion and install permanent cores in Owner's presence. Demonstrate that construction key no longer operates.
 3. Furnish 10 construction keys.
 4. Furnish 2 construction control keys.
- C. Key Cylinders: furnish 6-pin solid brass construction.
- D. Cylinder cores: furnish keyed at factory of lock manufacturer where medications are maintained. Locks and cylinders same manufacturer.
- E. Permanent keys: use secured shipment direct from point of origination to Owner.
1. For estimate: 3 keys per change combination, 5 master keys per group, 5 grand-master keys, 3 control keys.
- F. Bitting List: use secured shipment direct from point of origination to Owner upon completion.

PART 3 - EXECUTION

3.1 ACCEPTABLE INSTALLERS:

- A. Can read and understand manufacturers' templates, suppliers' hardware schedules and printed installation instructions. Can readily distinguish drywall screws from manufacturers' furnished fasteners. Available to meet with manufacturers' representatives and related trades to discuss installation of hardware.

3.2 PREPARATION:

- A. Ensure that walls and frames are square and plumb before hardware installation. Make corrections before commencing hardware installation.
- B. Locate hardware per SDI-100 and applicable building, fire, life-safety, accessibility, and security codes.
 - 1. Notify Architect of code conflicts before ordering material.
 - 2. Locate levers, key cylinders, t-turn pieces and other operable portions of latching hardware between 30 inches to 44 inches above the finished floor, per CBC Section 1133B.2.5.1.
 - 3. Where new hardware is to be installed near existing doors/hardware scheduled to remain, match locations of existing hardware.
- C. Overhead stops: before installing, determine proposed locations of furniture items, fixtures, and other items to be protected by the overhead stop's action.
- D. Existing frames and doors to be retrofitted with new hardware:
 - 1. Field-verify conditions and dimensions prior to ordering hardware. Fill existing hardware cut outs not being reused by the new hardware. Remove existing hardware not being reused, return to Owner unless directed otherwise.
 - 2. Cut and weld existing steel frames currently prepared with 2- $\frac{3}{4}$ " height strikes. Cut an approx. 8" section from the strike jamb and weld in a reinforced section to accommodate specified hardware's strike.

3.3 INSTALLATION:

- A. Install hardware per manufacturer's instructions and recommendations. Do not install surface-mounted items until finishes have been completed on substrate. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate for proper installation and operation. Remove and reinstall or replace work deemed defective by Architect.
 - 1. Gaskets: install jamb-applied gaskets before closers, overhead stops, rim strikes, etc; fasten hardware over and through these seals. Install sweeps across bottoms of doors.
 - 2. When hardware is to be attached to existing metal surface and insufficient reinforcement exists, use RivNuts, NutSerts or similar anchoring device for screws.
 - 3. Use manufacturers' fasteners furnished with hardware items, or submit Request for Substitution with Architect.
 - 4. Replace fasteners damaged by power-driven tools.
- B. Core concrete for exterior door stop anchors. Set anchors in approved non-shrink grout.
- C. Locate overhead stops for minimum 90 degrees and maximum allowable degree of swing.
- D. Drill pilot holes for fasteners in wood doors and/or frames.

- E. Lubricate and adjust existing hardware scheduled to remain. Carefully remove and give to Owner items not scheduled for reuse.
- F. Field verify existing conditions and measurements prior to ordering hardware. Fill existing hardware cut outs not being used by the new hardware. Remove existing hardware not being reused.
- G. Where existing wall conditions will not allow door to swing using the scheduled hinges, provide wide-throw hinges and if needed extended arms on closers.

3.4. ADJUSTING:

- A. Adjust and check for proper operation and function. Replace units, which cannot be adjusted to operate freely and smoothly.
 - 1. Hardware damaged by improper installation or adjustment methods: repair or replace to Owner's satisfaction.
 - 2. Adjust doors to fully latch with no more than 1 pound of pressure.
 - 3. Adjust delayed-action closers on fire-rated doors to fully close from fully-opened position in no more than 10 seconds.
 - 4. Adjust door closers per 1.9 this section.
- B. Inspection: Use hardware supplier's consultant or consultant's agent. Include supplier's report with closeout documents.
- C. Final inspection: Installer to provide letter to Owner that upon completion installer has visited the Project and has accomplished the following:
 - 1. Re-adjust hardware.
 - 2. Evaluate maintenance procedures and recommend changes or additions, and instruct Owner's personnel.
 - 3. Identify items that have deteriorated or failed.
 - 4. Submit written report identifying problems

3.5 DEMONSTRATION:

- A. Demonstrate mechanical hardware, including adjustment and maintenance procedures.

3.6 PROTECTION/CLEANING:

- A. Cover installed hardware, protect from paint, cleaning agents, weathering, carts/barrows, etc. Remove covering materials and clean hardware just prior to substantial completion.
- B. Clean adjacent wall, frame and door surfaces soiled from installation/reinstallation process.

3.7 SCHEDULE OF FINISH HARDWARE:

- A. See door schedule in drawings for hardware set assignments.

SPECWORKS # 83618

HW SET: 01

SGL varies X 6'8" X 1-3/4"

EXISTING DOOR, FRAME AND HARDWARE TO
REMAIN

HW SET: 02

SGL 4'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	3CB1HW 5 X 4.5	652	IVE
1	EA	PUSH/PULL LATCH	HL6-9082	626	GLY
2	EA	CORE ONLY	23-030	626	SCH
2	EA	CONST MORTISE CYL	30-138-ICX	626	SCH
1	EA	WALL STOP	WS406CVX	628	IVE
1	SET	SEALS	5050CL	CLR	NGP

HW SET: 03

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	5BB1HT 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	SURFACE CLOSER	4011T	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS406CVX	628	IVE
1	SET	SEALS	5050CL	CLR	NGP
1			MARBLE THRESHOLD BY OTHERS		B/O

HW SET: 04

PR 5'0" X 6'8" X 1-3/4" NON-RTD

6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB257N	626	IVE
1	EA	DUST PROOF STRIKE	DP1/DP2 AS REQ'D	626	IVE
1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	ASTRAGAL	158NA	AL	NGP
1	EA	OVERHEAD STOP	900S	630	GLY
1	EA	WALL STOP	WS406CVX	628	IVE
2	EA	SILENCER	SR64	GRY	IVE

HW SET: 05

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	L9070T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	WALL STOP	WS406CVX	628	IVE
3	EA	SILENCER	SR64	GRY	IVE

HW SET: 06

PR 5'4" X 6'8" X 1-3/4" NON-RTD

6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB257N	626	IVE
1	EA	DUST PROOF STRIKE	DP1/DP2 AS REQ'D	626	IVE
1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	ASTRAGAL	158NA	AL	NGP
2	EA	OVERHEAD STOP	900S	630	GLY
2	EA	SILENCER	SR64	GRY	IVE

HW SET: 07

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	5050CL	CLR	NGP
1		MARBLE THRESHOLD BY OTHERS			B/O

HW SET: 08

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	OVERHEAD STOP	900S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

HW SET: 09

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	SURFACE CLOSER	4011T	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS406CVX	628	IVE
2	SET	SEALS	5050CL	CLR	NGP
1	EA	DOOR BOTTOM	423N	AL	NGP

HW SET: 10

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN

1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS406CVX	628	IVE
2	SET	SEALS	5050CL	CLR	NGP
1	EA	DOOR BOTTOM	423N	AL	NGP

HW SET: 11

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	SURFACE CLOSER	4011T BUMPER	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	5050CL	CLR	NGP
3	EA	SILENCER	SR64	GRY	IVE

HW SET: 12

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
	EA	CORE ONLY	23-030	626	SCH
			RE-USE BALANCE OF DOOR , FRAME & HARDWARE		

HW SET: 13

SGL varies X 6'8" X 1-3/4"

2	SET	SEALS	5050CL	CLR	NGP
			RE-USE BALANCE OF DOOR , FRAME & HARDWARE		

HW SET: 14

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080T 06A	626	SCH
1	EA	INSTITUTION LOCK	L9082T 06A	626	SCH
3	EA	CORE ONLY	23-030	626	SCH
1	EA	SURFACE CLOSER	4011T BUMPER	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	5050CL	CLR	NGP

LOCK L9082 IS TO BE MOUNTED ON RELOCATED EXISTING TEMPORARY DOOR.
 LOCK L9080 AND REST OF NEW HARDWARE WILL BE MOUNTED ON NEW DOOR AND FRAME AT COMPLETION OF JOB.

HW SET: 15

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

1	EA	SURFACE CLOSER	4011T BUMPER	689	LCN
2	SET	SEALS	5050CL	CLR	NGP
1	EA	DOOR BOTTOM	423N	AL	NGP
1	EA	THRESHOLD	AS DETAILED	AL	NGP
1			RE-USE BALANCE OF DOOR , FRAME & HARDWARE		

HW SET: 16

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

1	EA	CONTINUOUS HINGE	224HD	628	IVE
1	EA	CLASSROOM LOCK	L9070T 06A	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	THRESHOLD	AS DETAILED	AL	NGP

WEATHER SEALS BY DOOR MANUFACTURER

HW SET: 17

SGL 3'0" X 6'8" X 1-3/4" NON-RTD

3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	INSTITUTION LOCK	L9082T 06A	626	SCH
2	EA	CORE ONLY	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	KICK PLATE	8400-10" X 2" LDW	630	IVE
1	SET	SEALS	5050CL	CLR	NGP

END OF SECTION

Door Schedule

MARK	DOOR NO	HWSET	MODE	WIDTH	HEIGHT	THICK	DOOR	FRAME	RATING	OUTSIDELOCATION	INSIDELOCATION
100	100	01	SGL	varies	6'8"	1-3/4"	EX	EX		HALL	INTERVIEW ROOM
101	101	01	SGL	varies	6'8"	1-3/4"	EX	EX		DAY ROOM	RESTRAINT ROOM
102	102	02	SGL	4'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	DAY ROOM	RESTRAINT ROOM
103	103	03	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	DAY ROOM	RESTROOM
104A	104A	13	SGL	varies	6'8"	1-3/4"	EX	EX		CORRIDOR	HALL
104B	104B	01	SGL	varies	6'8"	1-3/4"	EX	EX		HALL	UNKNOWN
105	105	01	SGL	varies	6'8"	1-3/4"	EX	EX		HALL	PAITENT ROOM
106	106	01	SGL	varies	6'8"	1-3/4"	EX	EX		COURTYARD	DAY ROOM
108A	108A	04	PR	5'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	DAY ROOM	STORAGE
108B	108B	04	PR	5'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	DAY ROOM	STORAGE
109	109	05	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	DAY ROOM	INTERVIEW ROOM
110	110	05	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	DAY ROOM	INTERVIEW ROOM
111	111	01	SGL	varies	6'8"	1-3/4"	EX	EX		HALL	PATIENT ROOM
113	113	06	PR	5'4"	6'8"	1-3/4"	WD	HMF	NON-RTD	HALL	STORAGE
114	114	07	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	DAY ROOM	RESTROOM
115	115	01	SGL	varies	6'8"	1-3/4"	EX	EX		HALL	LAUNDRY
116	116	08	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	HALL	JANITOR
117	117	07	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	HALL	SHOWER
119	119	14	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	HALL	VESTIBULE
120	120	15	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	NURSE STATION	RESTROOM
122	122	01	SGL	varies	6'8"	1-3/4"	EX	EX		VESTIBULE	ELECTRICAL
123	123	09	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	HALL	WASH AREA
128	128	10	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	DAY ROOM	SCREENING
129	129	11	SGL	3'0"	6'8"	1-3/4"	WD	HMF	NON-RTD	SCREENING	MEDICATION
130	130	12	SGL	3'0"	6'8"	1-3/4"	EX	EX	NON-RTD	DAY ROOM	VESTIBULE
130A	130A	17	SGL	3'0"	6'8"	1-3/4"	EX	EX	NON-RTD	LOBBY	VESTIBULE
131	131	16	SGL	3'0"	6'8"	1-3/4"	A/G	ALF	NON-RTD	COURTYARD	DAY ROOM
132	132	01	SGL	varies	6'8"	1-3/4"	EX	EX		OFFICE AREA	STORAGE
134	134	13	SGL	varies	6'8"	1-3/4"	EX	EX		CORRIDOR	HALL

