

## SPECIFICATIONS

# WESTON PUBLIC LIBRARY

Glazing Replacement Project  
56 Norfield Road, Weston CT 06883

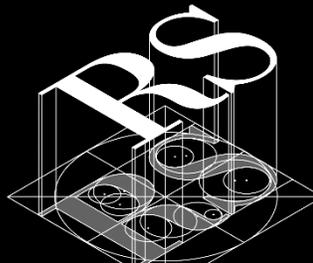
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**BID SPECIFICATIONS**

**JULY 16, 2020**

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### SAMPLE FORMS

- DRAFT – Notice to Bidders
- Standard Form of Agreement (AIA Document A101-2017)- Sample
- General Conditions AIA Document A201-2017 with revisions - Sample
- Contractor's Partial Waiver of Lien and Release Contractor's Final Waiver of Lien and Release Change Order AIA G701-2017
- Contractor's Application for Payment AIA G702-1992 Continuation Sheet AIA Document G703-1992
- Certificate of Substantial Completion AIA G704-2017
- List of Subcontractors AIA G705-2001
- Contractor's Affidavit of Payment of Debts and Claims AIA G706-1994
- Construction Change Directive AIA G714-2017
- State of CT OPM Ethics Forms:
  - Form 1 – Gift and Campaign Contribution Certification
  - Form 3 – Certification of State Agency Official or Employee Authorized to Execute Contract
  - Form 5 – Consulting Agreement Affidavit

### PROJECT TITLE AND DESCRIPTION

Partial replacement of fixed glazing at Weston Public Library, Weston CT.

Work consists of materials, labor and equipment for replacement of 44 fixed and operating glazing panels in existing wood structural frame, and replacement of one hinged wood/glass exterior door.

The project is paid for in part by State funds provided by the Connecticut State Library.

### BIDDER ELEGIBILITY

In accordance with the provisions of Connecticut General Statutes Section 46a-56 (a) (5) (b) (Duties of the Commission on Human Rights and Opportunities) and Section 46a-68 (State Affirmative Action Plans), any contract or grant to be awarded by an agency of the State of Connecticut is subject to Contract Compliance Regulations. These regulations set forth specific obligations of the agency, contractor, and grant recipient.

The Town of Weston and the Weston Public Library will not knowingly do business with any contractor, subcontractor, bidder, grant applicant, or supplier of materials who discriminates against members of a protected class.

### PREBID CONFERENCE AND BID SUBMISSION

Plans and specifications (Contract Documents) may be obtained at the Town of Weston website at <http://www.WESTONCT.GOV/RFPS>. Bidders may obtain complete sets of plans and specifications containing all bid packages.

Sealed Bids for the Window Replacement Project at Weston Public Library, Weston, CT, shall be received at Weston Town Hall, 56 Norfield Road, Weston, CT 06883 until August 3, 2020, at 11:00am. Due to restrictions of Covid-19 conditions, the bid opening will be available to view only online at [meet.google.com/mdt-hmgt-shj](https://meet.google.com/mdt-hmgt-shj)

It is strongly recommended, for Bidders to visit the site to become familiar with project field conditions.

Prior to the public opening of the bids, any bid submitted may be withdrawn by the bidder if said bidder discovers mathematical or clerical errors in his bid. Any such bid withdrawal may be made without penalty or prejudice. After the bids are opened, all offers will be considered firm for a period of ninety days and no bid may be withdrawn for any reason during that period except for such cause as the Town of Weston in its sole discretion deems sufficient.

Bid security in the form of a bid bond, cash, or certified check in the amount of ten percent (10%) of the bid price must accompany the bid. Performance and labor & material payment bonds in the amount of 100% of the contract price are required of the apparent low bidder upon execution of the Construction Agreement. Contractor insurance is also required.

# Division 1

## SECTION 01000: PROJECT REQUIREMENTS

### SUMMARY

The Project consists of replacement of 44 fixed and operating glazing panels in existing wood structural frame, and replacement of the door and hardware at the Children's area.

