

**MOORE PUBLIC SCHOOLS  
BROADMOORE ELEMENTARY SCHOOL  
2023 MILLWORK REPLACEMENT**

**INDEPENDENT DISTRICT NO. 2  
CLEVELAND COUNTY, MOORE, OKLAHOMA**

**3401 SOUTH BROADWAY  
MOORE, OKLAHOMA 73160**

**PROJECT MANUAL**  
JANUARY 2023

**AGP** | the Abla Griffin  
Partnership



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**ARCHITECT:**

**AGP** | the Abla Griffin  
Partnership

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*[Handwritten Signature]*  
1/23/23

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## SPECIAL CONDITIONS

### TIME FOR COMPLETION AND LIQUIDATED DAMAGES:

- A. Upon execution of the contract agreement between the Owner and the Contractor, it shall become an obligation of the contractor to complete all work to be performed under this agreement for the 2023 Millwork Replacement project at Broadmoore Elementary School located at 3401 South Broadway, Moore, OK 73160 - **within 180 Calendar Days.**
- B. Penalty for noncompliance by the above date shall be cessation of all further periodical payments until the work is completed, and can be fully used for the purpose intended.

### PAYMENTS:

- A. The Owner's payment schedule indicating the payment dates established by Moore Public Schools shall be provided to the contractor to establish a monthly payment schedule.
- B. **Certificates of payment shall be submitted to the Architect on or before 7 days prior to Owner's cut-off date.**
- C. Until the Work is 50 percent complete, the Owner will pay 95 percent of the amount due the Contractor on account of progress payments. At the time the Work is 50 percent complete, any **remaining** partial payments shall be paid at 97.5 percent of amount due. The retainage shall be retained until the project is completed.

### INSURANCE AND BONDS:

- A. Insurance provided shall be with a company or companies licensed to do business in the state of Oklahoma.
- B. Policies shall be provided in the following types and amounts:
  - 1. a. Workmen's Compensation-Statutory
  - b. Employer's Liability-\$500,000 each accident.
  - 2. Comprehensive General Liability:
    - a. Bodily Injury - \$1,000,000 each occurrence.
    - b. Personal Injury - \$1,000,000
    - c. Property Damage - \$1,000,000 each occurrence

3. Automobile Liability:
    - a. Bodily Injury - \$500,000 each person/\$1,000.000 each occurrence
    - b. Such Comprehensive Automobile Liability Insurance shall include all owned and non-owned hired motor vehicles.
  4. Owners Protective Liability - Same limits as above.
  5. Products and Completed Operations - Same limits as above.
  6. Contractual Liability - Same limits as above.
- C. Furnish one copy of Certificates herein required for each copy of the Agreement; specifically set forth evidence of all coverage required by Subparagraphs 11.1 and 11.2. Furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits.
- D. **The Contractor shall provide property insurance in the amount of the initial contract sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis without voluntary deductibles. This insurance coverage shall be the "all-risk" form for completed value.**

**TEMPORARY SERVICES:**

- A. Sanitary Facilities: The Contractor shall provide and maintain necessary sanitary conveniences for the use of those employed on/or about the work. The sanitary facilities shall be properly secluded from public observation and shall be such locations as shall be approved by the Owner, and their use shall be strictly enforced.

**SHOP DRAWINGS and SUBMITTALS:**

- A. Unless otherwise specified, the shop drawings and product data shall be submitted **electronically**. Physical samples of materials shall be submitted to the Architect as required.
- B. Construction Manager is responsible for obtaining and distributing required prints of shop drawings to his

subcontractors and material suppliers after as well as before final approval.

- C. Shop drawings and samples shall be dated and marked to show the names of the Project, Architect, CM, originating Sub-Contractor, manufacturer or supplier, and separate detailer if pertinent. Shop drawings shall completely identify Specifications section and locations at which materials or equipment are to be installed. Reproduction of Contract Drawings are acceptable as Shop Drawings only when specifically authorized in writing by the Architect.
- D. If materials or specified items other than those specified in these Contract Documents are supplied - and approved by the Architect - it shall be the Construction Manager's responsibility to provide ALL additional materials, accessories, substrates, utility connection, etc. for a complete and operational installation at NO additional cost to the Owner.

**CHANGES IN THE WORK:**

- A. Cost shall be limited to the following: cost of materials, including sales tax and cost of delivery; cost of labor, including social security, old age and unemployment insurance, and fringe benefits under collective bargaining agreements; workmen's compensation insurance; bond premiums; and rental value of power tools and equipment. Overhead shall include the following; supervision, superintendence, wages of time keepers, watchmen and clerks, hand tools, incidentals, general office expense, and all other expenses not included in "cost".
- B. Change Order markups shall be limited to 10% overhead and 10% profit. No other markups shall be allowed.

**AS BUILT DRAWINGS:**

- A. Provide and maintain in proper order and in good, clean condition in the field office at the project site, one complete full-size set of all working drawings. On this set of drawing prints, in red ink, neatly and accurately inscribe any and all changes in the work.
- B. Upon completion of work, the Contractor shall furnish one set of

"as built" drawings. These drawings shall be contract drawings corrected in **red ink** to show any differences between contract drawings and actual construction. All changes made during construction shall be noted. Each drawing showing changes in dimensions, details, or containing supplemental information shall be plainly marked "**As Built**" and shall contain the signature of both the Architect and the Contractor.

**CLOSEOUT SUBMITTALS:**

Prepare project data in the form of an instructional manual supplied electronically on media as requested by Owner (CD or flash drive). The following information shall be included and arranged under a Table of Contents:

1. Directory listing names, addresses, and telephone numbers of the Architect/Engineer(s), Construction Manager, Subcontractors, and major material/equipment suppliers.
2. Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and Suppliers. Include equipment, parts list for each, operating instructions, maintenance instructions for equipment, special finishes, etc.
3. Project documents and certificates, including shop drawings and product data, air and water balance reports, photocopies of warranties.
4. Record As-Built Drawings as described above.
5. Completed Non-Asbestos Affidavit.

**DEBRIS DISPOSAL:**

Waste disposal shall be the responsibility of the Contractor. The Contractor shall make arrangements with the local authorities having jurisdiction for accommodation of all waste disposal. If local facilities are not available the contractor shall be responsible for all other arrangements for waste disposal.

**SUPPLEMENTARY CONDITIONS AND SPECIAL CONDITIONS:**

In the following sections where the term "General Conditions" is used, it shall include the "Supplementary Conditions" and/or "Special Conditions" bound in this project manual.

**MISCELLANEOUS PROVISIONS:**

A. TESTS AND INSPECTIONS

Not applicable.



B. EQUAL OPPORTUNITY

The Contractor shall maintain policies of employment as follows:

The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated fairly during employment without regard to their race, religion, color, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment advertising; layoff or termination; rates of pay or any other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

C. COOPERATION WITH BUILDING OFFICIALS

Not applicable.

D. MEASUREMENTS

Before doing any work or ordering any materials, the Contractor shall verify all measurements of existing and new work, and shall be responsible for their correctness.

Any differences which may be found shall be submitted to the Architect for consideration before proceeding with the work. No extra compensation will be allowed because of differences between actual dimensions and measurements indicated on the working drawings.

E. CONFLICTS BETWEEN DRAWINGS AND SPECIFICATIONS

Conflicts between the drawings and specifications shall be brought to the immediate attention of the Architect. Failure to bid item(s) noted on the drawings and omitted from the specifications **does not** remove responsibility from the Construction Manager and applicable Subcontractor(s) to provide and install such with no additional cost to the Owner.