Control # : 83618
07009R

RRCMC ETS Expansion Project - Phase 2

SECTION 08810

GLASS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Quality of glazing used in storefront system and windows.
- B. Related Sections
 - 1. Section 08411 - Furnishing and installing of glazing in aluminum-framed storefront.
 - 2. Section 08581 - Furnishing and installing of glazing in windows.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM C 1036-91 (1997), 'Standard Specification For Flat Glass'
 - 2. ASTM C 1048-97b, 'Standard Specification For Heat-Treated Flat Glass - Kind H, Kind FT Coated and Uncoated Glass'
 - 3. ASTM E 774-97, 'Standard Specification for Sealed Insulating Glass Units'

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements - Glazing shall meet applicable requirements of Federal Consumer Product Safety Standard 16CFR1201.
- B. Manufacturer's Labels - Labels showing strength, grade, thickness, type, and quality are required on each piece of glass.

PART 2 PRODUCTS

2.1 MATERIAL

- A. Storefront Glazing
 - 1. Thickness - 1/4 inch
 - 2. Glazing shall have following characteristics -
 - a. Clear - ASTM C 1036, Type I, Class I, Quality q3.
 - b. Pyrolytic Low E - Match adjacent existing windows
 - 1) Approved Products -
 - a) Energy Advantage Clear by LOF
 - b) Equal by AFG, PPG, or Ford.
 - c. Gray Tinted Heat-Absorbing -
 - 1) Daylight And Solar Transmittance - 15 percent minimum
 - 2) Daylight And Solar Reflectance, Out - 5 percent minimum
 - 3) Heat Gain - .29
 - 4) Shading Coefficient - 34 percent maximum
 - 5) Approved Products -
 - a) Optigray 23 by PPG
 - c) Equal by AFG, Ford or LOF
 - d. Glazing below door height shall be tempered meeting requirements of ASTM C 1048, Kind FT, Condition A, Type I, Class I, Quality q3.
 - 3. All glazing shall be tempered.
- C. Miscellaneous Glazing
 - 1. Interior fixed and sliding Windows -

- a. Thickness - 1/2 Inch
- b. Clear scratch resistant plexiglass

2.2 MANUFACTURERS

- A. Low E and Gray Tinted Glazing
 - 1. AFG Industries, Kingsport, TN (800) 251-0441 or (423) 229-0441 www.afg.com
 - 2. Ford Glass, Allen Park, MI (800) 521-6346 or (313) 845-3648 www.glasstechnique.com
 - 3. Pilkington Libby-Owens-Ford - LOF, Toledo, OH (800) 526-6557 or (419) 247-4721 www.pilkington.com
 - 4. PPG Industries, Pittsburgh, PA (800) 377-5267 or (412) 434-2329 www.ppgglass.com

2.3 FABRICATION

- A. Except where glass exceeds 66 inches in width, cut clear glass so any wave will run horizontally when glazed.
- B. Sealed, Insulating Glazing Units
 - 1. Double pane, sealed insulating glass units meeting requirements of ASTM E 774, Class A. Install at exterior aluminum-framed storefront windows.
 - 2. Unit Thickness - 5/8 inch minimum, one inch maximum.
 - 4. Type Seal -
 - a. Metal-to-glass bond and separated by 1/2 inch dehydrated air space.
 - b. Use non-hardening sealants.
 - 5. Approved Fabricators -
 - a. Members of Sealed Insulating Glass Manufacturer's Association.

PART 3 EXECUTION - Not Used

END OF SECTION

DIVISION 09

FINISHES

09100 METAL SUPPORT ASSEMBLIES

09110 NON-LOAD-BEARING WALL FRAMING
09121 CEILING SUSPENSION / Gypsum Board
09130 ACOUSTICAL SUSPENSION

09200 PLASTER AND GYPSUM BOARD

09207 WOVEN WIRE METAL LATH
09220 PORTLAND CEMENT PLASTER/STANDARD
09250 GYPSUM BOARD

09300 TILE

09305 TILE SETTING MATERIALS AND ACCESSORIES
09310 CERAMIC TILE

09500 CEILINGS

09512 ACOUSTICAL PANEL CEILINGS
09513 ACOUSTICAL TILE CEILINGS
09560 TEXTURED CEILINGS

09600 FLOORING

09651 RESILIENT BASE AND ACCESSORIES
09653 RESILIENT TILE FLOORING
09670 EPOXY RESIN COMPOSITION FLOORING

09700 WALL FINISHES

09771 TEXTURED WALLS

09800 ACOUSTICAL TREATMENT

09822 ACOUSTICAL SEALANTS

09900 PAINTS AND COATINGS

09901 GENERAL PAINTING AND COATING REQUIREMENTS
09923 INTERIOR PAINTED GYPSUM BOARD, PLASTER
09924 INTERIOR PAINTED METAL
09925 INTERIOR PAINTED WOOD

END OF TABLE OF CONTENTS

SECTION 09110

NON-LOAD-BEARING WALL FRAMING

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install metal framing system and blocking as described in Contract Documents.
- B. Related Sections
 - 1. Section 05410 - Load-bearing metal framing

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM C 645-00, 'Standard Specification for Nonstructural Steel Framing Members'

1.3 SUBMITTALS

- A. Shop Drawings - Show special components and installations not fully dimensioned or detailed in Manufacturer's Product data.
- B. Quality Assurance / Control
 - 1. Manufacturer's technical product data, installation instructions, and recommendations for each component of system.
 - 2. ICBO Evaluation Report

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements - ICBO approved.
- B. Pre-Installation Conference - Schedule pre-installation conference after submittals have been reviewed and returned by Architect, but before beginning metal framing work. Identify location of required blocking.

PART 2 PRODUCTS

2.1 COMPONENTS

- A. Framing
 - 1. 20 ga minimum meeting requirements of ASTM C 645.
 - 2. Tracks, bridging, blocking, strapping, and other accessories shall be as described in Contract Documents or as required by Manufacturer's system.
 - 3. Approved Products -
 - a. 3-5/8 IC 20 ga by American Studco
 - b. 362DS20P by CEMCO
 - c. Drywall Metal, 20 ga only, by Clark Steel Framing Systems
 - d. 20 Ga STE by Dietrich Industries
 - e. 20 Ga ST Style Studs by Unimast
 - f. 20 Ga 3-5/8 SS Series by Steeler Inc
 - g. Any member of Steel Stud Manufacturer's Association (SSMA)
- B. Sill Sealer - Closed-cell polyethylene foam, 1/4 inch thick by width of plate.

2.2 MANUFACTURERS

- A. American Studco Inc, Phoenix, AZ (800) 877-8823 or (602) 3520-7652
- B. CEMCO, City of Industry, CA (800) 775-2362 or (626) 369-3564 www.cemcosteel.com
- C. Clark Steel Framing Systems, Cincinnati, OH (800) 543-7140 or (513) 539-2900
www.clarksteel.com
- D. Dietrich Industries Inc, Pittsburgh, PA (800) 873-2443 or (412) 281-2805
www.dietrichindustries.com
- E. Unimast, Schiller Park, IL (800) 654-7883 or (847) 928-3400 www.unimast.com
- F. Steeler Inc, Seattle, WA (800) 275-2500 or (206) 725-2500 www.steeler.com

PART 3 EXECUTION

3.1 INSTALLATION

- A. General - Specifications of Stud Wall Manufacturer shall govern this work unless more stringent requirements are required by Contract Documents.
- B. Interface With Other Work
 - 1. Coordinate with other Sections to provide blocking necessary for their work.
 - 2. Coordinate with other Sections for location of blocking required for installation of equipment and building specialties.
- C. Wall Tolerances -
 - 1. 1/4 inch in 20 feet, non-cumulative in length of wall.
 - 2. 1/8 inch in 10 feet with 1/4 inch maximum in height of wall.
 - 3. Distances between parallel walls shall be 1/4 inch maximum along length and height of wall.
- D. Framing
 - 1. Install specified sill sealer under sill plates of acoustically insulated interior walls.
 - 2. Stiffen 4 inch metal framed walls with 3/4 inch cold-rolled channels placed horizontally approximately 48 inches from floor and securely attach to each stud. Stiffen 6 inch or larger metal framed walls same as above, except install one set of channels on each side of framing members.
 - 3. Similarly reinforce door and window openings at headers with reinforcing channel extending 18 inches minimum each side of opening.
 - 4. Apply double framing members at openings. Wrap multiple, adjacent framing members with duct tape or otherwise secure to eliminate 'chattering.'
 - 5. Use grommets at framing penetrations where unsecured items pass through.

END OF SECTION

SECTION 09121

CEILING SUSPENSION / Gypsum Board

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install ceiling suspension system as described in Contract Documents to receive gypsum board and to support items penetrating ceiling.
- B. Related Sections
 - 1. Section 09250 - Gypsum Board

1.2 QUALITY ASSURANCE

- A. Regulatory Requirements - Meet seismic bracing requirements of 2007 CBC or equivalent governing standard for location.

PART 2 PRODUCTS

2.1 ACCEPTABLE PRODUCTS

- A. Drywall Grid by Armstrong
- B. Drywall Furring Suspended Ceiling System by Chicago Metallic
- C. Drywall Suspension System by USG
- D. Equal meeting specified requirements as approved by Architect before bidding. See Section 01600.

2.2 MISCELLANEOUS MATERIALS

- A. Hanger Wire - 12 ga minimum galvanized carbon steel, soft tempered, pre-stretched unless thicker required by ceiling loading in accordance with Suspension System Manufacturer's Literature.
- B. Joints - 12 ga galvanized for joints.

2.3 MANUFACTURERS

- A. Armstrong World Industries, Lancaster, PA (800) 448-1405 or (717) 397-0611 www.ceilings.com
- B. Chicago Metallic Corporation, Chicago, IL (800) 323-7164 or (708) 563-4600
www.chicago-metallic.com
- C. USG Interiors Inc, Chicago, IL (800) 950-3839 or (312) 606-4190 www.usg.com
- D. Equal meeting specified requirements as approved by Architect before bidding. See Section 01600.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Follow Manufacturer's instructions with modifications listed below except where Manufacturer's instructions are more stringent.
 - 1. Space carrying channels 48 inches on center maximum.
 - 2. Space hanger wires 48 inches on center maximum.
 - 3. Maintain flatness of assembly to within 1/8 inch in 12 feet.
 - 4. Do not kink, twist, or bend hanger wires as a means of leveling assembly.