### PROJECT REQUIREMENTS

Requirements for Sequence of Work, Phasing, and Occupancy: Maintain alternate egress as required for continuous occupancy of the Library.

### PERMITS

Apply for, obtain, and pay for building permits other permits, and utility company back-charges required to perform the work. Submit copies to Owner.

### INTENT

- A. Drawings and specifications are intended to provide the basis for the proper completion of the Project suitable for the intended use of the Owner.
- B. Items not expressly set forth but which are reasonably implied or necessary for the proper performance of this work shall be included.

### COORDINATION

- A. Coordinate the work of all trades.
- B. Prepare coordination drawings for areas above ceilings where close tolerances are required between building elements and mechanical and electrical work.
- C. Verify location of utilities and existing conditions. Notify Architect of conditions differing from those indicated on the Drawings.
- D. Verify dimensions on Drawings with dimensions at the Project. Do not scale Drawings.

### FIELD ENGINEERING

Verify and locate utilities, existing facilities, and equipment.

### PROJECT MEETINGS

- A. Arrange for a preconstruction conference prior to start of construction. Meeting shall be attended by Owner, Architect, Contractor, and major subcontractors.
- B. Arrange for progress meetings once a week during construction, and prior to application for payment.

### SUBMITTALS

- A. Submit a project schedule and update periodically. Submit for approval all submittals listed in individual sections with the following PDF copies: Shop drawings, reviewed and annotated by the Contractor, product data, samples, test reports, warranties, other submittals.
- B. Include details of construction and adjacent construction in shop drawings. Clearly indicate any deviations from requirements of the contract documents. Fabricate materials from approved shop drawings only.

### QUALITY ASSURANCE

- A. Comply with applicable codes, regulations, ordinances and requirements of authorities having jurisdiction, including accessibility guidelines where applicable. Submit copies of inspection reports, notices and similar documents to Architect.

- B. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years.
- C. Use experienced installers. Furnish evidence of experience if requested.
- D. Deliver, handle, and store materials in strict accordance with manufacturer's instructions.
- E. Use of any supplier or subcontractor is subject to Owner's approval.

#### TEMPORARY FACILITIES

- A. Provide temporary facilities and connections as required for the proper completion of the project.
- B. Provide and maintain temporary utility services.
- C. Owner will pay for utility service consumed. Do not waste.
- D. Provide temporary protection for adjacent areas to prevent contamination by construction dust and debris.
- E. Provide temporary barricades as necessary to ensure protection of the public.
- F. Provide suitable waste disposal units and empty regularly. Do not permit accumulation of trash and waste materials.
- G. Provide temporary sanitary facilities.
- H. Maintain egress within and around construction areas.
- I. Maintain fire alarm systems in operation during construction.
- J. Provide temporary protection for adjacent construction. Promptly repair any damage at no additional cost to the Owner.

#### PRODUCTS AND SUBSTITUTIONS

- A. Provide products and materials specified. Request Architect's selection of colors and accessories in sufficient time to avoid delaying progress of the work.
- B. Submit requests for substitutions shall be in writing, including reasons. Submit sufficient information for Architect to evaluate proposed substitution.
- C. Remove and replace work which does not conform to the contract documents at no additional expense to the Owner.

#### INSTALLATION

- A. Inspect substrates and report unsatisfactory conditions in writing.
- B. Do not proceed until unsatisfactory conditions have been corrected.
- C. Take field measurements prior to fabrication where practical. Form to required shapes and sizes with true edges, lines and angles. Provide inserts and templates as needed for work of other trades.
- D. Install materials in exact accordance with manufacturer's instructions and approved submittals.
- E. Install materials in proper relation with adjacent construction and with proper appearance.
- F. Restore units damaged during installation. Replace units which cannot be restored at no additional expense to the Owner.
- G. Refer to additional installation requirements and tolerances specified under individual specification sections.

#### CLOSEOUT

- A. Prepare punchlist for remaining work for review by the Architect.
- B. Complete punchlist items promptly at no additional expense to the Owner.