These Contract Documents - including but not limited to the Drawings, Project Manual, and any subsequent Addenda - are issued as a "whole" and shall be bid as such. Each discipline / subcontractor shall review the entire set of Contract Documents and include applicable work in their bid **regardless of location within the Contract Documents**. Reviewing only a portion of the Contract Documents shall not absolve the construction manager or

subcontractor of the requirement to perform the work of their respective disciplines and/or trade.

F. MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS

Install all manufactured items of materials or equipment in strict accordance with manufacturer's recommended specifications, except that the specifications herein, where more stringent, shall be complied with.

At the completion of the project and prior to final acceptance by the Owner, provide the Owner with three complete sets of operating and maintenance instructions, and demonstrate to him the procedures for proper operation and maintenance of all equipment.

G. JOB MAINTENANCE

During the course of their work, all crafts and trades shall protect all work which preceded theirs from damage, and they shall make repairs or replacements to any damage caused either directly or indirectly by them.

H. COMPLIANCE WITH STATE AND FEDERAL LAWS

Contractor assumes full responsibility for the payment of all contributions and payroll taxes (state and federal) as to all subcontractors and employees engaged in the performance of work pursuant hereto and further agrees to check and meet all requirements that might be specified under regulations of the administrative officials or board charged with the enforcement of any state or federal act on the subject referred to. CM agrees to furnish Owner, upon request, a certificate or other evidence of compliance therewith.

I. OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA)

The Construction Manager shall comply with the latest edition and revision of The Federal Occupational Safety and Health Act of 1970 for construction.

J. GUARANTY BONDS

1. Prior to the Owner signing the contract agreement, he will require the Contractor to furnish performance and payment bonds covering the faithful performance of the entire construction contract agreement. The performance bond and the payment bond shall each be made out in one hundred percent (100%) of the contract sum and shall be in a company or companies against which the Owner has no reasonable objection.

2. Bonds shall be signed by an official of the bonding company, and shall be accompanied by the bonding agent's written power-of-attorney in order that one copy may be attached to each copy of the contract agreement.
3. The Construction Manager shall include in his proposal amount the total premiums for all required bonds.
4. Unless noted otherwise, the Construction Manager does hereby warrant and/or guarantee against defects in all workmanship and materials performed or furnished by him directly or by his subcontractors for a period of one (1) year from the date of completion, as evidenced by the date of the Final Certificate or final acceptance of the project. Said warranty and/or guarantee shall be in the form of a good and sufficient bond in a sum equal to one hundred percent (100%) of the contract price.

**End of Special Conditions**

## DIVISION 1 - GENERAL REQUIREMENTS

### SECTION 01010-SUMMARY OF THE WORK

#### Part 1 - General

##### 1.01 Work Included:

- A. The General Conditions, Bidding Requirements, and Division I are hereby made a part of each of the technical sections that follow, and shall be understood to apply and shall apply in full to all individuals or corporations who contract or subcontract to perform any part or all of the project work.
- B. Indications on the working drawings or in any section of the specifications of an article or material, operation, or method, requires that the Contractor shall provide each item or service or quality or is subject to qualifications noted; and, the Contractor shall perform each operation prescribed according to the conditions stated providing, therefore, all necessary labor, equipment, and incidentals to complete the project work.
- C. The project:
  - 1. Name: Broadmoore Elementary School 2023 Millwork Replacement - Moore Public Schools.
  - 2. Location: 3401 South Broadway, Moore, Oklahoma 73160.

##### 1.02 Summary of Work:

- A. **Base Bid:** Provide and pay for all materials, labor, services, equipment, licenses, taxes, permits, and other items necessary for the replacement of the existing millwork (i.e. base cabinets, wardrobe and shelving, coat hooks, etc.) at the existing classrooms. Contractor shall maintain all barriers, guards and other environmental items required at the site during construction.
- B. Owner: Moore Public Schools
  - 1. Owner's Representative:  
Todd Stapleton, Assistant Superintendent, Operations  
Moore Public Schools  
1500 SE 4<sup>th</sup> Street  
Moore, OK 73160  
405-735-4221
- C. Design Team:
  - 1. Architect:  
Mike Abla, Principal Architect  
AGP  
201 N. Broadway, Suite 210  
Moore, OK 73160  
405-735-3477
  - 2. Structural Engineer / Mechanical, Electrical and Plumbing Engineers / Civil Engineer:  
Not applicable.
  - 3. Construction Management Team:  
Joe Sherga, Project Manager  
Omni Construction LLC  
1909 S. Eastern Ave.  
Moore, OK 73160  
405-735-3992

## DIVISION 1 - GENERAL REQUIREMENTS

### SECTION 01010-SUMMARY OF THE WORK

- 1.03 Work to be Provided and Installed By Others:  
Not applicable.
- 1.04 Use of the Site:
- A. Confine operations at the site to the areas permitted under the contract. Portions of the site beyond areas on which work is indicated are not to be disturbed.
  - B. Keep facility free from accumulation of waste material, rubbish or construction debris.
- 1.05 Safety of Persons and property:
- A. Contractor shall at all times protect the building from damage from rainwater.
  - B. Contractor shall provide barricades and clearly mark work zone areas.
  - C. Refer to Special Conditions "Temporary Services" for additional information.
  - D. During the period of construction, the OSHA Standards shall be followed as applicable by law.
  - E. The Contractor shall post emergency telephone numbers.
- 1.06 Preconstruction Conference:
- A. A preconstruction meeting will be held at a time and place designated by the Architect or Owner's Representative, for the purpose of identifying responsibilities of the Owner=s and the Architect's personnel and explanation of administrative procedures.
  - B. The Contractor shall use this meeting for the following minimum agenda:
    - 1. Construction Schedule/Project Phasing.
    - 2. Use of areas of the site.
    - 3. Delivery and storage.
    - 4. Safety.
    - 5. Security.
    - 6. Cleaning up.
    - 7. Subcontractor procedures relating to:
      - a. Submittals.
      - b. Change orders.
      - c. Applications for payment.
      - d. Record documents.
  - C. The attendees shall include:
    - 1. The Owner's Representatives.
    - 2. The Architect.
    - 3. The Contractor and its superintendent.
- 1.07 Project Scheduling:
- A. The Contractor is responsible for the scheduling of construction and must prepare a schedule and charting system described below. This schedule is to ensure adequate planning and execution of the work by the contractor and to assist the Architect in appraising the schedule and evaluating the progress of the work.
  - B. The project schedule shall be presented within ten (10) days after receipt of the Notice to Proceed. Three (3) copies of the schedule shall be submitted to the Architect for review and approval.

## DIVISION 1 - GENERAL REQUIREMENTS

### SECTION 01010-SUMMARY OF THE WORK

- C. The schedule logic must be in the form of a "fenced" bar chart or Critical Path Method network indicating the planned start and completion dates of the activity, logical constraints between activities, and total float of each activity.
  - D. An updated project schedule shall be provided when requested by the Architect.
- 1.08 Environmental Controls:
- A. Water Resources:
    - 1. Oily substances: prevent oily or other hazardous substances from entering the existing sewage system.
  - B. Land Resources:  
Not applicable.
  - C. Air resources:
    - 1. Prevent creation of dust, air pollution, and odors.
    - 2. Store volatile liquids, including fuels and solvents, in closed containers.
    - 3. Properly maintain equipment to reduce gaseous pollutant emissions.
  - D. Comply with all applicable environmental control guidelines as required by the City of Moore.
- 1.09 Temporary Utilities:
- A. The Contractor shall provide and pay for all temporary utilities required for the complete construction of the project including, but not limited to, electricity, lighting, heating, cooling, ventilating, telephone, water, sanitary facilities, exterior and interior enclosures, access roads and parking areas, cleaning and waste removal, project identification and signs, etc.
- 1.10 Cleaning:
- A. Use cleaning materials and agents recommended by manufacturer or fabricator of surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property, or that might damage finished surfaces.
  - B. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to condition expected from a commercial building cleaning and maintenance program. Comply with manufacturer's published instructions.
  - C. Complete cleaning operations prior to requesting a Final / Substantial Completion Inspection.
- 1.11 Project Sign:  
Not applicable.