END OF SECTION

SECTION 09130

ACOUSTICAL SUSPENSION

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install acoustical suspension system as described in Contract Documents to receive acoustical ceiling panels and support items penetrating ceiling.
- B. Related Sections
 - 1. Section 09512 - Acoustical ceiling panels
 - 2. Section 16510 - Interior light fixtures

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM C 635-00, 'Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings'
 - 2. ASTM C 636-96, 'Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels'

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements - Meet seismic bracing requirements of 2007 CBC or equivalent governing standard for Project site.

PART 2 PRODUCTS

2.1 COMPONENTS

- A. Systems shall meet requirements of ASTM C 635 Heavy Duty.
- B. Exposed surfaces shall be finished with factory-applied white baked enamel.
- C. Main runners and cross T's shall have one inch exposed face.
- D. Hanger Wire - 12 gauge cold-rolled electro-galvanized steel.
- E. Edge Molding - Channel section of cold-rolled electro-galvanized steel.
- F. Hold-down Clips - As required by UL to prevent lifting of panels under unusual draft conditions.
- G. Quality Standards - DX or DXL Systems by USG Interiors. Match existing acoustical suspension system.

2.2 MANUFACTURERS

- A. Armstrong World Industries, Lancaster, PA (800) 448-1405 or (717) 397-0611 www.ceilings.com
- B. Chicago Metallic Corporation, Chicago, IL (800) 323-7164 or (708) 563-4600
www.chicago-metallic.com
- C. USG Interiors Inc, Chicago, IL (800) 950-3839 or (312) 606-4190 www.usg.com

PART 3 EXECUTION

3.1 INSTALLATION

- A. Work shall be in accordance with Manufacturer's recommendations insofar as they are concerned with Contract Documents. Installation shall meet requirements of ASTM C 636.
- B. Lay out suspension system symmetrically about center lines of room unless shown otherwise by Drawings. Lay out system so use of tiles less than 1/2 size is minimized.
- C. Maintain suspension system in true plane with straight, even joints.
- D. Suspension system joints shall be straight and in alignment, and exposed surface flush and level. Wherever system abuts walls, columns, and other vertical surfaces, furnish and install appropriate molding.
- E. Locate light fixtures, speakers, and mechanical diffusers and grilles symmetrically in room insofar as possible (unless shown otherwise). Locate fixtures, speakers, diffusers, and grilles within suspension grid spaces and centered at least one direction within grid.
- F. Pay particular attention to required hanger wire placement and fixture protection. Individual component deflection not to exceed 1/360 of span.

END OF SECTION

SECCIÓN 09207

WOVEN WIRE METAL LATH

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install woven wire metal lath on exterior surfaces to be plastered as described in Contract Documents.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM A 641-98, 'Standard Specifications For Zinc Coated (Galvanized) Carbon Steel Wire'
 - 2. ASTM C 841-98, 'Standard Specification for Installation of Interior Lathing and Furring'
 - 3. ASTM C 847-95, 'Standard Specification for Metal Lath'

PART 2 PRODUCTS

2.1 MATERIAL

- A. Metal Lath
 - 1. Acceptable Products -
 - a. Galvanized Woven Wire Fabric Lath (Stucco Netting) of 17 ga wire with 1-1/2 inch openings meeting requirements of ASTM C 847.
 - b. Stucco-Rite by K-Lath, Fonatana, CA (800) 669-5284 or (909) 360-8288
 - c. Equal as approved by Architect before installation.

2.2 ACCESSORIES

- A. Lathing Accessories
 - 1. Meet requirements of SPR R3-60 and be galvanized after fabrication unless specified differently.
 - 2. Includes -
 - a. Exterior Corner Reinforcement - 18 ga.
 - b. Casing Beads And Drip Screed - 24 ga.
 - c. Corner Beads And Base or Parting Screeds - 26 ga.
 - d. Control Joints - 28 ga.
 - e. Cornerite And Strip Reinforcements - 2.5 lb metal lath coated with rust-inhibitive paint
 - f. Attachment Clips - As approved by Lath Manufacturer.
- B. Attaching Devices
 - 1. Hanger Wire And Tie Wire - Meet requirements of ASTM A 641.
 - 2. Power-driven Staples - Formed from galvanized (Type I Coating) steel wire with tensile strength from 80,000 to 110,000 psi and meeting governing codes.
 - 3. Attachment Clips - As approved by Lath Manufacturer.
- C. Building Paper - Kraft waterproofed meeting requirements of Fed Spec UU-B-790, Grade D.

2.3 ACCEPTABLE MANUFACTURERS

- A. Any Manufacturer meeting specification requirements and building codes is approved.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with requirements of ASTM C 841.
- B. Secure lath to supports at intervals not to exceed 6 inches on center. Furr lath out 1/4 inch from substrate.
- C. Laps - 1/2 inch minimum at sides and one inch minimum at ends.

END OF SECTION

SECTION 09220

PORTLAND CEMENT PLASTER / Standard

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install Portland cement plaster (stucco) as described in Contract Documents.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM C 144-97, 'Standard Specification for Aggregate For Masonry Mortar'
 - 2. ASTM C 150-98, 'Standard Specification for Portland Cement'

1.3 SYSTEM DESCRIPTION

- A. Design Requirements
 - 1. Required Coats - Three coats regardless of base.

1.4 SUBMITTALS

- A. Samples - Provide Architect with samples of spray finishes for approval and use as control.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials off ground and under watertight covers.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Water - Clean and suitable for drinking.
- B. Portland Cement - Meet requirements of ASTM C 150.
- C. Sand - Current ASTM C 144, except for aggregate gradation.
 - 1. Aggregate Gradation -

Sieve Size No.	Percentage* Passing Sieve
4	100
8	90 - 100
16	60 - 90
30	35 - 70
50	10 - 30
100	0 - 5

*Aggregate shall have not more than 50 percent retained between any two consecutive sieves nor more than 25 percent between #50 and #100 sieves.

2.2 ACCESSORIES

- A. Bonding Agent
 - 1. Acceptable Products And Manufacturers -
 - a. Plaster-Weld by Larsen Products Corporation, Bethesda, MD (800) 633-6668 or (310) 776-4596 www.larsenproducts.com

- b. Equal as approved by Architect before use.
- B. Latex Additive (Exterior Applications Only)
1. Multi-purpose latex additive for dry set mortars
 2. Acceptable Products And Manufacturers -
 - a. Planicrete by Mapei Corporation, Garland TX (800) 426-2734 or (972) 271-9500
www.mapei.com
 - b. Equal approved by Architect prior to use.
- C. Metal Beads, Construction Joints, Etc - Stainless steel or zinc.

2.3 MIXES

- A. Mix Proportions
- | | Portland
Cement | Lime | Aggregate |
|--------------|----------------------------|-------------|------------------|
| Scratch Coat | 1 Part | 1 Part | 8 Parts |
| Brown Coat | 1 Part | 1 Part | 9 Parts |
| Finish Coat | 1 Part | 1 Part | 6 Parts |
- Mix materials dry until a uniform color is attained. Add water as necessary. Keep mixing machine clean.

PART 3 EXECUTION

- A. See that base for stucco / plaster system is properly installed.
- B. Check lathing and furring for defects. Do not apply plaster until such defects are corrected.

3.2 PREPARATION

- A. Protection - Adequately protect finish materials against damage from operations of this Section.

3.3 APPLICATION

- A. Site Tolerances
1. Minimum thickness including finish coat -

	<u>Interior</u>	<u>Exterior</u>
<u>Base</u> Metal Lath	7/8 inch	7/8 inch

Scratch Coat - 1/4 to 3/8 inch
Brown Coat - 1/4 to 1/2 inch
Finish Coat - 1/16 to 1/8 inch
- B. Procedure
1. Scratch Coat -
 - a. Attach grounds.
 - b. Apply scratch coat of thickness required, curling plaster in back of lath to form keys. Allow to dry twenty-four hours.
 - c. Before scratch coat sets, rake and cross-rake furrows 1/8 inch deep, 1/8 inch wide, and 1/2 to 3/4 inch apart.
 2. Brown Coat -
 - a. Apply plaster screed, if required.
 - b. Apply brown coat to thickness required. Allow to dry twenty-four hours.
 - c. Using screeds for guide, straighten surface with rod (straight edge).
 - d. Fill in any hollows or voids and rod surface again.
 - e. Level and compact surface with darby. Rake and cross-rake to receive finish coat. (See paragraph 1,c above)
 - f. Angles (corners) should now be sharply defined and the plaster trimmed back around grounds (corner beads, casing beads, etc) to be applied flush

- with face of ground.
3. Finish Coat -
 - a. Apply finish coat first to angles over partially dry base coat.
 - b. Straighten angles with rod, or featheredge.
 - c. Fill surfaces between all angles with skim coat of plaster. Apply sufficient pressure on trowel to force material into rough surface of base coat to provide contact for bond.
 - d. Double back on surface immediately with sufficient material to bring finish coat to final thickness.
 - e. Float angles. If necessary, apply small additional amount of plaster during floating to fill minor voids that appear in surface.
 - f. Float and fill all depressions (drawing-up).
 - g. Where textured plaster is shown on Drawings, eliminate paragraphs 2,e and f, and 3,a through f above and apply spray-textured finish coat.

3.3 CLEANING

- A. Maintain premises in neat condition. Leave floors broom clean. Clean plaster from stops, beads, trim, etc.

END OF SECTION

SECTION 09250

GYPSUM WALLBOARD

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install gypsum wallboard as described in Contract Documents, except behind ceramic tile.
 - 2. Furnish and install acoustical sealants as described in Contract Documents.
- B. Related Sections
 - 1. Section 09305 - Backerboard behind ceramic tile
 - 2. Section 09822 - Quality of acoustical sealants

1.2 REFERENCES

- A. Gypsum Association
 - 1. GA-214-90 - 'Recommended Specification: Levels of Gypsum Board Finish'
- B. American Society For Testing And Materials
 - 1. ASTM C 36-99, 'Standard Specification for Gypsum Wallboard'
 - 2. ASTM C 475-94, 'Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board'
 - 3. ASTM C 840-01, 'Standard Specification for Application and Finishing of Gypsum Board'

1.3 SUBMITTALS

- A. Quality Assurance / Control - Fire test results or assembly diagrams and numbers confirming products used will provide required fire ratings with installation configurations used. Manufacturer's product information sheet indicating products are manufactured in the U.S. only.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing brand name, applicable standard designation, and Manufacturer's name.
- B. Store material under roof and keep dry. Stack gypsum board flat and protect from damage.

1.5 PROJECT CONDITIONS

- A. Environmental Requirements
 - 1. Temperature shall be 50 deg F and 95 deg F maximum day and night during entire joint operation and until execution of Certificate of Substantial Completion.
 - 2. Provide ventilation to eliminate excessive moisture.
 - 3. Avoid hot air drafts which will cause too rapid drying.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Gypsum Board
 - 1. For all other applications - Any manufacturer's product meeting requirements of ASTM C 36, Type X, UL one-hour rated, tapered edge, face paper suitable for painting.