- C. Submit accurate record documents of building and site.
- D. Submit operating manuals, maintenance manuals, and warranty information. Obtain and submit copy of occupancy permits.
- E. Remove temporary facilities and provide final cleaning and touch-up.
- F. Restore portions of building, site improvements, landscaping and other items damaged by construction operations to the satisfaction of the Architect at no additional expense to the Owner.

**END OF SECTION 01000**

## **Division 2**

### SECTION 020500: DEMOLITION, REMOVAL, CUTTING, & PATCHING

#### **PART 1: GENERAL**

##### GENERAL REQUIREMENTS

- A. Work of this section shall be governed by the contract documents. Provide materials, labor, equipment, and services necessary to furnish, deliver, and install all work of this section as shown on the drawings, as specified herein, and/or as required by job conditions.
- B. The work for all trades shall include but not be limited to the following:
  - 1. All demolition and removal work in existing spaces and related work, complete, as indicated and noted on the drawings and as specified herein.
  - 2. Removal of existing construction as required by the drawings and necessary for all alterations and rearrangements.
  - 3. Removal of existing materials as required to accommodate the new materials.
  - 4. Cutting existing construction.
  - 5. Protection of existing facilities which are scheduled or indicated to remain.
  - 6. Removal of debris, rubbish, materials and equipment resulting from removals (except material to be reused).
  - 7. Maintaining adequate fire prevention procedures and techniques during the entire course of the work.
  - 8. Scheduling of the work as required by the Contract Documents.
  - 9. Fees and Permits: Obtain and pay for all fees, permits and inspections when and if required in connection with the demolition, removal and disposal of debris.
  - 10. All other cutting, piecing out, re-arranging, filling in, etc. of existing work as necessary to properly complete the work whether or not specifically shown on the drawings and/or specified, in accordance with encountered conditions.
  - 11. Patching, filling and replacing all surfaces disturbed, cut, damaged, or in need of repair or made imperfect by the alteration or removal work.
  - 12. Repairing, replacing, cleaning and realigning existing work which is scheduled to remain. Replacement pieces and/or parts shall match existing materials in every respect as approved by the Architect.

##### RELATED WORK SPECIFIED ELSEWHERE

New work and materials shall be as specified under the other Sections of the Specifications.

## **PART 2: EXECUTION (EACH CONTRACTOR)**

### **VERIFYING CONDITIONS**

- A. Visit the building and spaces to determine by inspection all existing conditions, including access to the building, the nature of structure, objects and materials to be encountered, and all other facts concerning or affecting the work. Information on the Drawings showing existing conditions does not constitute a guarantee that other items may not be found or encountered.
- B. Examine the documents covering the work of this section and refer to the existing conditions which may affect the work of this section or require coordination with other trades.
- C. Before starting work, make a thorough examination of those portions of the structure in which the work is to be performed. Check the work adjoining or at underlying locations, in which the work is to be performed. Report to the Architect any and all conditions which may interfere with or otherwise affect or prevent the proper execution and completion of the work. Do not start the work until such conditions have been examined and a course of action mutually agreed upon. Prior to start of demolition, the Contractor shall call to the attention of the Owner any damage, cracks or other imperfections in the work adjacent to demolition areas.
- D. Items of existing construction indicated to remain upon completion of the Contract, but which require removal to complete the work, shall be carefully removed and replaced as required. The replaced work shall match its condition at the start of the work unless otherwise required.

### **SCHEDULING OF THE WORK**

- A. Schedule work so as to impose a minimum of hardship on the present operation of the facilities and the performance of the work of other trades.
- B. Demolition or removal work shall not be performed in the existing building until a schedule of operations has been formulated jointly by the Contractor, the Owner and the Architect.
- C. If there are any deviations from the agreed upon schedule, such deviations shall be reported to all parties, a minimum of 48 hours before a deviation takes effect, to allow the other parties to adjust their schedules accordingly, or as mutually agreed upon by all parties.