**End of Section**

## DIVISION 6 - WOOD & PLASTIC

### SECTION 06200 - FINISH CARPENTRY

#### Part 1 - General

##### 1.01 Work Included:

- A. All materials, labor, services and incidentals necessary for the completion of this section of the work.
- B. The fabrication of wood finish materials, installation of shelving, etc. incidentals necessary to finish the carpentry.

##### 1.02 Related Work Specified Elsewhere:

- A. Custom Casework - Section 06410
- B. Custom Laminated Casework - Section 06420

##### 1.03 Quality Assurance:

- A. Standards (where applicable):
  - 1. Architectural Woodwork Institute:
    - a. Architectural Woodwork Quality Standards.
  - 2. National Electrical Manufacturers Association:
    - a. NEMA Publication LD-1.
  - 3. Western Wood Products Association:
    - a. Standard Grading Rules for Western Lumber.
  - 4. American Plywood Association:

##### 1.05 Product Delivery, Storage and Handling:

- A. All finish materials, trim, etc. shall be inspected to ensure that no sub-grade, defective, or machine-marked pieces are installed.

#### Part 2 - Products

##### 2.01 General:

- A. Grades specified shall conform to the most recent grading rules of the association or bureau under whose rules the lumber is produced.
- B. Quality standards specified shall conform to the latest edition of the Architectural Woodwork Institute's "Quality Standards".
- C. Lumber shall be kiln-dried to 10% to 12% moisture content which shall be maintained during the fabrication of millwork and cabinetry.

#### Part 3 - Execution

##### 3.01 Miscellaneous Trim and Frames:

- A. Install all trim in longest possible lengths. Stagger joints in adjacent member. Cope at returns and miter at corners. Attach securely in place with fine finishing nails where exposed; set for filling.

**DIVISION 6 - WOOD & PLASTIC**

**SECTION 06200 - FINISH CARPENTRY**

- B. Immediately prior to final inspection of building, the contractor shall repair or replace all millwork or cabinetry items which have been damaged in any way.

**End of Section**



## DIVISION 6 - WOOD & PLASTICS

### SECTION 06410 - CUSTOM CASEWORK

#### Part 1 - General

##### 1.01 Section Includes:

- A. Special fabricated cabinet units as indicated on drawings.
- B. Countertops.
- C. Hardware
- D. Preparation for site finishing.
- E. Preparation for installing utilities.
- F. Related Documents: The Contract Documents apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
- G. **NOTE: FRAMELESS CABINETS / EUROPEAN CONSTRUCTION STYLE CABINETS ARE ACCEPTABLE. Provide proposed details, etc. during shop drawing submittal phase for approval by Architect.**

##### 1.02 Related Sections:

- A. Section 06200-Finish Carpentry: Related trim not specified in this section.
- B. Section 09900- Paints and Coatings: Finishing cabinet exterior and interior where applicable.

##### 1.03 References:

- A. ANSI/BHMA A156.9-Cabinet Hardware.
- B. AWI-Quality Standards
- C. FS L-F 508-Plastic Sheet, Laminated, Decorative and non-Decorative.
- D. FS MM-L-736-Lumber, Hardware.
- E. FS MMM-A- 130-Adhesive, Contact.
- F. NEMA LD-3-High Pressure Decorative laminates.
- G. PS 1-Construction and Industrial Plywood.
- H. PS 20-American Softwood Lumber Standard.
- I. PS 51-Hardwood and Decorative Ply.

##### 1.04 Submittals:

- A. Shop Drawings: Indicated materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location, and schedule of finishes.

##### 1.05 Quality Assurance: Perform work in accordance with AWI Custom quality.

##### 1.06 Qualifications: Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years of experience.

##### 1.07 Delivery, Storage, and Handling:

- A. Protect units from moisture damage.
- B. Store materials in ventilated, interior locations under

**DIVISION 6 - WOOD & PLASTICS**

**SECTION 06410 - CUSTOM CASEWORK**

constant, minimum temperatures of 60 degrees F. And maximum relative humidity of 55 percent.

1.08 Field Measurements: Verify that field measurements are as indicated on shop drawings.

1.09 Coordination: coordinate work with plumbing and electrical rough-in.

**Part 2 - Products**

2.01 Wood Materials:

A. Softwood Lumber:PS20; graded in accordance with AWI Custom; average moisture content of 6 percent; species and grades as follows:

<u>Item</u>	<u>Species</u>	<u>Cut</u>
Cabinet Frame	Douglas Fir	Economy
Internal Construction	Douglas Fir	Economy
Miscellaneous framing	Douglas Fir	Economy
Sub-Tops	Douglas Fir	Economy

B. Hardwood Lumber FS MM-L-736; graded in accordance with AWI Custom; average moisture content of 6 percent; species and grade as follows:

<u>Item</u>	<u>Species</u>	<u>Cut</u>
Exposed Stiles and Rails	Red Oak	Economy
Miscellaneous Trim	Red Oak	Economy

2.02 Sheet Materials:

A. Softwood Plywood: PS 1; graded in accordance with; core material of veneer or lumber, species and cut as follows:

<u>Item</u>	<u>Face</u>	<u>Cut</u>
Drawer Construction	Douglas Fir	Economy
Gables and Backs	Douglas Fir	Custom
Sub-tops	Douglas Fir	Economy
Non-sight exposed shelving	Douglas Fir	Custom
Miscellaneous	Douglas Fir	Custom

B. Hardwood Plywood: PS 51; AM graded in accordance with AWI; core material for veneer or lumber; type of glue recommended for application; face veneer and cuts as follows:

**DIVISION 6 - WOOD & PLASTICS**

**SECTION 06410 - CUSTOM CASEWORK**

<u>Item</u>	<u>Face Species</u>	<u>Cut</u>
Door and Drawer Fronts	Red Oak	Economy
Drawer Construction	Red Oak	Economy
Gable and Backs	Red Oak	Economy

- C. Wood Particles-PS 1;AM standard, composed of wood= chips, medium density, made with high waterproof resin binders; of grade to suit application; sanded faces, located as follows:

Item  
Drawer Construction

- D. Hardboard: Pressed wood fiber with resin binder, tempered grade, 1/4 inch thick, smooth one side, located as follows:

Item  
Drawer Bottoms

2.03 Laminated Materials: Plastic Laminated: NEW LD-T; 00550 inch General Purpose Grade; suede surface finish, color and pattern as selected by Architect. All sight exposed surfaces (excluding countertops and backsplash) for cabinets to be laminate finished.

2.04 Accessories:

- A. Adhesive: FS MMM-A-130 contact adhesive, water base type, recommended by laminate manufacturer to suit application.
- B. Fasteners: Size and type to suit application.
- C. Bolts, Nuts, Washers, Lags, Pins and Screws: Of size and type to suit application; galvanized finish in concealed locations and cadmium plated finish in exposed locations.
- D. Concealed Joint Fasteners: Threaded steel.
- E. Lumber for Shimming, Blocking, and Miscellaneous Applications: Softwood lumber of Douglas Fir species.
- F. Primer. Alkyd primer sealer type.
- G. Wood filler: Solvent base, tinted to match surface finish color.
- H. Plastic Grommets: provide at openings in countertop as indicated on the Drawings. Color to be "black".