2.2 ACCESSORIES

- A. Corner And Edge Trim
 - 1. Acceptable And Approved Products -
 - a. Metal - 24 ga minimum steel, electrolytic galvanized zinc-coated, treated for maximum cement and paint adhesion. Surfaces to receive bedding cement knurled for maximum bonding.
- B. Joint Compound
 - 1. Best grade or type recommended by Wallboard Manufacturer and meeting requirements of ASTM C 475.
 - a. Use Taping Compound for first coat to embed tape and accessories.
 - b. Use Taping Compound or All-Purpose Compound for subsequent coats except final coat.
 - c. Use Finishing Compound for final coat and for skim coat.
- C. Joint Reinforcing - Paper reinforcing tape acceptable to Wallboard Manufacturer.
- D. Primer Under Surfaces To Be Textured
 - 1. Acceptable Products -
 - a. Sheetrock First Coat by USG
 - b. Prep Coat Plus by Hamilton Materials
 - c. Primer recommended by manufacturer of finish paint coat.
- E. Fasteners
 - 1. Bugle head screws meeting requirements of ASTM C 1002.
 - a. Types -
 - 1) Type W - For fastening gypsum board to wood members other than truss members and plywood web joists.
 - 2) Type S - For fastening gypsum board to steel framing and ceiling suspension members, truss members, and plywood web joists.
 - b. Lengths -
 - 1) Of length to penetrate wood framing 5/8 inch minimum.
 - 2) Of length to penetrate steel framing 3/8 inch minimum.

2.3 MANUFACTURERS

- A. Chicago Metallic, Chicago, IL (800) 323-7164 or (708) 563-4600 www.chicago-metallic.com
- B. Drywall Systems International, Bend, OR (888) 662-6281 or (541) 330-0668 www.no-coat.com
- C. Georgia Pacific, Atlanta, GA (800) 225-6119 or (404) 652-4000 www.gp.com
- D. Hamilton Materials Inc, Orange, CA (800) 331-5569 or (714) 637-2770
- E. United States Gypsum Co, Chicago, IL (800) 874-4968 or (312) 606-4000 www.usg.com

PART 3 EXECUTION

3.1 INSTALLATION

- A. General - Install and finish as recommended in ASTM C 840 unless specified otherwise in this Section.
- B. Gypsum Wallboard
 - 1. General -
 - a. Install so trim and reinforcing tape are fully backed by gypsum wallboard. No hollow spaces between pieces of gypsum board over 1/8 inch wide before taping are acceptable.
 - b. Rout out backside of gypsum board to accommodate items which extend beyond face of framing, but do not penetrate face of gypsum board, such as metal door frame mounting brackets, etc.
 - 2. Application -
 - a. Apply ceilings first using minimum of two men.

- b. Use board of length to give minimum number of joints.
 - c. On walls over 108 inches high and on ceilings, apply board perpendicular to support.
 - d. Stagger end joints. End and edge joints of board applied on ceilings shall occur over framing members or be back blocked with 2x4 blocking. End joints of board horizontally applied on walls shall occur over framing members. Edge joints of board vertically applied on walls shall occur over framing members.
 - e. Butt edges in moderate contact. Do not force in place. Shim to level.
 - f. Leave facings true with joint, finishing flush. Vertical work shall be plumb and ceiling surfaces level.
 - g. Scribe work closely. Keep joints as far from openings as possible. If joints occur near an opening, apply wallboard so vertical joints are centered over openings. No vertical joints shall occur within 8 inches of external corners or openings.
 - h. Install board tight against support with joints even and true. Tighten loose screws.
 - i. Calk perimeter joints in sound insulated rooms with specified acoustical sealant.
3. Fastening -
- a. Apply from center of wallboard towards ends and edges.
 - b. Apply screws 3/8 inch minimum from ends and edges, one inch maximum from edges, and 1/2 inch maximum from ends.
 - c. Spacing -
 - 1) Ends - Screws not over 7 inches on center at edges where blocking or framing occurs.
 - 2) Metal Framed Walls - Screws 12 inches on center in panel field.
 - d. Set screw heads 1/32 inch below plane of board, but do not break face paper. If face is accidentally broken, apply additional screw 2 inches away.
 - e. Screws on adjacent ends or edges shall be opposite each other.
 - f. Drive screws with shank perpendicular to face of board.
- C. Trim
- 1. Corner Beads -
 - a. Attach corner beads to outside corners.
 - 1) Attach metal corner bead with staples spaced 4 inches on center maximum and flat taped over edges of corner bead. Also, apply screw through edge of corner bead where wood trim will overlay corner bead.
 - 2) Set paper-faced trim in solid bed of taping compound.
 - 2. Edge Trim - Apply where gypsum board abuts dissimilar material in accordance with Manufacturer's instructions. Hold channel and 'L' trim back from exterior metal window and door frames 1/8 inch to allow for caulking.
- D. Finishing
- 1. General -
 - a. Tape and finish joints and corners as specified below to correspond with final finish material to be applied to gypsum board. When sanding, do not raise nap of gypsum board face paper or paper-faced trim.
 - b. First Coat -
 - 1) Apply tape over center of joint in complete, uniform bed of specified taping compound. If metal corner bead is used, apply reinforcing tape over flange of metal corner bead and trim so half of tape width is on flange and half is on gypsum wallboard.
 - 2) Completely fill gouges, dents, and fastener dimples.
 - 3) Allow to dry and sand lightly if necessary to eliminate high spots or excessive compound.
 - c. Second Coat -
 - 1) Apply coat of specified joint compound over embedded tape extending 3-1/2 inches on both sides of joint center. Use finishing compound only if applied coat is intended as final coat.
 - 2) Re-coat gouges, dents, and fastener dimples.
 - 3) Allow to dry and sand lightly to eliminate high spots or excessive compound.
 - d. Third Coat - Apply same as second coat except extend application 6 inches on both sides of joint center. Allow to dry and sand with fine sandpaper or wipe with damp sponge.

- e. Fourth Coat - Apply same as second coat except extend application 9 inches on both sides of joint center. Allow to dry and sand with fine sandpaper or wipe with damp sponge.
- 2. Finishing Levels -
 - a. Unfinished Gypsum Board Surfaces And Under Acoustical Tile -
 - 1) GA-214-90 Level Two - 'All joints and interior angles shall have tape embedded in joint compound and one separate coat of joint compound applied over all joints, angles, fastener heads, and accessories. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable,' except under acoustic tile.
 - b. Gypsum Board Surfaces to Receive Paint -
 - 1) GA-214-90 Level Three - 'All joints and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over all joints, angles, fastener heads, and accessories. All joint compound shall be smooth and free of tool marks and ridges.'
 - c. Painted Smooth Gypsum Board Surfaces, Except in Mechanical, Storage, And Utility Areas -
 - 1) GA-214-90 Level Five - 'All joints and interior angles shall have tape embedded in joint compound and three separate coats of joint compound applied over all joints, angles, fastener heads, and accessories. A thin skim coat of finishing compound shall be applied to the entire surface. Surface shall be smooth and free of tool marks and ridges.'
- 3. Prime gypsum board surfaces which are to receive texturing.

3.2 CLEANING

- A. Remove from site debris resulting from work of this Section including taping compound spills.

END OF SECTION

SECTION 09305

TILE SETTING MATERIALS AND ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Quality of tile setting materials and accessories furnished and installed under other Sections.
- B. Related Sections
 - 1. Section 15410 - Floor drains

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM C 150-00, 'Standard Specification for Portland Cement'
 - 2. ASTM C 1178-99, 'Standard Specification for Glass Mat Water-Resistant Gypsum Backing Panel'

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in their original unopened containers with labels intact until time of use. Store and handle materials in a manner to prevent damage or contamination by water, freezing, or foreign matter.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Glass Mat Gypsum Tile Backer
 - 1. Tile Backer -
 - a. 5/8 inch thick cement board
 - b. Approved Manufacturer -
 - 1) G-P Gypsum
 - 2) Equal as approved by Architect.
 - 2. Fasteners -
 - a. Wood Framing - 1-7/8 inch long Type W or Type S Hi-Lo screws
 - b. Metal Framing - 1-7/8 inch long Type S Hi-Lo screws
 - 3. Joint Tape - 2 inch wide glass fiber mesh tape.
- B. Dry-Set Portland Cement Mortar
 - 1. Glazed White Body Wall Tile Setting Mortar -
 - a. Meet requirements of ANSI A118.1 for manufactured mortar.
 - b. Approved Products -
 - 1) Tile Mate by Bostik
 - 2) Permabond by C-Cure
 - 3) Custom Thinset by Custom
 - 4) Kerabond by Mapei
 - 5) S-777 by Summitville Labs
 - 6) Latex-Modified Thin Set Mortar 345 by TEC
- C. Trim
 - 1. Approved Products -
 - b. Floor / Wall Junction - Schluter-DILEX-EK, color G, PG, or HB as selected by Architect
 - c. Wall / Wall Junction - Schluter-DILEX-EKE color G, PG, or HB as selected by Architect

- d. Over Expansion Joints In Slabs - Schluter DILEX-BWS, color G, PG, or HB as selected by Architect
- D. Commercial Portland Cement Non-Sanded Grout
 - 1. Color as selected by Architect.
 - 2. Approved Products -
 - a. Bonsal Polymer Modified Unsanded Tile Grout by W R Bonsal
 - b. Dry Tile Grout with Hydroment Multi-Purpose Acrylic Latex Grout Additive by Bostik
 - c. Unsanded Dry Set Wall Grout with 1776 Grout Admix Plus additive by Laticrete
 - d. Ker 800 Polymer-Modified Portland Cement Grout by Mapei
 - e. S-667 Unsanded Joint Filler with S-775 Acrylic Latex Additive by Summitville Labs
 - f. TA-610 Unsanded Wall Grout by TEC
- E. Penetrating Sealer
 - 1. Approved Products -
 - a. 511 Impregnator by Miracle Sealants
 - b. Sealer's Choice by Aqua Mix
- F. Joint Sealants
 - 1. Standard color to closely match grout joints as selected by Architect.
 - 2. Acceptable Products -
 - a. Trademate Tile & Ceramic Sealant by Dow Corning
 - b. Sanitary 1700 by General Electric
 - c. Pro-Select Kitchen And Bath Silicone Sealant by Sherwin Williams

2.2 MANUFACTURERS

- A. Aqua Mix Inc, Santa Fe Springs, CA (800) 366-6877 or (562) 946-6877
- B. ColorFast Industries Inc, Colton, CA (909) 514-1458 www.colorfastind.com
- C. Custom Building Products, Seal Beach, CA (800) 272-8786 or (562) 598-8808
- D. DalTile - Dallas Ceramics, Dallas, TX (800) 933-8453 or (214) 398-1411 www.daltile.com
- E. Dow Corning Corp, Midland, MI (800) 248-2481 or (597) 496-6000 www.dowcorning.com
- F. G E Silicone Products, Waterford, NY (800) 255-8886 or (518) 237-3330
www.ge.com/silicones/sealants
- G. Georgia Pacific Gypsum Corp, Atlanta, GA (800) 225-6119 or (404) 652-4000 www.gp.com
- H. Laticrete International Inc, Bethany, CT (800) 243-4788 or (203) 393-0010 www.laticrete.com
- I. Mapei, Deerfield Beach, FL (954) 246-8556 www.mapei.com
- J. Miracle Sealants Co, Arcadia, CA (800) 350-1901 or (626) 443-6433 www.miraclesealants.com
- K. Schluter Systems LP, Plattsburgh, NY (800)477-9783 www.schluter.com
- L. Sherwin-Williams, Cleveland, OH (800) 321-8194 or (216) 566-2000
- M. TEC Inc, Palatine, IL (800) 323-7407 or (847) 358-9500 www.hbfuller.com
- N. W R Bonsal Co, Charlotte, NC (800) 334-0784 or (704) 525-1621 www.bonsal.com

2.3 MIXES

- A. Setting Beds

	<u>Portland Cement</u>	<u>Dry Sand / Damp Sand</u>	<u>Hydrated Lime*</u>
Floor Mix	1 Part	5 Parts 6 Parts	1/10 Part
Wall Mix	1 Part	---- 5-1/2 to 7 Parts	1/2 Part
Shower Receptors	1 Part**	---- 4 Parts	----

* Optional

** Use waterproof cement or waterproofing admixture. Mix dry then add minimum amount of water.

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 09310

CERAMIC TILE

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install ceramic tile and tile setting materials and accessories as described in Contract Documents.