### **DEMOLITION OPERATIONS**

- A. Perform remodeling, demolition, removal and relocation work in strict accordance with Owner's instructions and applicable Federal, State and Local health and safety standards, codes and ordinances. Where conflicts occur, the more restrictive requirement shall be adhered to.
- B. Execute the demolition in a careful and orderly manner with the least possible disturbance to the public, or functioning of the existing portion of the building, as mutually agreed upon with the Owner.
- C. In general demolish and salvage materials in small sections. Remove wood and/or loose members individually.
- D. Work shall conform to applicable requirements of the various technical Sections of the Specifications for this Project; however, the individual Sections of the Specifications do not necessarily mention or describe in detail the trade responsibility for removal or relocation of existing construction. The Contractor shall be solely responsible for distribution of the work within the various trades involved.
- E. Accidental or careless damage to work to remain in place: Restore to a condition as good as or better than existed before work was commenced and at no additional cost to the Owner.
- F. Remove garbage and rubbish as a result of this work from the existing building in an orderly manner. Do not throw rubbish out of windows. Provide sufficient containers to hold the rubbish prior to its removal from the building. Take necessary precautions to prevent dust and dirt from rising.

## WORKMANSHIP

- A. Employ only competent mechanics thoroughly skilled in their respective crafts to perform the work.
- B. Perform the work in accordance with the highest standards and established practices in the trade, and conform to all the rules and regulations of all city, state and federal authorities having jurisdiction over this work.
- C. Utility services: Maintain existing utilities, indicated to remain, keep in service, and protect against damage during demolition and removal operations. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by Owner, and provide temporary services during interruptions to existing utilities.
- D. The other trades whose work is affected by or dependent upon the work of this section shall be kept informed of the schedule of operations.
- E. Furnish and maintain temporary types of protection as necessary to adequately protect and prevent accidental injury to the public, Owner's personnel and personnel employed at the work. Take all necessary precautions to keep trespassers out of work areas. Properly secure work areas from entry when work is not in progress.
- F. Traffic: Conduct demolition and removal operations and the removal of debris to ensure minimum interference with roads, walks, and used facilities. Do not close or obstruct roads, walks or other occupied or used facilities without permission from Owner.
- G. Keep roadways and walks reasonably clean during working hours and thoroughly clean and sweep them.
- H. When an exterior opening is created which is open to the exterior elements provide temporary watertight secure protection and do not remove until permanent opening are in place and watertight.
- I. Surplus material resulting from the work which may be left over after the work is completed, shall be hauled away and the building shall be left entirely clean and unobstructed.
- J. Repair, or replace at the direction of the Architect, any and all equipment, apparatus, parts of the building, property of the Owner not specified to be demolished, and not specified to be removed, but which are damaged during the progress of, and as a result of, the work of this section, and without extra cost.

## CUTTING AND PATCHING

- A. Perform the cutting and patching phase of the operations using skilled men in a clean, neat and orderly manner. Adjoining work or finishes that are disturbed, defaced, or otherwise defective, shall be neatly repaired in good order as approved by the Architect. Patched surfaces shall be neatly filled and made to match adjoining existing surfaces.
- B. Patching and Repairing
  - 1. Matching existing work: Except where otherwise specifically indicated or specified as a definite change, the finish materials and appearance of the new patch work shall match the existing contiguous materials and finishes in all respects. Repairs and/or continuations of existing work shall be relatively imperceptible in the finished work when viewed under finished lighting conditions from a distance of six (6) feet.
  - 2. Patching: repairing and finishing of existing work: Perform in compliance with the application requirements of specification, technical section covering the work to be performed and the requirements of this section.
  - 3. Include all patching in connection with new work that may be required to make its several parts come together and fit it to receive or be received by the work of other trades as shown and/or specified, or reasonably implied by the drawings and specifications.

4. Work disturbed due to all alterations shall be repaired to match surrounding construction and finishes including painting or whatever finish exists.
5. Perform repairing, patching and piecing out, filling in, restoring and refinishing using mechanics skilled in their trade and complete in a workmanlike manner to leave work in condition satisfactory to the Architect and as described throughout the various sections of the specifications.