2.05 Architectural Cabinet Solid Surface Tops (Countertops):

- A. Design Load: deflection limited to 1/360.
- B. Type of Top: homogeneous solid sheets of filled plastic resin complying with the following:
  - 1. Colors and Patterns: as selected by Architect from manufacturer's full range.
  - 2. Special Features: eased edge treatment.
  - 3. Accessories:

## DIVISION 6 - WOOD & PLASTICS

### SECTION 06410 - CUSTOM CASEWORK

- a. Adhesives: for seams and drop edges, Formica Solid Surfacing Seaming Cartridges, 9 ounce, color to blend with sheet material.
  4. Fabrication: assemble work at shop and deliver to job ready for installation. Manufacture in largest practical pieces for handling and shipping without seams.
    - a. Fabricate work square and to required lines.
    - b. Recess and conceal fasteners connections and reinforcing.
    - c. Design, construction, and installation: details to allow for expansion and contraction of materials. Properly install material with hairline joints held rigidly in place.
    - d. Fabricate countertops and vanities with back splash and side splash pieces to profiles and sizes indicated.
    - e. Fabricate items to profiles shown with connections and supports as indicated or as required for complete installation in accordance with manufacturer's written instruction and approved submittals.
    - f. Provide cut-outs for plumbing fixtures and trim, washroom accessories, appliances, and related items: confirm layout with manufacturer's cut-out templates before beginning work. Round corners of cut-outs and sand edges smooth.
    - g. Do not exceed manufacturer's recommended unsupported overhang distances.
    - h. Finish exposed surfaces smooth and polish to low sheen.
    - i. Radius corners and edges.
    - j. Tolerances: variations in size or openings shall not exceed +/-1/4".
  5. Acceptable manufacturer: Formica Solid Surfacing as manufactured by Formica Group / Fabrications, Cincinnati, Ohio **or approved equal.**
- 2.06 Factory Finishing of Interior Architectural Woodwork:
- A. Quality Standard: Comply with AWI Section 1500 unless otherwise indicated.
  - B. The finish of custom casework is included under this Section, regardless of whether factory applied or applied after installation.
  - C. Preparations for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces and similar preparations for finishing of

## DIVISION 6 - WOOD & PLASTICS

### SECTION 06410 - CUSTOM CASEWORK

- custom casework, as applicable to each unit of work.
- D. Factory Finishing: The extent to which the final finish is applied to architectural woodwork a factory is Contractor's option, except factor apply at least prime/base coat to the greatest extent possible before delivery.
  - E. Transparent finish for Open-Grain Woods: Comply with requirements indicated below for grade Finish system, staining, effect, and sheen, with sheen measured on 60 degree gloss meter per ASTM D 523.
    - 1. Grade: Custom
    - 2. AWI Finish System No. 5: Catalyzed polyurethane.
    - 3. Staining: Match Architect=s sample.
    - 4. Effect: Closed grain (filled finish).
    - 5. Sheen: Medium-gross ribbed effect 35-45 deg.
  - F. Transparent Finish for Closed-grain Woods: Comply with requirements indicated below for grade, finish system staining, effect, and sheen.
    - 1. Grade: Custom
    - 2. AWI Finish System No. 5: Catalyzed polyurethane.
    - 3. Staining: Match Architect's sample.
    - 4. Effect: Closed grain.
    - 5. Sheen: Medium-gloss rubbed effect 35-45 deg.
- 2.07 Fabrication:
- A. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.
  - B. Fit shelves, doors and exposed edges with 3/8 inch matching hardwood edging. Use full length pieces only.
  - C. Cap exposed plastic laminate finish edges with material of same finish and pattern.
  - D. Door and Drawer Fronts: 3/4 inch thick; overlay style.
  - E. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.
  - F. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.
  - G. Mechanically fasten back splash to countertops with sleet brackets at 16 inches on center.
  - H. Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes; and fixtures and fitting. Verify locations of cutouts from on-site dimensions. Prime paint contact surfaces of cut edgy.

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### SECTION 06410 - CUSTOM CASEWORK

#### 2.08 Finishing:

- A. Sand work smooth and set exposed nails and screw.
- B. Apply wood filler in exposed nail (and screw) indentations.
- C. On items to receive transparent finishes, use wood filler which matches surrounding surfaces and of types recommended for applied finishes.
- D. Seal, stain and varnish exposed to view surfaces. Brush apply only.
- E. Seal and varnish internal exposed to view and semi-concealed surfaces. Brush apply only.
- F. Seal internal surfaces of cabinets with one coat of shellac. Brush apply only.
- G. Seal surfaces in contact with cementitious materials.

#### 2.09 Hardware:

- A. Shelf Standard and Supports: KV-256 and KV-255.
- B. Drawer and Door Pulls: Chrome, U-shaped wire pulls.
- C. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed.
- D. Catches: Magnetic, Stanley SF-45 and SP-46. Provide other types required for special conditions.
- E. Drawer Slides: Knappe and Vogt: KV1284 typical with KV1485 full extension ball bearing tracks.
- F. Hinges: Blum Model 170-concealed hinges with 170 degree opening or Grass System 1200 (176 degree opening) self-closing with 1000-80 base plate. Two hinges per door up to 36" and 3 hinges per door up to 48" and 4 per door up to 60" high.
- G. Grommets: Provide plastic grommets at all penetrations through countertop for cabling, power cords, etc. as indicated on the Drawings.

### Part 3 - Execution

3.01 Examination: Verify adequacy of backing and support framing.

#### 3.02 Installation:

- A. Install woodwork to comply with AWI Section 1700 for same grade specified above for type of casework involved.
- B. Set and secure casework in place; rigid, plumb, and level.
- C. Use fixture attachments in concealed locations for waif mounted components.
- D. Use concealed joint fasteners to align and secure adjoining cabinet units and counter tops.
- E. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- F. Secure cabinet and counter bases to floor using appropriate

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### SECTION 06410 - CUSTOM CASEWORK

- angles and anchorages.
  - G. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.
  - H. Install without distortion so that doors and drawers fit openings properly and are accurately aligned.
  - I. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete the finishing work specified in this section to whatever extent not completed at shop or before installation of woodwork.
  - J. Complete the finishing work specified in this section to whatever extent not completed at shop or before installation of woodwork,
- 3.03 Adjusting:
- A. Adjust moving or operating parts to function smoothly and correctly.
- 3.04 Cleaning:
- A. Clean casework, counters, shelves, hardware, fittings and fixtures.
- 3.05 Schedules:
- A. Furnish and install all items listed in this schedule at location indicated on the Drawings, complete as to function intended.
  - B. Casework indicated on the Drawings; custom grade construction.
    - 1. Counter Tops.
    - 2. Base Cabinets.
    - 3. Overhead Cabinets.
    - 4. Shelving-adjustable and fixed.
    - 5. Other items such as shims and fillers as indicated on the Drawings or as required for a complete cabinetwork installation.

**END OF SECTION**

## DIVISION 6 - WOOD & PLASTICS

### SECTION 06420 - CUSTOM LAMINATE CASEWORK (CONTRACTOR OPTION)

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Fixed modular laminate clad casework and components.
- B. Flexible rail mounted laminate clad casework and components.
- C. Solid Surface countertops and backsplash.

##### 1.02 RELATED SECTIONS

- A. Blocking within walls where indicated: Section 06100 Rough Carpentry.
- B. Millwork, trim, etc.: Section 06200 Finish Carpentry.
- C. Hardware: Section 06410 Custom Casework.
- D. Glass: not applicable.
- E. Base molding: Division 9.
- F. Appliances: Division 11 and drawings.
- G. Sinks and service fixtures, service waste lines, connections, and vents: Division 15.
- H. Electrical service fixtures: Division 16.