1.2 REFERENCES

- A. American National Standards Institute
 - 1. ANSI A137.1-1988, 'Ceramic Tile'
- B. Tile Council of America
 - 1. TCA Handbook, 'Handbook for Ceramic Tile Installation'

1.3 SUBMITTALS

- A. Product Data
 - 1. Manufacturer's cut sheets of materials used in installation of system
 - 2. Cleaning and maintenance instructions
 - 3. Color and pattern selections
- B. Samples - 24 inch square sample on specified tile backer showing all types of tile, grout, and colors specified in this Section. 1/2 of sample board shall show floor tile and 1/2 of board shall show wall tile.
- C. Quality Assurance / Control - Master grade certificate.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in their original unopened containers with labels intact until time of use. Store and handle materials in a manner to prevent damage or contamination by water, freezing, or foreign matter.
- B. Keep grade seals intact and cartons dry until tile are used.

1.5 PROJECT CONDITIONS

- A. Project Environmental Requirements - Keep ambient temperatures of area to receive tile work and surface temperatures of substrates at 50 deg F minimum during preparation of mortar bed, laying of tile, and for 72 hours after completion of tile work. Use electric heat to prevent discoloration of grout.

PART 2 PRODUCTS

2.1 COMPONENTS

- A. Tile
 - 1. Tile shall be standard quality, dust-pressed, machine-made, white or off-white body, square or cushion edge, graded in accordance with ANSI A137.1.
 - a. Field tile shall have two lugs on each edge to assure uniform joint, approximately 0.040 inch.
 - b. External corners shall be standard round.

- c. Internal corners shall be square.
- 2. Rest Room Wall And Shower Wall And Ceiling Tile -
 - a. Glazed Tile, square edge, white body, lug type.
 - b. 4-1/4 inches by 4-1/4 inches.
 - c. Base - 4-1/4 inch high coved base of white body wall tile composition. When base only is installed at painted walls, use one course of cove base and one course of bull-nose wall tile.
 - d. Color Quality Standards -
 - 1) Rest Room Walls - Submit sample boards with manufacturer's "Designer, Festiva, Matte, Semi Gloss and Liner" series by Dal-Tile or approved equal prior to bidding. Color and tile type shall be selected from these series by Architect.

2.2 MANUFACTURERS

- A. American Olean Tile Co, Div Dal-Tile International, Lansdale, PA (800) 933-8453 or (214) 398-1411
www.aotile.com
- B. Dal-Tile - Dallas Ceramics, Dallas, TX (800) 933-8453 or (214) 398-1411 www.daltile.com
- C. Florida Tile, Lakeland, FL (800) 352-8453 or (941) 687-7171 www.floridatile.com

PART 3 EXECUTION

3.1 APPROVED INSTALLERS

- A. Tile installers shall have at least five years of continuous experience in the installation of commercial application similar to Project type.

3.2 EXAMINATION

- A. Before commencing ceramic tilework, inspect surfaces to receive tile and accessories and notify Architect in writing of defects or conditions that will prevent satisfactory tile installation. Installation work shall not proceed until satisfactory conditions are provided.

3.3 PREPARATION

- A. Allow concrete to cure for 28 days minimum before application of setting bed.
- B. Grounds, anchors, electrical, and other work in or behind tile shall be installed before tile work is started.

3.4 INSTALLATION

- A. Site Tolerances
 - 1. Sub-floor Surfaces - 1/8 inch in 10 feet from required plane.
 - 2. Plane of Vertical Surfaces - 1/8 inch in 8 feet from required plane. Shall be plumb and true with square corners.
- B. General
 - 1. Install in accordance with following TCA installation methods -
 - a. Walls -
 - 1) Framed - TCA W222
 - b. Base - Thin-lip or flush style
 - 2. Center and balance areas of tile if possible.
 - 3. Maintain heights of tilework in full courses to nearest obtainable dimension where heights are given in feet and inches and are not required to fill vertical spaces exactly.
 - 4. Hold cuts to a minimum with no cut pieces smaller than 1/2 tile size unless absolutely necessary. Make cuts on outer edges of field. Smooth cut edges. Install tile without jagged or flaked edges.

5. Fit tile closely where edges will be covered by trim, escutcheons, or similar devices.
6. Splitting of tile is expressly prohibited except where no alternative is possible.
7. Make corners of tile flush and level with corners of adjacent tile, with due allowance to tolerance for tile as specified in ANSI A137.1
8. Keep joint lines straight and of even width, including miters.
9. Thoroughly back-up with thin-set bonding material thin-set trim units, molded, or shaped pieces, and secure firmly in place.
10. Accessories in tilework shall be evenly spaced, properly centered with tile joints, and level, plumb, and true to correct projection. Install accessories at locations and heights designated.
11. Finished tilework shall be clean and free of pitted, chipped, cracked, or scratched tiles. Clean in accordance with ANSI A137.1.

C. Application to Walls And Ceilings

1. Use one of following installation systems -
 - a. On Cement Board Tile Backer Over Framing -
 - 1) Apply glass mat gypsum tile backer to framing. Attach using specified fasteners spaced 6 inches on center on edges and into all framing members. Drive screws flush with surface of board.
 - 2) Shim board to be plumb and flat or level and flat, depending on location.
 - 3) At joints, embed fiberglass reinforcing tape with mastic or mortar used to adhere tile.
2. Dampen dry backings as determined by environmental conditions and Manufacturer's recommendations to achieve cure. Float mortar with pressure over an area no greater than can be covered with tile while mortar remains plastic. Cover evenly with no bare spots. Comb mortar with notched trowel of type recommended by Manufacturer ten minutes maximum before applying tile. Do not apply tile to skinned-over mortar. Finished mortar bed thickness, 3/32 to 1/8 inch thick after beating-in.
3. Press glazed tile firmly into freshly notched mortar. Tap and beat to a true surface. Determine joint width by spacers on tile or by strings or pegs if tile without spacers are used. Press and beat tile into place to obtain at least 80 percent coverage by mortar on back of each tile except for tile in showers where coverage shall be 100 percent.
4. Allow for sealant joints full height at room corners in wall tile. Insert temporary filler in expansion joints.

E. Penetrating Sealers

1. Thoroughly clean tile.
2. Floors - Apply 24 hours minimum before installation of epoxy grout.
3. Walls - Apply on day following installation of Portland cement grout.
4. Wipe two thin coats with white cotton towel or cloth with each coat applied 90 degrees to each other. Allow 30 minutes between coats. Do not allow contact with epoxy grout.

F. Application of Joint Sealants And Grout

1. Use Portland cement grout with wall and base tile.
2. Firmly set tile before applying joint sealants or grout. This requires 48 hours minimum.
3. Remove spacers or ropes before applying joint sealants or grouting. Apply sealants before applying grout.
4. Apply backer rod and joint sealants at expansion joints. Apply bead of sealant at junction of base and floor tile.
5. Using grout of type and mix specified, force grout into joints using hard rubber grouting trowel or other suitable tool recommended by Grout Manufacturer. Use clean buckets and mixing tools. Use sufficient pressure and flow grout in progressively to avoid air pockets and voids.
6. Fill joints full. Fill joints of cushion edge tile to depth of cushion. Fill joints of square edge tile flush with surface.
7. Remove excess grout from surface of tile with squeegee or rubber trowel before it loses its plasticity or begins to set. Follow Grout Manufacturer's recommendations for final clean-up.
8. Finished grout shall be uniform in color, smooth, and without voids, pin holes, or low spots, and tile shall be clean.

3.5 PROTECTION

- A. Close to traffic spaces in which tile is being set and other tile work being done. Keep closed until tile is firmly set. Before, during, and after grouting, keep area clean, dry, and free from foreign materials and air flow which will interfere with setting and curing of grout.

END OF SECTION

SECTION 09512

ACOUSTICAL PANEL CEILINGS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install acoustical ceiling panels for suspended acoustical ceilings as described in Contract Documents.
- B. Related Sections
 - 1. Section 09130 - Acoustical Panel Suspension System
 - 2. Section 11521 - Security Cameras
 - 3. Section 13376 - Speakers

1.2 SUBMITTALS

- A. Product Data
 - 1. Manufacturer's literature
 - 2. Color and pattern selection

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store materials where protected from moisture and damage.
- B. Use no soiled, scratched, or broken material in the Work.

1.4 PROJECT CONDITIONS

- A. Project Environmental Requirements - Building shall be enclosed, mechanical system operating with proper filters in place, and temperature and humidity conditions stabilized within limits under which Project will operate before, during, and after installation until Substantial Completion.

1.5 MAINTENANCE

- A. Extra Materials
 - 1. Provide Owner with one carton of each type of tile for future use.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Acoustic Panels
 - 1. Cast panels, core color to match surface color.
 - 2. Finish - Use tile from same color run in individual rooms to assure color match.
 - 3. Rating - Match UL fire-resistance classification of suspension system.
 - 4. Thickness - 3/4 inch minimum
 - 5. Approved Products - Contractor to field verify finish and texture to match existing.
 - a. Fine Fissured by Armstrong Ceiling
 - b. Equal as approved by Architect prior to bidding.

2.2 MANUFACTURERS

- A. Armstrong World Industries, Lancaster, PA 17604 (877)-ARMSTRONG www.armstrong.com
- B. Celotex, Tampa, FL (800) 235-6839 or (813) 873-1700 www.celotex.com

- C. Chicago Metallic Corp, Chicago, IL (800) 323-7164 or (708) 563-4600
www.chicago-metallic.com
- D. USG Interiors Inc, Chicago, IL (800) 950-3839 or (312) 606-4190 www.usg.com

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect for defects in support which are not acceptable. Report defects to Architect in writing. Do not install ceiling panels until defects in support are corrected.

3.2 INSTALLATION

- A. Materials shall be dry and clean at time of application.
- B. If recommended by Manufacturer, use tile one at a time from at least four open boxes to avoid creating any pattern due to slight variations from box to box.
- C. Leave tile in true plane with straight, even joints.
- D. Ensure plywood backing is installed behind acoustical panels at speaker and camera locations.