#### DISPOSAL OF DEBRIS

All material, debris and rubbish resulting from remodeling work: Clean up, remove from the building and site as it is removed and legally dispose of. Leave all areas of work in "broom clean" condition.

#### END OF SECTION 020500

### Division 3: Not Used

### Division 4: Not Used

### Division 5: Not Used

### Division 6

#### SECTION 062000: FINISH CARPENTRY

##### **PART 1: GENERAL**

##### RELATED DOCUMENT

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

##### SUMMARY

This Section includes the following:

- A. Interior standing and running trim.
- B. Wood window jambs and trim.

Related Sections: The following Sections contain requirements that relate to this Section:

- A. Division 6 Section "Miscellaneous Carpentry" for furring, blocking, and other carpentry work not exposed to view.

##### QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed finish carpentry similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

##### DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber with provision for air circulation within and around stacks and under temporary coverings.
- B. Do not deliver interior finish carpentry until environmental conditions meet requirements specified for installation areas. If finish carpentry must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

## PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install interior finish carpentry unless building is enclosed and weatherproof, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels through the remainder of construction period.
- B. Weather Limitations: Proceed with installing exterior finish carpentry only when existing and forecasted weather conditions will permit work to be performed according to manufacturer's recommendations and warranty requirements and at least one coat of specified finish to be applied without exposure to rain, snow, or dampness.

## PART 2: PRODUCTS

### MATERIALS, GENERAL

- A. Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," for lumber and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee Board of Review.
- B. Inspection Agencies: Inspection agencies, and the abbreviations used to reference them, include the following:
  - 1. NHLA - National Hardwood Lumber Association.
  - 2. NLGA - National Lumber Grades Authority.
  - 3. WCLIB - West Coast Lumber Inspection Bureau.
  - 4. WWPA - Western Wood Products Association.
- C. Grade Stamps: Furnish pieces with grade stamps applied to ends or back of each piece, or omit grade stamps entirely and provide certificates of grade compliance issued by inspection agency.

### INTERIOR STANDING AND RUNNING TRIM

- A. Softwood Lumber Trim for Transparent Finish: (Stain with Clear Finish) Provide finished lumber and moldings complying with the following requirements including those of the grading agency listed with species:
  - 1. Species: Western red cedar WWPA 20.12 or vertical grain clear Douglas fir; WWPA 10.12.
  - 2. Cedar Grade: A Grade and better.
  - 3. Douglas Fir Grade: B Grade and better.
  - 4. Texture: Surfaced (smooth).

### MISCELLANEOUS MATERIALS

- A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
  - 1. Where finish carpentry materials are exposed in areas of high humidity, provide fasteners and anchorages with hot-dip galvanized coating complying with ASTM A 153, or stainless steel.
- B. Sealants: Comply with requirements of Division 7 Section "Joint Sealants" for materials required for sealing exterior work.

### FABRICATION

- A. Wood Moisture Content: Comply with requirements of specified inspection agencies and manufacturer's recommendations for moisture content of finish carpentry on relative humidity conditions existing during time of fabrication and in installation areas.
- B. Fabricate finish carpentry to dimensions, profiles, and details indicated.

1. Back out or kerf backs of the following members, except members with ends exposed in finished work:
  - a. Interior standing and running trim.
2. Ease edges of lumber less than 1" in nominal thickness to 1/16" radius.
3. Ease edges of lumber 1" or more in nominal thickness to 1/8" radius.

### **PART 3: EXECUTION**

#### **EXAMINATION**

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting installation and performance of finish carpentry. Do not proceed with installation until unsatisfactory conditions have been corrected.

#### **PREPARATION**

- A. Clean substrates of projections and substances detrimental to application.
- B. Condition finish carpentry to average prevailing humidity conditions in installation areas before installation, for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.
- C. Prime and backprime lumber for painted finish exposed on the exterior. Comply with requirements for surface preparation and application in Division 9 Section "Painting."