##### 1.03 DEFINITIONS

- A. Identification of casework components and related products by surface visibility.
  - 1. Open Interiors: Any open storage unit without solid door or drawer fronts, units with full glass insert doors and/or acrylic doors, and units with sliding solid doors.
  - 2. Closed Interiors: Any closed storage unit behind solid door or drawer fronts.
  - 3. Exposed Ends: Any storage unit exterior side surface that is visible after installation.
  - 4. Other Exposed Surfaces: Faces of doors and drawers when closed, and tops of cabinets less than 72 inches above furnished floor.
  - 5. Semi-Exposed Surfaces: Interior surfaces which are exposed to view when doors or drawers are opened, bottoms of wall cabinets and tops of cabinets 72 inches or more above finished floor.
  - 6. Concealed Surfaces: Any surface not visible after installation.

##### 1.04 QUALITY ASSURANCE

- A. Manufacturer: Minimum of 5 years experience in providing manufactured casework systems for similar types of projects, produce evidence of financial



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stability (if requested), bonding capacity, and adequate facilities and personnel required to perform on this project.

- B. Manufacturer: Provide products certified as meeting or exceeding ANSI-A 161.1-2000 testing standards.
- C. Single Source Manufacturer: Casework, countertops and architectural millwork products must all be engineered and built by a single source manufacturer in order to ensure consistency and quality for these related products. Splitting casework, countertops and/or architectural millwork between multiple manufacturers will not be permitted.
- D. Quality Standard: Unless otherwise indicated, comply with AWI's Architectural Woodwork Quality Standards for grades of interior architectural woodwork, construction, finishes and other requirements.

#### 1.05 SUBMITTALS

- A. Comply with Special Conditions, unless otherwise indicated.
- B. Product Data: Manufacturer's catalog with specifications and construction details.
- C. Shop Drawings: Indicate dimensions, description of materials and finishes, general construction, specific modifications, component connections, anchorage methods, hardware, and installation procedures, plus the following specific requirements.
  - 1. Include section drawings of typical and special casework, work surfaces and accessories.
  - 2. Indicate locations of plumbing and electrical service field connection by others.
  - 3. Provide one set of shop drawings which includes all products within this section, engineered and built by a single source manufacturer, with seamless coordination amongst all products.
- D. Casework Samples (To be available upon request):
  - 1. Base cabinet: Cabinet conforming to specifications, with drawer and door.
  - 2. Wall cabinet: Cabinet conforming to specifications, with door.
  - 3. Cabinet samples shall be complete with specified hardware for doors, drawers and shelves.
  - 4. Component samples: Two sets of samples for each of the following:

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### SECTION 06420 - CUSTOM LAMINATE CASEWORK (CONTRACTOR OPTION)

- a. Decorative laminate color charts / PVC and ABS edgings.

#### 1.06 PRODUCT HANDLING

- A. Deliver completed laminate clad casework, countertops, and related products only after wet operations in building are completed, store in ventilated place, protected from the weather, with relative humidity range of 25 percent to 55 percent.
- B. Protect finished surfaces from soiling and damage during handling and installation with a protective covering.

#### 1.07 JOB CONDITIONS

- A. Environmental Requirements: Do not install casework until permanent HVAC systems are operating and temperature and humidity have been stabilized for at least 1 week.
  1. Manufacturer/Supplier shall advise Contractor of temperature and humidity requirements for architectural casework installation areas.
  2. After installation, control temperature and humidity to maintain relative humidity between 25 percent and 55 percent.
- B. Conditions: Do not install casework until interior concrete work, masonry, plastering and other wet operations are complete.

#### 1.08 WARRANTY

- A. All materials and workmanship covered by this section will carry a five (5) year warranty from date of acceptance.

## PART 2 - PRODUCTS

#### 2.01 ACCEPTABLE MANUFACTURERS:

- A. Manufacturer - Basis for Design:
  1. TMI Systems Corporation.
    - a. Specifications are based on manufacturer's literature from TMI SYSTEMS CORPORATION, 50 South Third Avenue West, Dickinson, North Dakota, 58601, Phone: 800-456-6716, fixed modular, flexible rail mounted, and mobile casework and accessories.

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- b. Other manufacturers shall comply with the minimum levels of material and detailing indicated on the drawings or as specified.

#### 2.02 MATERIALS

- A. Core Materials:
  1. Particleboard up to 7/8 inch thick: Industrial Grade average 45-pound density particleboard, ANSI A 208.1-2009, M-2 requirements.
  2. Particleboard 1 inch thick and thicker: Industrial Grade average 45-pound density particle-board, ANSI A 208.1-2009, M-2 requirements.
  3. Medium Density Fiberboard 1/4 inch thick: Minimum average density 45-50 lbs., ANSI A208.2-2009 requirements.
  4. MR Moisture Resistant Particleboard: Average 45-pound density particleboard, ANSI A208.1 1-2009, M-2 requirements.
  5. Toe Base Plywood: 3/4 inch thickness, CC/CD/CDC grades, of western softwood veneers, with NAUF exterior fully water resistant phenolic glues.
- B. Decorative Laminates: GREENGUARD Indoor Air Quality Certified
  1. High-pressure decorative laminate VGS (.028), NEMA Test LD 3-2005.
  2. High-pressure decorative laminate HGS (.048), NEMA Test LD 3-2005.
  3. High-pressure decorative laminate HGP (.039), NEMA Test LD 3-2005.
  4. High-pressure cabinet liner CLS (.020), NEMA Test LD 3-2005.
  5. High-pressure backer BKH (.048), (.039), (.028), NEMA Test LD3-2005.
  6. Thermally fused melamine TFM laminate, NEMA Test LD 3-2005. (TFM allowed on casework interiors only, as specified below. Utilization of TFM on any exterior casework surfaces, including door and drawer faces and finished ends, will not be permitted.)
- C. Laminate Color Selection: Maximum 1 color per unit face and 5 colors per project. (See Color Selection in section 3.05).
- D. Edging Materials:
  1. 1mm PVC banding, machine applied.

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2. 3mm PVC banding, machine applied and machine profiled to 1/8 inch radius.
- E. Glass:  
Not applicable.

#### 2.03 SPECIALTY ITEMS

- A. Support Members:
1. Countertop support brackets: Epoxy powder coated, 11 gauge steel with integral cleat mount opening and wire management opening.
  2. Undercounter support frames: Epoxy powder coated.
  3. Legs: Epoxy powder coated.

#### 2.04 CABINET HARDWARE

- F. Refer to Section 06410 Custom Casework for cabinet hardware.

#### 2.05 FABRICATION:

- A. Fabricate casework, countertops and related products to dimensions, profiles, and details shown.
- B. All casework panel components must go through a supplemental sizing process after cutting, producing a panel precisely finished in size and square to within 0.010 inches, ensuring strict dimensional quality and structural integrity in the final fabricated product.
- C. Cabinet Body Construction:
1. Tops and bottoms are glued and doweled to cabinet sides and internal cabinet components such as fixed horizontals, rails and verticals. Minimum 6 dowels each joint for 24 inch deep cabinets and a minimum of 4 dowels each joint for 12 inch deep cabinets. (Mechanical or metal hardware fasteners joining cabinet top and bottom panels to the sides will not be accepted.)
    - a. Tops, bottoms and sides of all cabinets are particleboard core.
  2. Cabinet backs: 1/4 inch thick medium density fiberboard panel fully captured by the cabinet top, bottom and side panels. Finish to match cabinet interior. 3/4 inch x 4 inch particleboard rails will be placed behind the back panel at the top and bottom, and doweled to the sides utilizing 10mm hardwood fluted dowels. A third intermediate rail will be included on all cabinets taller than 56 inches. Utilize hot melt