3.3 ADJUSTING

- A. 'Touch-up' minor abraded surfaces.
- B. Remove and replace discolored panels to match adjacent panels.
- C. Remove and replace damaged panels at no additional cost to Owner.

3.4 CLEANING

- A. Remove from site all debris connected with work of this Section.

END OF SECTION

SECTION 09513

ACOUSTICAL TILE CEILINGS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install acoustical tile on backerboard as described in Contract Documents.
- B. Related Sections
 - 1. Section 09121 - Gypsum board ceiling suspension system
 - 2. Section 09250 - Gypsum backerboard

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM E 795-93, 'Standard Practices for Mounting Test Specimens During Sound Absorption Tests'

1.3 SUBMITTALS

- A. Product Data
 - 1. Manufacturer's literature on tile and adhesive
 - 2. Color and pattern selection
 - 3. Manufacturer's installation recommendations.
- B. Samples - One sample of each variant of specified tile series.

1.4 QUALITY ASSURANCE

- A. Pre-Installation Conferences
 - 1. Participate in pre-installation conference specified in Section 09250 to review finish requirements for gypsum wallboard ceilings.
 - 2. Schedule acoustical tile ceiling pre-installation conference after installation of gypsum wallboard but prior to beginning installation of tile.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials where protected from moisture.
- B. Store adhesive on site at installation temperature, between 65 and 90 deg F, for one week prior to installation.

1.6 PROJECT CONDITIONS

- A. Project Environmental Requirements - Building shall be enclosed, mechanical system operating with proper filters in place, and temperature and humidity conditions stabilized within limits under which Project will operate before, during, and after installation until Substantial Completion. Temperature at time of setting tile shall be 65 deg F minimum and 90 deg F maximum.

1.7 MAINTENANCE

- A. Extra Materials - Provide Owner with two cartons of each type of tile for future use.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Adhesive
 - 1. Non-staining type suitable for work.
 - 2. Acceptable Products -
 - a. ATA5495 Acoustical Tile Adhesive by TACC International Corp
 - b. Titebond Solvent Free Acoustical Ceiling Tile Adhesive by Franklin International
 - c. Highest quality of adhesive from manufacturer recommended by Tile Manufacturer as approved by Architect prior to use. See Section 01600.
- B. Edge Molding
 - 1. Steel 'U' molding with baked enamel finish.
 - 2. Acceptable Products -
 - a. For USG Tile - US 12 RWS 14 by USG Interiors
 - b. For Celotex Tile - 680-01 by Chicago Metallic
 - c. Equal as approved by Architect before installation. See Section 01600.

2.2 MANUFACTURED UNITS

- A. Acoustic Tile
 - 1. Size - 3/4 inch thick minimum by 12 inches square.
 - 2. Cast tile with beveled edge, tongue and groove, core color same as surface color.
 - 3. NRC 0.65 minimum with Mounting Type B in accordance with ASTM E 795.
 - 4. Approved Products -
 - a. 592 fine fissured by Armstrong World Industries
 - b. Equal as approved by Architect prior to bidding.

2.3 MANUFACTURERS

- A. Armstrong World Industries, Lancaster, PA (877)-ARMSTRONG www.armstrong.com
- B. Chicago Metallic Corp, Chicago, IL (800) 323-7164 or (708) 563-4600 www.chicago-metallic.com
- C. USG Interiors Inc, Chicago, IL (800) 950-3839 or (312) 606-4190 www.usg.com
- D. Celotex, Tampa, FL (800) 235-6839 or (813) 873-1700 www.celotex.com

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect for defects in backing and support which are not acceptable. Notify Architect in writing of unacceptable conditions. Do not apply ceiling tile until defects in backing and support are corrected.

3.2 INSTALLATION

- A. Materials and substrate shall be dry and clean at time of application.
- B. Installation shall be in accordance with Manufacturer's recommendations.
 - 1. Use only tile with same lot number in individual rooms to assure color match.
 - 2. Install tile running same direction with direction of pattern running parallel to long dimension of each room.
 - 3. Remove loose dust from back of tile and ceiling where adhesive is to be applied.
 - 4. Prime 3 inch minimum circle near each corner by buttering very thin coat of adhesive.
 - 5. Apply daub of adhesive to each corner. Daubs will be of sufficient size to form a circle 2-1/2 to 3 inches in diameter and 1/8 to 1/4 inch thick when tile is pressed firmly in place. Do not apply daubs so far in advance of installation that adhesive skins over.
 - 6. Install splines in kerfs at corners.

- C. Lay out tile symmetrically about center lines of room unless shown otherwise on Drawings. Lay out so tiles at room perimeters are at least 1/2 full tile size. Leave tile in true plane with straight, even joints. Tile joints shall be straight and in alignment, and exposed surface flush and level. Furnish and install specified molding wherever tile abuts walls, columns, and other vertical surfaces, except at curves of 3 inch radius or smaller. Cut around penetrations that are not to receive moldings cleanly with sharp knife and at a slight angle away from cutout.
- D. Locate light fixtures, speakers, and mechanical diffusers and grilles symmetrically in room and centered on tile centers or tile joints insofar as possible, unless shown otherwise. Keep method of locating ceiling mounted items as consistent as possible throughout building. Ceiling mounted item location method within each room shall always be consistent.

3.3 ADJUSTING

- A. 'Touch-up' minor abraded surfaces.
- B. Remove and replace discolored tile to match adjacent tile.
- C. Remove and replace damaged or out-of-level tile at no cost to Owner.

3.4 CLEANING

- A. Remove from-site debris connected with work of this Section.

END OF SECTION

SECTION 09560
TEXTURED CEILINGS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install texturing on ceilings as described in Contract Documents.
- B. Related Sections
 - 1. Section 09250 - Priming
 - 2. Section 09771 - Wall Texturing
 - 3. Section 09923 - Finish painting

1.2 SUBMITTALS

- A. Samples - Provide 24 inch square control samples on primed gypsum wallboard for Architect, three samples of each texture described by Architect showing possible variations.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Texturing
 - 1. Acceptable Products -
 - a. Wall Spray-Orange Peel (non-aggregate) by National Gypsum
 - b. Sheetrock Wall & Ceiling Texture by U S Gypsum
 - c. Equal as approved by Architect before installation.

2.2 MANUFACTURERS

- A. National Gypsum, Charlotte, NC (800) 628-4662 or (704) 365-7300 www.national-gypsum.com
- B. United States Gypsum Co, Chicago, IL (800) 964-4874 or (312) 606-4000 www.usg.com

PART 3 EXECUTION

3.1 APPLICATION

- A. After gypsum board is taped, sanded, and primed, apply texture in accordance with Manufacturer's directions to closely match samples accepted by Architect.

END OF SECTION

SECTION 09651

RESILIENT BASE AND ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install rubber base as described in Contract Documents.

1.2 REFERENCES

- A. American Society for Testing and Materials
 - 1. ASTM F 1861-00, 'Standard Specification for Resilient Wall Base'

1.3 SUBMITTALS

- A. Product Data
 - 1. Manufacturer's literature or cut sheet on base and adhesive.
 - 2. Color selection

1.4 PROJECT CONDITIONS

- A. Project Environmental Requirements
 - 1. Store materials at not less than 70 deg F for at least 24 hours before using.
 - 2. Do not apply in temperatures below 70 deg F.

PART 2 PRODUCTS

2.1 MATERIAL

- A. Base
 - 1. Molded or extruded meeting requirements of ASTM F 1861, Type TP or Type TS -
 - a. Virgin synthetic rubber, free from objectionable odors, blisters, cracks, and other defects affecting appearance or serviceability of rubber, and not containing fabric.
 - b. Color pigments used shall be highly fade-resistant, insoluble in water, and resistant to light, alkali, and cleaning agents.
 - c. Colors as selected by Architect from Manufacturer's standard colors.
 - 2. Size - 1/8 inch by 4 inch.
 - 3. Use preformed external corners, butt joint interior corners.
 - 4. Style - Coved
 - 5. Approved Manufacturers -
 - a. Burke Mercer Flooring Products, San Jose, CA (800) 669-7010 or (408) 297-3500
www.burkemercer.com
 - b. Johnsonite Flooring Products Div, Chagrin Falls, OH (800) 899-8916 or (440) 543-8916
www.johnsonite.com
 - c. Marley Flexco Company, Tuscumbia, AL (800) 633-3151 or (256) 383-7474
www.marleyflexco.com
 - d. Roppe Rubber Corporation, Fostoria, OH (800) 537-9527 or (419) 435-8546
www.roppe.com
- B. Adhesive - Best for work as recommended by Manufacturer.

PART 3 EXECUTION

3.1 PREPARATION

- A. Surface to receive base shall be sound, clean, free from foreign matter, tightly nailed, and dry. Remedy cracks and minor irregularities in accordance with Manufacturer's recommendations. Do not start work until defects are corrected.

3.2 INSTALLATION

- A. Install in manner to produce smooth, even finished surfaces tightly jointed and accurately aligned.
 - 1. Fit base tightly. Use fillers where necessary. Fit neatly against projections, piping, electrical service outlets, etc.
 - 2. Secure base with specified adhesive. Cement base substantially to vertical surfaces including cabinet work base.
 - 3. Line up top and bottom lines of base throughout.
 - 4. Roll base until firm bond has been established. Leave level, free from buckles, cracks, and projecting edges.
 - 5. In wall runs longer than 12 inches, install no lengths of base shorter than 12 inches long.

3.3 ADJUSTING

- A. Inspect and make necessary adjustments within one month after mechanical heat or other heat has been supplied continuously in finished areas.

3.4 PROTECTION

- A. Keep traffic away until adhesive has set.

END OF SECTION

SECTION 09653

RESILIENT TILE FLOORING

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install resilient tile flooring as described in Contract Documents.

1.2 SUBMITTALS

- A. Product Data
 - 1. Manufacturer's literature or cut sheet on each component of system
 - 2. Maintenance instructions
 - 3. Color and style selection

1.3 PROJECT CONDITIONS

- A. Project Environmental Conditions - Maintain 70 deg F minimum during application.

1.4 MAINTENANCE

- A. Extra Materials - Leave box of 20 extra tile of each pattern and color used on Project with Owner.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Reinforced Vinyl Tile
 - 1. 'Marbleized' or 'Thru-chip' Pattern 1/8 inch by 12 inches square. Do not furnish tile which does not have its pattern and color extended continuously through entire thickness.
 - 2. Meet or exceed Fed Spec SS-T-312b, Type IV.
 - 3. Colors - To be selected by Architect from Armstrong series "Standard Excelon and Excelon Companion Square" as designed standards. Color and pattern to match existing.
 - 4. Acceptable Manufacturers -
 - a. Armstrong World Industries, Lancaster, PA (800) 292-6308 or (717) 397-0611 www.armstrongfloors.com
 - b. Azrock Industries, Florence, AL (800) 877-8690 or (205) 766-0234 www.domco.com
 - c. Mannington Commercial, Salem, NJ (800) 241-2262 or (605) 935-2000 www.mannington.com
 - f. Equals as approved by Architect before bidding.
- B. Adhesive - Water-resistant type. Best grade in accordance with Manufacturer's recommendations.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Lay tile symmetrically about center line of spaces to insure even borders unless shown differently on Drawings.