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- glue to further secure back and increase overall strength.
- a. Exposed back on fixed or movable cabinets:  
3/4 inch thick particleboard with the exterior surface finished in VGS laminate as selected.
  3. Fixed base and tall units have an individual factory-applied base, constructed of 3/4 inch thick plywood. Base is 102mm (nominal 4 inch) high unless otherwise indicated on the drawings.
  4. Base units, except sink base units: Full sub-top glued and doweled to cabinet sides. (Mechanical or metal hardware fasteners joining cabinet sub-top panel to the sides will not be accepted.)
    - a. Sink base units are provided with open top and a stretcher at the front, attached to the sides. Back to be split removable access panel.
  5. Side panels and vertical dividers shall receive adjustable shelf hardware at 32mm line boring centers. Mount door hinges, drawer slides and pull-out shelves in the line boring for consistent alignment.
  6. Exposed and semi exposed edges.
    - a. Edging: 1mm PVC machine applied.
  7. Adjustable Shelves in Cabinets
    - a. Core: Particleboard.
    - b. Core Thickness: 3/4 inch up to 30 inches wide, 1 inch over 30 inches wide.
    - c. Edge: 1mm PVC on Front Edge Only.
  8. Interior finish, units with open Interiors:
    - a. Top, bottom, back, sides, horizontal and vertical members, and adjustable shelving faces with TFM Thermally Fused Melamine laminate.
  9. Interior finish, units with closed Interiors:
    - a. Top, bottom, back, sides, horizontal and vertical members, and adjustable shelving faces with TFM Thermally Fused Melamine laminate.
  10. Exposed ends:
    - a. Faced with high-pressure decorative VGS laminate. Use of TFM on exposed ends will not be permitted.
  11. Wall unit bottom:

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- a. Faced with thermally fused melamine laminate.
- 12. Balanced construction of all laminated panels is mandatory. Unfinished core stock surfaces, even on concealed surfaces (excluding edges), are not permitted.
- D. Drawers:
  - 1. Sides, back and sub front: Minimum 1/2 inch thick particleboard, laminated with TFM Thermally Fused Melamine doweled and glued into sides. Top edge banded with 1mm PVC.
  - 2. Drawer bottom: Minimum 1/2 inch thick particleboard laminated with TFM Thermally Fused Melamine, screwed directly to the bottom edges of drawer box.
  - 3. Paper storage drawers: Minimum 3/4 inch thick particleboard sides, back, and sub front laminated with TFM Thermally Fused Melamine. Minimum 1/2 inch thick particleboard drawer bottoms screwed directly to the bottom edges of the drawer box. Provide PVC angle retaining bar at the rear of the drawer.
- E. Door/Drawer Fronts:
  - 1. Core: 3/4 inch thick particleboard.
  - 2. High-pressure decorative VGS laminate exterior, balanced with high-pressure cabinet liner CLS. Use of TFM on exterior or interior surfaces of door/drawer fronts will not be permitted.
  - 3. Edges: 3mm PVC, machine applied, external edges and outside corners machine profiled to 1/8 inch radius.
  - 4. Provide double doors in opening in excess of 24 inches wide.
- F. Door Fronts with Glass Insert captured by Retainer Clips (CUSTOM GRADE):
  - 1. Core: 3/4 inch thick particleboard.
  - 2. High-pressure decorative VGS laminate exterior, balanced with high-pressure VGS laminate. Use of TFM on exterior or interior surfaces of door fronts will not be permitted.
  - 3. Edges: 3mm PVC, machine applied, external edges and outside corners machine profiled to 1/8 inch radius.

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4. Provide cutout in door panel resulting in 3-3/8 inch frame. Exposed cutout edge to be finished with 1mm PVC edgebanding.
  5. Notch cutout 3/8 inch x 1/4 inch for glass panel to set into, mounting flush with the back side (interior side) of the door panel. Interior cutout edge to be painted a compatible color to the interior surface.
  6. Glass panel to be captured and held in place utilizing glass retainer clips, screwed in place. Minimum eight clips per glass panel located in the four corners of the cutout.
- G. Miscellaneous Shelving (not in Cabinets):
1. Core material: 1 inch thick particleboard.
  2. High-pressure decorative VGS laminate on both faces.
  3. Edges: 3mm PVC, external edges and outside corners machine profiled to 1/8 inch radius.

#### 2.06 ARCHITECTURAL CABINET SOLID SURFACE TOPS (Countertops):

- A. Design Load: deflection limited to 1/360.
- B. Type of Top: homogeneous solid sheets of filled plastic resin complying with the following:
1. Colors and Patterns: as selected by Architect from manufacturer's full range.
  2. Special Features: eased edge treatment.
  3. Accessories:
    - a. Adhesives: for seams and drop edges, Formica Solid Surfacing Seaming Cartridges, 9 ounce, color to blend with sheet material.
  4. Fabrication: assemble work at shop and deliver to job ready for installation. Manufacture in largest practical pieces for handling and shipping without seams.
    - a. Fabricate work square and to required lines.
    - b. Recess and conceal fasteners connections and reinforcing.

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- c. Design, construction, and installation: details to allow for expansion and contraction of materials. Properly install material with hairline joints held rigidly in place.
  - d. Fabricate countertops and vanities with back splash and side splash pieces to profiles and sizes indicated.
  - e. Fabricate items to profiles shown with connections and supports as indicated or as required for complete installation in accordance with manufacturer's written instruction and approved submittals.
  - f. Provide cut-outs for plumbing fixtures and trim, washroom accessories, appliances, and related items: confirm layout with manufacturer's cut-out templates before beginning work. Round corners of cut-outs and sand edges smooth.
  - g. Do not exceed manufacturer's recommended unsupported overhang distances.
  - h. Finish exposed surfaces smooth and polish to low sheen.
  - i. Radius corners and edges.
  - j. Tolerances: variations in size or openings shall not exceed +/-1/4".
5. Acceptable manufacturer: Formica Solid Surfacing as manufactured by Formica Group / Fabrications, Cincinnati, Ohio **or approved equal.**

### PART 3- EXECUTION

#### 3.01 INSPECTION:

- A. The casework contractor must examine the job site and the conditions under which the work under this section is to be performed and notify the building owner in writing of unsatisfactory conditions. Do not proceed with work under this Section until satisfactory conditions have been corrected in a manner acceptable to the installer.



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#### 3.02 PREPARATION:

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

#### 3.03 INSTALLATION:

- A. Erect casework, plumb, level, true and straight with no distortions. Shim as required. Where laminate clad casework abuts other finished work, scribe and cut to accurate fit.
- B. Adjust casework and hardware so that doors and drawers operate smoothly without warp or bind.
- C. Repair minor damage per plastic laminate manufacturer's recommendations.

#### 3.04 CLEANING:

- A. Remove and dispose of all packing materials and related construction debris.
- B. Clean cabinets inside and out. Wipe off fingerprints, pencil marks, and surface soil etc., in preparation for final cleaning by the building owner.

#### 3.05 COLOR SELECTION:

- A. Laminate Color Selection:
  - 1. Select from the full range of standard Wilsonart® and Formica® stock color charts.
  - 2. Thermally fused melamine laminate matched to White color.
- B. Hardware Color Selection:
  - 1. Hinge: Select from your choice of epoxy powder coating stock colors matched to White, Beige, Gray, Black and Chrome.
  - 2. Pulls: Select from design specific finish options available in the TMI Vendor Stock Pull Program.
  - 3. Miscellaneous Hardware (support brackets, metal components, etc.): Select from your choice of epoxy powder coating stock colors matched to White, Beige, Gray, Black and Chrome.
- C. PVC Edge Banding Color Selection:
  - 1. 3mm PVC: Select from the TMI Vendor Stock PVC Program, including over 200 pattern, woodgrain and solid colors matched to Wilsonart® and Formica® laminates.
  - 2. 1mm PVC: Select from the TMI Vendor Stock PVC Program, including over 200 pattern, woodgrain

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and solid colors matched to Wilsonart® and Formica® laminates.