- B. Install beveled edge stripping at terminal edges of tile except at ceramic tile, carpet, and where Drawings indicate different detail. Conceal edging strips beneath doors.

END OF SECTION

SECTION 09670

EPOXY RESIN COMPOSITION FLOORING

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 WORK INCLUDED

- A. Work of this Section includes, but is not limited to, providing all labor, materials, equipment transportation and services necessary to complete the epoxy resin composition flooring and integral base as indicated on the drawings and as specified herein. To include surface preparation, primer, base and finish coat and cove base.

1.3 REFERENCES

- A. References made herein to published specifications; standards, methods of testing and recommended methods of trade, industry and governmental organizations shall apply to the year of original adoption or the year of the latest revision or approvals.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and General Conditions.
- B. Product Data: Submit manufacturer's technical data, application instructions and general recommendations for the epoxy resin composition flooring specified herein.
- C. Samples for initial selection purposes in form of manufacturer's color charts showing full range of colors and finishes available.
 - 1. Submit 4" x 4" samples of color chips from manufacturer's standard colors.
- D. Material certificates signed by manufacturer certifying that the epoxy resin composition flooring complies with requirements specified herein.
- E. Maintenance Instructions: Submit manufacturer's written instructions for recommended maintenance practices.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer or applicator with five years experience and who has specialized in installing resinous flooring types similar to that required for this Project and who is acceptable to manufacturer of primary materials.
- B. Single-Source Responsibility: Obtain epoxy resin composition flooring materials, including primers, resins, hardening agents and finish or sealing coats from a single manufacturer.
- C. Qualified Materials: Request for material approvals for any products other than the specified products must be submitted to the Architect prior to the bid, including

complete application specification, physical characteristics, and chemical resistance data. Any request after this date will not be accepted. Failure of performance requires immediate removal and replacement of unapproved substituted material with those originally specified at no cost to the Owner, Architect, Construction Manager or General Contractor.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original packages and containers with seals unbroken and bearing manufacturer's labels containing brand name and directions for storage and mixing with other components.
- B. Store materials to comply with manufacturer's directions to prevent deterioration from moisture, heat, cold, direct sunlight or other detrimental effects.
- C. Materials shall be stored in a dry, enclosed area protected from exposure to moisture. Temperature of storage area shall be maintained between 60 and 85 degrees F/16 and 32 degrees C.

1.7 PROJECT CONDITIONS

- A. Environmental Conditions: Comply with epoxy resin composition flooring manufacturer's directions for maintenance of ambient and substrate temperature, moisture, humidity, ventilation and other conditions required to execute and protect Work.

1.8 WARRANTY

- A. Provide one (1) year guarantee for material and installation. Warranty shall be project specific to include project name, address and owner information.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Troweled epoxy resin composition flooring.
- B. Quality Standard – Sunbelt Flooring, Inc.

2.2 PROPERTIES

- A. Colors as selected from manufacturers standard colors.
- B. Physical Properties: Provide flooring system that meets or exceeds the listed minimum physical property requirements when tested according to the referenced standard test method in parentheses.
 - 1. Compressive Strength (ASTM C-579) 11,000 psi
 - 2. Tensile Strength (ASTM C-307) 2,000 psi
 - 3. Flexural Modulus of Elasticity (ASTM C-580) 4,300 psi
 - 4. Water Absorption (ASTM C-413) .01%
 - 5. Surface Hardness (ASTM D-2240) 86 Durometer "D"
 - 6. Abrasion Resistance (ATM C-501) 597.4
 - 7. Impact Resistance (MIL D-3134, Para 4.7.3) 0.024" max. No chipping, cracking, loss of adhesion

8. Impact Resistance (Gardner Impact Tester) No chipping, cracking, or delamination and not more than 0.014" indentation
 9. Adhesion (A.C.I. Comm. No. 503.1) 400 psi (100% failure in concrete)
 10. Electrical Conductivity (NFPA 56A) Di-electric
 11. Flammability-Critical Radiant Flux (ASTM E-648) Greater than 1.07 watts/cm²
 12. Bond Strength (ASTM D-454) 600 psi
 13. Coefficient of Friction (ASTM D-2047) >0.9
 14. Heat Resistance limit Dry- 250 deg. Continuous/ 275 deg. Intermittent
 Wet- 140 deg. Continuous/ 200 deg. Intermittent
 15. Electrical Conductivity Electrically non-conductive
- C. Joint Sealer
1. Type produced by manufacturer of resinous flooring system for type of service and joint condition indicated.

2.3 SUPPLEMENTAL MATERIALS

- A. Anti-Microbial Additive: Incorporate antimicrobial chemical additive to prevent growth of most bacteria, fungi, algae and actinomycetes.

2.4 APPROVED MANUFACTURERS

- A. Sunbelt Flooring, Inc., Chino, CA (909)628-1090
- B. Dur-A-Flex, Inc., East Hartford, CN (800) 253-3539
- C. Equal as approved by Architect before bidding.

PART 3 EXECUTION

3.1 PREPARATION

- A. Concrete substrate preparation shall be by mechanical means and include use of a scabber, scarifier or shot blast machine for removal of bond inhibiting materials such as curing compounds of laitance. Cleaning of interior concrete slabs: Vacuum shot blast ("Blastrac") all designated existing interior concrete floor slabs that are to receive new flooring materials or leveling underlayment coating. Vacuum shot blasting shall be with steel pellets 330-5 to 390-5 for optimum surface profile in order for all sealers or adhesives to penetrate and bond. Coordinate all vacuum shotblasting with respective floor covering contractor. Dustless diamond cup grinding may be used in some instances in lieu of shot blasting.

3.2 INSTALLATION

- A. General - Apply each component of resinous flooring system in compliance with manufacturer's directions to produce a uniform monolithic wearing surface of thickness indicated, uninterrupted except at divider strips, sawn joints or other types of joints (if any), indicated or required.
- B. Primer - Mix and apply primer over properly prepared substrate with strict adherence to manufacturer's installation procedures and coverage rates. Coordinate timing of primer application with application of troweled mortar to ensure optimum adhesion between resinous flooring materials and substrate.
- C. Troweled Mortar - Mix mortar material according to manufacturer's recommended procedures. Uniformly spread mortar over substrate using manufacturer's specially

designed screed box adjusted to manufacturer's recommended height. Hand trowel apply mixed material over freshly primed substrate using steel finishing trowels or power trowel material.

- D. Undercoat - Remove any surface irregularities by lightly abrading and vacuuming the floor surface. Mix and apply undercoat with strict adherence to manufacturer's installation procedures and coverage rates.
- E. Broadcast - Immediately broadcast quartz silica aggregate into the undercoat using manufacturer's specially design spray caster. Strict adherence to manufacturer's installation procedures and coverage rates is imperative.
- F. Sealer - Remove excess unbonded granules by lightly brushing and vacuuming the floor surface. Mix and apply sealer with strict adherence to manufacturer's installation procedures.

3.4 CURING, PROTECTION & CLEANING

- A. Curing resinous flooring materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 24 hours.
- B. Protect resinous flooring materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with manufacturer's recommendations for protective and method of application. General Contractor is responsible for protection and cleaning of surfaces after final coats.
- C. Cleaning: Remove temporary covering and clean resinous flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous flooring manufacture.

END OF SECTION

SECTION 09771
TEXTURED WALLS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install texturing on walls as described in Contract Documents.
- B. Related Sections
 - 1. Section 09250 - Priming
 - 2. Section 09560 - Ceiling texturing
 - 3. Section 09923 - Finish painting

1.2 SUBMITTALS

- A. Samples - Provide 24 inch square control samples on primed gypsum wallboard for Architect, three samples of each texture described by Architect showing possible variations.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Texturing
 - 1. Acceptable Products -
 - a. Wall Spray-Orange Peel (non-aggregate) by National Gypsum
 - b. Sheetrock Wall & Ceiling Texture by U S Gypsum
 - c. Equal as approved by Architect before installation. See Section 01600.

2.2 MANUFACTURERS

- A. National Gypsum, Charlotte, NC (800) 628-4625 or (704) 365-7300 www.national-gypsum.com
- B. United States Gypsum Co, Chicago, IL (800) 964-4874 or (312) 606-4000 www.usg.com

PART 3 EXECUTION

3.1 APPLICATION

- A. After gypsum board is taped, sanded, and primed, apply texture. Closely match samples accepted by Architect.

END OF SECTION

SECTION 09822

ACOUSTICAL SEALANTS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Quality of sealants to be used at perimeters of and penetrations through acoustically insulated walls and associated ceilings.
- B. Related Sections
 - 1. Section 09250 - Furnishing and installing of acoustical sealants

1.2 SUBMITTALS

- A. Product Data - Manufacturer's literature and installation recommendations.
- B. Quality Assurance / Control - Certificate from Manufacturer indicating date of manufacture.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Handle to prevent inclusion of foreign matter, damage by water, or breakage.
- B. Deliver and keep in original containers until ready for use.
- C. Do not use damaged or deteriorated materials.
- D. Store in a cool place, but never under 40 deg F.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Sealants
 - 1. Sealants provided shall meet Manufacturer's shelf-life requirements.
 - 2. Approved Products -
 - a. Sound Caulking by Ohio Sealants
 - b. QuietZone Acoustic Caulk by Owens Corning
 - c. Acoustical Sealant by Tremco
 - d. Acoustical Sealant by U S Gypsum
- B. Backing - Flexible closed cell polyurethane or polyolefin rod or bond breaker tape as recommended by Sealant Manufacturer for joints being sealed.

2.2 MANUFACTURERS

- A. Ohio Sealants Inc, Mentor, OH (800) 321-3578 or (440) 255-8900 osisealants.com
- B. Owens Corning, Toledo, OH (800) 438-7465 or (419) 248-8000 www.owenscorning.com
- C. Tremco, Beachwood, OH (800) 321-7906 or (216) 292-5000 www.tremcosealants.com
- D. U S Gypsum, Chicago, IL (800) 964-4874 www.usg.com

PART 3 EXECUTION

3.1 PREPARATION

- A. Surfaces shall be clean, dry, and free of dust, oil, grease, dew, or frost.
- B. Joint Backing
 - 1. Rod for open joints shall be at least 1-1/2 times width of open joint and of thickness to give solid backing. Backing shall fill up joint so depth of sealant bite is no more than 3/8 inch deep.
 - 2. Apply bond-breaker tape in shallow joints as recommended by Sealant Manufacturer.

3.2 INSTALLATION

- A. Install at perimeter joints and mechanical and electrical penetrations in sound insulated rooms. Apply sealant with hand-calking gun with nozzle of proper size to fit joints. Use sufficient pressure to insure full contact to both sides of joint to full depth of joint.
- B. Tool joints immediately after application of sealant if required to achieve full bedding to substrate or to achieve smooth sealant surface.
- C. Depth of sealant bite shall be 1/4 inch minimum and 1/2 inch maximum, but never more than one half or less than one fourth joint width.
- D. Do not apply calking at temperatures below 40 deg F.

3.3 CLEANING

- A. Clean adjacent materials which have been soiled immediately (before setting) as recommended by Manufacturer.