**End of Section**

## DIVISION 7 - THERMAL & MOISTURE PROTECTION

### SECTION 07900 - SEALANTS

#### Part 1 - General

##### 1.01 Work Included:

- A. All materials, labor services, and incidentals necessary for the completion of this section of the work.

##### 1.02 Quality Assurance:

- A. Standards:
  - 1. TT-S-00230C, Sealing Compound, One Component.
  - 2. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

##### 1.03 Submittals:

- A. Submit manufacturer's specifications and color chart for each type of sealant.
- B. Samples: For each kind and color of joint sealant required.
- C. Joint-Sealant Schedule: Include the following information:
  - 1. Joint-sealant application, joint location, and designation.
  - 2. Joint-sealant manufacturer and product name.
  - 3. Joint-sealant formulation.
  - 4. Joint-sealant color.
- D. Product test reports.
- E. Preconstruction compatibility and adhesion test reports.
- F. Preconstruction field-adhesion test reports.
- G. Field-adhesion test reports.

##### 1.04 Warranty:

- A. All work done under this section of the work shall be guaranteed for a period of two years from date of final acceptance of the building. Guarantee shall include materials and workmanship required to repair any leaks or the repairs thereof.
- B. Special Warranty: Manufacturer's standard form in which joint sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section for a period of 10 years from date of final acceptance.

##### 1.05 **Products of certain manufacturers are specified herein to simplify descriptions of design, construction, and/or materials only. Proprietary names are not intended to imply that products of named manufacturer are required to the exclusion of equivalent products of other manufacturers.**

#### Part 2 - Products

##### 2.01 Materials:

- A. Building Sealant: One part high performance polyurethane waterproofing sealant, FS-TT-S-00230C.
  - 1. Acceptable Manufacturer: Sonneborn NP1 Building Sealant.
  - 2. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall

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comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

- a. Architectural Sealants: 250 gIL.
  - b. Sealant Primers for Nonporous Substrates: 250 gIL.
  - c. Sealant Primers for Porous Substrates: 775 gIL.
3. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
    - a. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.
  4. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
  5. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
- B. Silicone Joint Sealants:
1. Mildew-Resistant Neutral-Curing Silicone Joint Sealant: ASTM C 920.
    - a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      1. BASF Building Systems.
      2. Dow Corning Corporation.
      3. GE Advanced Materials - Silicones.
      4. Pecora Corporation.
      5. Sika Corporation; Construction Products Division.
      6. Tremco Incorporated.
- C. Urethane Joint Sealants: Urethane Joint Sealant: ASTM C 920.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work

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**SECTION 07900 - SEALANTS**

- include, but are not limited to, the following:
- a. BASF Building Systems.
  - b. Bostik, Inc.
  - c. Lymtal, International, Inc.
  - d. Pecora Corporation.
  - e. Sika Corporation; Construction Products Division.
  - f. Tremco Incorporated.
- D. Latex Joint Sealants: Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, GradeNF.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. BASF Building Systems.
    - b. Bostik, Inc.
    - c. Pecora Corporation.
    - d. Tremco Incorporated.
- E. Preformed Joint Sealants: Preformed Foam Joint Sealant: Manufacturer's standard preformed, precompressed, open-cell foam sealant manufactured from urethane foam with minimum density of 10 lb/cu. ft. and impregnated with a nondrying, water-repellent agent. Factory produce in precompressed sizes in roll or stick form to fit joint widths indicated; coated on one side with a pressure-sensitive adhesive and covered with protective wrapping.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Dayton Superior Specialty Chemicals.
    - b. EM SEAL Joint Systems, Ltd.
    - c. Sandell Manufacturing Co.
    - d. Schul International, Inc.
    - e. Willseal USA, LLC.
- F. Acoustical Joint Sealants: Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Pecora Corporation.
    - b. USG Corporation.

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### SECTION 07900 - SEALANTS

- G. Joint Sealant Backing: cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) Type 0 (open-cell material) or any of the preceding types, as approved in writing by joint sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
  - 1. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.
- H. Miscellaneous Materials: as recommended by sealant manufacturer.
  - 1. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
  - 2. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
  - 3. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.
  - 4. Joint Cleaner
  - 5. Joint Primer/Sealer
  - 6. Bond Breaker Tape
  - 7. Joint Backer-Rod: Closed-cell compressible rod stock, size and shape as required by application.
- I. Caulking compound: Watertight, gun consistency, conforming to FS-TT-C-598, Type 1.
- J. Accessories: As recommended by sealant manufacturer.
- K. Color: to be selected from manufacturer's standard colors.

### Part 3 - Execution

- 3.01 Preparation:
  - A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
    - 1. Remove laitance and form-release agents from concrete.
    - 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
  - B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to

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### SECTION 07900 - SEALANTS

areas of joint sealant bond; do not allow spillage or migration onto adjoining surfaces.

- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.
- 3.02 Installation: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
- A. Do not leave gaps between ends of sealant backings.
  - B. Do not stretch, twist, puncture, or tear sealant backings.
  - C. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
  - D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
  - E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
    - 1. Place sealants so they directly contact and fully wet joint substrates.
    - 2. Completely fill recesses in each joint configuration.
    - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
  - F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
    - 1. Remove excess sealant from surfaces adjacent to joints.
    - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
    - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
  - G. Acoustical Sealant Installation: Comply with ASTM C 919 and with manufacturer's written recommendations.
  - H. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning

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materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

#### 3.03 Joint Sealant Schedule:

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
- C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal non traffic surfaces.
- E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal non-traffic surfaces.
- F. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal non traffic surfaces.

#### 3.04 Additional Information:

- A. Application: All sight exposed caulking, and all exterior applications.
- B. Comply with sealant manufacturer's printed instructions.
- C. Any surfaces requiring priming, shall be prepared according to manufacturer's recommendations.
- D. Install sealants to depths as shown or as recommended by sealant manufacturer. Smooth uneven surfaces.
- F. Do not disturb compound by touching, washing, or otherwise until it has cured tack free.
- G. Excess compound shall be removed from surfaces after curing.
- H. Follow manufacturer's recommendations for painting over sealant.

**End of Section**



## DIVISION 9 - FINISHES

### SECTION 09650 - RESILIENT FLOORING

#### Part 1 - General

##### 1.01 Work Included:

- A. All materials, labor, services, and incidentals necessary for the completion of this section of the work.

##### 1.02 Quality Assurance:

- A. Installation Qualification: contractors for floor covering installation shall be experienced in managing commercial flooring projects and provide professional installers, qualified to install the various flooring materials specified with a minimum of three years of documented experience. Installer shall be trained by flooring manufacturer and - if applicable - certified to install the specified flooring by the manufacturer.
- B. Manufacturer Qualifications: company specializing in manufacturing the specified flooring with minimum three years documented experience.

##### 1.03 Submittals:

- A. Submit product data for each type of product indicated.
- B. Submit samples for color selection / verification.
- C. Maintenance Data and Instructions Furnish manufacturer's recommended maintenance methods and procedures.

##### 1.04 Delivery, Storage, and Handling:

- A. Store resilient products and installation materials in dry spaces protected from the weather, at temperatures required by the product manufacturer.

#### Part 2 - Products

##### 2.01 General:

- A. Match existing wall base color at each room - a maximum of two (2) different colors will be utilized (black or gray). Coordinate with Architect and Owner.