END OF SECTION

SECTION 09901

GENERAL PAINTING AND COATING REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. General procedures and requirements for field-applied painting and coating.
- B. Related Sections
 - 1. Section 05080 - Shop priming of steel and iron
 - 2. Section 07920 - Quality of Joint Sealants
 - 3. Section 09250 - Priming of gypsum board before texturing
 - 4. Section 09560 - Ceiling texturing
 - 5. Section 09771 - Wall texturing

1.2 REFERENCES

- A. Master Painters Institute
 - 1. MPI(a), Mar 2001, 'Architectural Painting Specification Manual'
 - 2. MPI(r), Mar 2001, 'Maintenance Repainting Manual'

1.3 DEFINITIONS

- A. Gloss
 - 1. Specified paint gloss shall be defined as sheen rating of applied paint, in accordance with following terms and values, unless specified otherwise for a specific paint system.
 - a. Flat Or Matte - 0 to 5 units at 60 degrees to a maximum of 10 units at 85 degrees.
 - b. Eggshell, Velvet, Or Low Luster - 5 to 25 units at 60 degrees to a minimum of 10 units at 85 degrees.
 - c. Satin - 20 to 35 units at 60 degrees.
 - d. Semi-gloss - 35 to 65 units at 60 degrees.
 - e. Gloss - 65 units and greater.
- B. Properly Painted Surface - Surface that is uniform in appearance, color, and sheen and free of foreign material, lumps, skins, runs, sags, holidays, misses, strike-through, and insufficient coverage. Surface free of drips, spatters, spills, and overspray caused by Paint Applicator. Compliance will be determined when viewed without magnification at a distance of 5 feet minimum under normal lighting conditions and from normal viewing position (MPI(a), PDCA P1.92).
- C. Damage Caused By Others - Damage caused by individuals other than those under direct control of Painting Applicator (MPI(a), PDCA P1.92).
- D. Latent Damage - Damage or conditions beyond control of Painting Applicator caused by conditions not apparent at time of initial painting or coating work.

1.4 SUBMITTALS

- A. Product Data
 - 1. Include following information for each painting system, arranged in same order as in Project Manual.
 - a. Manufacturer's cut sheets for each component of system indicating ingredients and percentages by weight and by volume, environmental restrictions for application, and film thicknesses and spread rates.
 - b. Copies of appropriate entries from MPI Approved Product List. Listing in MPI Approved Product List is mandatory for Sections 09912, 09923 and 09924. If proposed manufacturer has products listed for these three Sections, but not for other Sections, Architect may approve products submitted by proposed manufacturer for other Sections.

- c. Manufacturer's substrate preparation instructions and application instruction for each Confirmation of colors selected and that each area to be painted or coated has color selected for it.
 - 2. Provide two copies of Product Data submission, one copy to be kept on Project site and second copy to be included in Operations And Maintenance Manual.
- B. Samples
 - 1. Provide color fan deck for the "Perfect Pallet" series.
 - 2. Provide four 4 inch by 6 inch minimum draw-down cards for each paint or coating color selected for this Project.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements - Paint and painting materials shall be free of lead and mercury, and have VOC levels acceptable to local jurisdiction.
- B. Field Samples
 - 1. Before application of any paint system, if required by Architect, meet on Project site with Architect, Owner's representative, and Manufacturer's representative. Architect may select one surface for application of each paint system specified. This process will include establishing acceptable substrate conditions required for Project before application of paints and coatings.
 - 2. Apply paint systems to surfaces indicated by Architect following procedures outlined in Contract Documents and Product Data submission specified above.
 - 3. After approval of samples, proceed with application of paint system throughout Project. Approved samples will serve as standard of acceptability.
- C. Pre-installation Conferences
 - 1. Participate in pre-installation conference specified in Section 09250 to review finish requirements of gypsum wallboard.
 - 2. Schedule painting pre-installation conference after delivery of paint but prior to or at same time as application of field samples.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials in single place.
- B. Keep storage area clean and rectify any damage to area at completion of work of this Section. Maintain storage area at 55 deg F minimum.

1.7 PROJECT CONDITIONS

- A. Project Environmental Conditions
 - 1. Perform painting operations at temperature and humidity conditions recommended by Manufacturer for each operation and for each product.
 - 2. Apply painting systems at lighting level of 540 Lux (50 foot candles) minimum on surfaces to be painted. Inspection of painting work shall take place under same lighting conditions as application. If painting and coating work is applied under temporary lighting, deficiencies discovered upon installation of permanent lighting will be considered latent damage as defined in MPI Manual, PDCA P1-92

1.8 SCHEDULING

- A. Coordinate with other trades for materials and systems that require painting prior to installation.
- B. Schedule painting and coating work to begin when work upon which painting and coating work is dependent has been completed. Schedule installation of pre-finished and non-painted items, which are to be installed on painted surfaces, after application of final finishes.

1.9 MAINTENANCE

- A. Extra Materials - Provide painting materials in Manufacturer's original containers and with original labels in each color used. Provide one quart of each finish coat and one pint of each primer and of each undercoat in each color used. Label each can with color name, mixture instructions, date, and anticipated shelf life.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Materials used for any painting system shall be from single manufacturer unless approved otherwise in writing by painting system manufacturer. Include such approvals in Product Data submittal.
- B. Linseed oil, shellac, turpentine, and other painting materials shall be pure, be compatible with other coating materials, bear identifying labels on containers, and be of highest quality of an approved manufacturer listed in MPI manuals. Tinting color shall be best grade of type recommended by Manufacturer of paint or stain used on Project.

PART 3 EXECUTION

3.1 APPROVED APPLICATORS

- A. Applicator shall have experience in application of specified products for five years minimum and be acceptable to Architect and Manufacturer.

3.2 EXAMINATION

- A. Instructions to begin painting and coating work will indicate that substrates to receive painting and coating materials have been previously inspected as part of work of other Sections and are complete and ready for application of painting and coating systems.
- B. Before beginning work of this Section, examine, and test surfaces to be painted or coated for adhesion of painting and coating systems. Report in writing to Architect of conditions that will adversely affect adhesion of painting and coating work. Do not apply painting and coating systems until such adverse conditions are corrected by party responsible for adverse condition.
- C. Report defects in substrates that become apparent after application of primer or first finish coat to Architect in writing and do not proceed with further work on defective substrate until such defects are corrected by party responsible for defect.

3.3 PREPARATION

- A. Protection
 1. Remove rags and waste used in painting operations from building each night. Take every precaution to avoid danger of fire.
 2. Protect other finish work and adjacent materials during painting. Do not splatter, drip, or paint surfaces not intended to be painted. These items will not be spelled out in detail but pay special attention to the following -
 - a. Do not paint finish copper, bronze, chromium plate, nickel, stainless steel, anodized aluminum, or monel metal except as explicitly specified.
 - b. Keep cones of ceiling speakers completely free of paint. In all cases where painting of metal speaker grilles is required, paint without grilles mounted to speakers and without grilles on ceiling.
- B. Surface Preparation
 1. Prepare surfaces in accordance with MPI requirements and requirements of Manufacturer for each painting system specified.
 2. Fill minor holes and cracks in wood surfaces to receive paint or stain.
 3. Surfaces to be painted shall be clean and free of loose dirt. Clean and dust surfaces before painting or finishing.

4. Sand woodwork smooth in direction of grain leaving no sanding marks. Clean surfaces before proceeding with stain or first coat application.

3.4 APPLICATION

- A. Paint or finish complete all surfaces to be painted or coated as described in Contract Documents, including but not limited to following items.
 1. Finish casework and wood trims specified to be installed under Section 06201 and which are not called out to be factory- or shop-finished. Back prime wood elements which may be subjected to moisture.
 2. Paint mechanical and electrical items that require field painting as determined by Architect. These include but are not limited to -
 - a. Metal protective structures for refrigerant lines
 - b. Mechanical flues and pipes penetrating roof
 - c. Electrical panel and disconnect enclosures
 - d. Wall diffusers
- B. Apply sealant in gaps 3/16 inch and smaller between two substrates which are to be painted or coated. Sealants in other gaps specified under Section 07920.
- C. In multiple coat paint work, tint each succeeding coat with slightly lighter color, but approximating shade of final coat, so it is possible to check application of specified number of coats. Tint final coat to required color.
- D. Spread materials smoothly and evenly. Apply coats to not less than wet and dry film thicknesses and at spreading rates for specified products as recommended by Manufacturer.
- E. Touch up suction spots after application of first finish coat.
- F. Paint shall be thoroughly dry and surfaces clean before applying succeeding coats.
- G. Use fine sandpaper between coats as necessary to produce even, smooth surfaces.
- H. Make edges of paint adjoining other materials or colors clean, sharp, and without overlapping.
- I. Finished work shall be a 'Properly Painted Surface' as defined in this Section.

3.5 ADJUSTMENT

- A. Correct deficiencies in workmanship required to leave surfaces in conformance with 'Properly Painted Surface' as defined in this Section. Correction of 'Latent Damage' and 'Damage Caused By Others,' as defined in this Section, is not included in work of this Section.

3.6 CLEANING

- A. As work proceeds and upon completion of work of any painting Section, remove paint spots from floors, walls, glass, or other surfaces and leave work clean, orderly, and in acceptable condition. Remove debris caused by work of paint Sections from premises.

3.7 PAINT COLOR SCHEDULE

- A. Number and placement of interior and exterior paint colors shall be Color Level II from MPI Manual, PDCA P3-93 as modified in paragraph '1' below.
 1. Several paint colors will be selected for the entire project.
 2. Interior Color Quality Standards -
 - a. Color from the "Perfect Pallet" Collection.
 3. Exterior Color Quality Standards -
 - a. Color from the "Perfect Pallet" Collection

END OF SECTION

SECTION 09923

PAINTED INTERIOR GYPSUM BOARD, PLASTER

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Preparing, priming, and finish painting new interior gypsum board and plaster surfaces as described in Contract Documents.
- B. Related Sections
 - 1. Section 09901 - General Painting Requirements
 - 2. Section 09560 - Textured Ceilings
 - 3. Section 09771 - Textured Walls

1.2 SYSTEM DESCRIPTION

- A. Rest Rooms - Use MPI(a) INT 9.2F Waterborne Epoxy Finish system for new work and MPI(r) RIN 9.2E Waterborne Epoxy Finish system for previously painted work.
- B. All Other - Use MPI(a) INT 9.2B Latex Finish system for new work and MPI(r) RIN 9.2B Latex Finish system for previously painted work.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Products listed in edition of MPI Approved Product List current at time of bidding and later and following products are approved, providing they meet VOC requirements in force where Project is located.
- B. Primers
 - 2. MPI Product 50
- C. Finish Coats
 - 1. Rest Rooms -
 - a. Gloss / Sheen Required - Gloss
 - b. MPI Product 115
 - 2. Remaining Painted Surfaces -
 - a. Gloss / Sheen Required - Semi-Gloss
 - b. MPI Product 141

PART 3 EXECUTION

3.1 APPLICATION

- A. General - See appropriate paragraphs of Section 09901.
- B. New Surfaces
 - 1. Primer -
 - a. Apply primer to be covered with other paint coats or with multi-color coating system with roller only, or with spray gun and back-rolled.

END OF SECTION