##### 2.02 Materials:

- A. Rubber Cove Base: ASTM F 1861, Type TP-Rubber as manufactured by Armstrong Cork Company or approved equal.
  - 1. Size: 4" high x .018 gauge.
  - 2. Provide preformed inside and outside corners.
- B. Primer and Adhesive: All wall base shall be applied with epoxy adhesive.
- C. Cleaner or other finishing material: As recommended by flooring manufacturer for the particular type of floor material.

## DIVISION 9 - FINISHES

### SECTION 09650 - RESILIENT FLOORING

#### Part 3 - Execution

##### 3.01 Installation:

- A. Comply with manufacturer's written instructions for installing specified wall base.
- B. Carefully examine the surfaces on which the above materials are to be applied, report to Architect in writing any unsatisfactory surface and do not begin work until all defective surfaces have been corrected. Otherwise, the Contractor shall assume responsibility for all failures and defects resulting from such defective surfaces.
- C. Installation shall not begin until the work of all other trades, including painting, has been completed. The Contractor shall maintain all rooms at a minimum of 70 degrees F. for several days before and after application of tile.
- D. The material shall be applied in a first class, workmanlike manner by skilled mechanics experienced in this type of work.
- E. Primer and adhesive shall be as recommended by the manufacturer of the flooring for this particular project. The adhesive for applying all materials shall be waterproof and shall be furnished and guaranteed by the flooring manufacturer.

##### 3.02 Replacement Base:

- A. Provide 20 linear feet of spare rubber wall base. Wall base shall be in perfect condition.

**End of Section**

## DIVISION 9 - FINISHES

### SECTION 09900 - PAINTING

#### Part 1 - General

##### 1.01 Work Included:

- A. All materials, labor, services and incidentals necessary for the completion of this entire section of the work.
- B. Consult Drawings, finish schedules, details and specification section.

##### 1.02 Quality Assurance:

- A. All painted surfaces shall be uniform in color, texture and finish to the satisfaction of the Architect.

##### 1.03 Submittals:

- A. Submit manufacturer's specifications, including paint label analysis and application instructions for each material specified.
- B. Submit color samples for review of color and texture.
- C. Provide samples of all natural and stained wood finishes.
- D. Final samples: Prepare samples of finishes on the job to the satisfaction of the Architect. If required, a 4' x 8' portion of wall surface finished as final sample.

##### 1.04 Product Deliver, Storage and Handling:

- A. Materials shall be delivered to the project site in strong, undamaged, waterproof containers with manufacturer's label intact. Materials in previously opened or unsealed containers, are not acceptable.
- B. Include on label of container: Manufacturer's name, type of paint, number and application instructions.
- C. Immediately upon delivery to the project site, all painter materials shall be stored and locked in a watertight shed with floor well off the ground. The shed shall remain locked at all times except for adding or removing materials.
- D. No materials of any manufacturer will be allowed on the project site any time during construction except those of the manufacturers specified or approved by the Architect.

##### 1.05 Job Conditions:

- A. Comply with manufacturer's recommendations as to environmental conditions under which coating and coating systems can be applied.
- B. Do not apply finishes in areas where dust is being generated or where work in progress may affect finish quality.
- C. Protect finished work of other trades, and all surfaces not being painted concurrently, or not to be painted.

#### Part 2 - Products

##### 2.01 General:

- A. The following specifications for Finishes is not intended to mention every particular item which will receive painter finish, but is intended to establish type and quality of finish which shall be required on various materials.
- B. **Products of Sherwin-Williams are specified herein to simplify descriptions of types and qualities of finishes required only.**

## DIVISION 9 - FINISHES

### SECTION 09900 - PAINTING

**Proprietary names are not intended to imply that products of named manufacturer are required to the exclusion of equivalent products of other manufacturers.**

- C. Wherever the abbreviation "SW" appears in the following detailed specification, it shall be understood to mean Sherwin-Williams.
  - D. Primers shall be as specified by manufacturers of finish paint used and as approved by the Architect.
- 2.02 Acceptable Manufacturers:
- A. Sherwin-Williams.
  - B. PPG Industries.
  - C. Cook Paint and Varnish Co.
  - D. Kelly-Moore.
- 2.02 Exterior Finishes:
- A. Enamel on Ferrous Metals:
    - 1. One coat SW Kem Kromik Primer, (Alkyd primer).
    - 2. Two coats SW Industrial Enamel, (Alkyd gloss enamel).
  - B. Enamel on Exterior Concrete Block:
    - 1. One coat SW Promar Latex Block Filler B25W25.
    - 2. Two coats SW A-100 Semi-Gloss Latex Enamel.
- 2.03 Interior Finishes:
- A. Enamel on Metal: All miscellaneous and ornamental metal items which are left exposed.
    - 1. Shop coat by others - touch up as required.
    - 2. Two coats SW Promar 200 Semi-Gloss. Enamel, (Alkyd semi-gloss enamel).
  - B. Enamel on Concrete Block:
    - 1. One coat SW Promar 200 Block Filler (vinyl acrylic latex).
    - 2. Two coats SW Promar 200 Semi-Gloss Enamel.
  - C. Enamel on Gypsum Board Ceilings/Facias/Walls
    - 1. One coat SW Promar 200 Wall Primer with Medium Texture. (Vinyl Acrylic Latex Wall Primer.)
    - 2. Two coats SW Promar 200 Semi-Gloss Latex Enamel.
  - D. Interior Millwork and Cabinetry:
    - 1. One coat SW Promar 200 Alkyd Enamel Primer/Undercoat.
    - 2. Two coats SW Promar 200 Semi-Gloss Latex Enamel.

### Part 3 - Execution

- 3.01 Inspection:
- A. Notify Contractor of any surface not in proper condition to be finished before proceeding with the work. Starting work will constitute the painter's acceptance of preceding work, and conditions under which finish will be applied and his assumption of responsibility for results to be obtained.
- 3.02 Preparation of Surfaces:
- A. Wood:
    - 1. Sand to a smooth even surface, then dust off.
    - 2. Touch-up knots, resinous spots, etc., on all surfaces with shellac 18 hours before applying prime coat.

## DIVISION 9 - FINISHES

### SECTION 09900 - PAINTING

3. Fill nail holes, cracks and blemishes flush after priming coat has dried.
  - B. Concrete Block and Concrete:
    1. Repair cracks and irregularities to provide uniform surface texture.
  - C. Ferrous Metal Surfaces:
    1. Remove rust and scale, clean grease or oil surfaces with turpentine or benzine before painting.
- 3.03 Application:
- A. Number of coats and quality of finish shall be in accordance with these specifications, which requires the use of material which will product first quality finish if properly applied.
  - B. Apply coats of material in strict accordance with manufacturer's currently published specifications, except where requirements of these specifications are in excess or manufacturer's requirements.
  - C. Except as otherwise approved by the Architect, the first two coats of painter's finish shall be applied by roller or brush application. Finish coats may be applied by spray application.
  - D. Comply with recommendation of product manufacturer for drying time between succeeding coats allow additional as required until finish is dry.
  - E. All work where a coat of material has been applied must be inspected and approved before application of succeeding coat, otherwise, no credit for the coat well be given. Notify Architect when a particular coat has been completed for inspection and approval.
  - F. Shellacs, oils, turpentine, etc., shall be of the highest quality and subject to approval of Architect. Materials shall be mixed in and applied directly from containers which they are purchased except when use of other containers is approved.
  - G. First Coat of all finishes, except of varnish and stains, shall be white.
  - H. Sand lightly between coats where shellac, varnish or enamel is used.
  - I. Remove all hardware, accessories, machined surfaces, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations.
- 3.04 Clean-up:
- A. Clean and paint spots from work and touch-up or otherwise repair any defective or damaged work.
  - B. Remove all surplus materials and equipment after work is completed.
  - C. Leave entire job clean and acceptable to the Architect.

**End of Section**