#### **INSTALLATION, GENERAL**

- A. Do not use finish carpentry materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
  1. Do not use manufactured units with defective surfaces, sizes, or patterns.
- B. Install finish carpentry plumb, level, true, and aligned with adjacent materials. Use concealed shims where required for alignment.
  1. Scribe and cut finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
  2. Countersink nails, fill surface flush, and sand where face nailing is unavoidable.
  3. Install to tolerance of 1/8" in 96" for plumb and level. Install adjoining finish carpentry with 1/32" maximum offset for flush installation and 1/16" maximum offset for reveal installation.
  4. Coordinate finish carpentry with materials and systems in or adjacent to standing and running trim and rails. Provide cutouts for mechanical and electrical items that penetrate exposed surfaces of trim and rails.
- C. Finish according to specified requirements.
- D. Refer to Division 9 Sections for final finishing of finish carpentry.

#### **STANDING AND RUNNING TRIM INSTALLATION**

- A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24" long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints, if required.
  1. Match color and grain pattern across joints.
  2. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.

## ADJUSTING

Repair damaged or defective finish carpentry where possible to eliminate functional or visual defects. Where not possible to repair, replace finish carpentry. Adjust joinery for uniform appearance.

## CLEANING

Clean finish carpentry on exposed and semi-exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

## PROTECTION

Provide final protection and maintain conditions that ensure finish carpentry is without damage or deterioration at the time of Substantial Completion.

## END OF SECTION 062000

# Division 7: Not Used

## Division 8

### SECTION 081433: STILE AND RAIL WOOD DOORS

#### SUMMARY

Provide Stile and Rail Wood Doors:

- A. Exterior stile and rail glazed door at Children's Area north elevation.

#### SUBMITTALS

Submit product data, samples, shop drawings, warranty.

#### PRODUCTS

Products as selected by Architect complying with the following:

- A. NWWDA Quality Standards for Stile and Rail Doors: NWWDA I.S. 6.
- B. AWI Quality Standards for Custom Stile and Rail Wood Doors: AWI Architectural Quality Standards..
- C. WIC Quality Standards for Custom Stile and Rail Wood Doors: WIC Manual of Millwork.
- D. Exterior Stock Stile and Rail Door:
  - 1. Quality Standard: NWWDA I.S. 6.
  - 2. Dimension: 1 3/4" thick, 2'-8" x 7'-0" (verify in field).
  - 3. Material: Plain sawn mahogany.
  - 4. Glazing: Low-E tempered clear insulating glass.
  - 5. Sill: Extruded aluminum, mill finish.
  - 6. Weatherstrip: Interlocking sheet metal.

#### INSTALLATION

- A. Comply with requirements of Section 01000: Project Requirements.
- B. Prefit doors to frames, pre-machine doors for hardware, and factory bevel.

- C. Install with not more than  $\frac{1}{8}$ " clearance at top and sides,  $\frac{1}{4}$ " at bottom unless undercut is required.

## **END OF SECTION 081433**

### SECTION 088000: GLAZING

#### **PART 1: GENERAL**

##### RELATED DOCUMENTS

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

##### SUMMARY

This Section includes, but is not limited to, glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:

##### DEFINITIONS

- A. **Manufacturer:** A firm that produces primary glass or fabricated glass as defined in referenced glazing publications.
- B. **Interspace:** Space between lites of an insulating-glass unit that contains dehydrated Argon gas.
- C. **Deterioration of Insulating Glass:** Failure of the hermetic seal under normal use that is attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

##### PERFORMANCE REQUIREMENTS

- A. **General:** Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. **Safety Glass:** All glazing with any part located within 30" of floor surface, within operating doors, or within 36" adjacent to doorways shall be heat-treated (Tempered) safety glass.
- C. **Glass Design:** Glass thicknesses indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites for various size openings in nominal thicknesses indicated, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:
  - 1. **Thermal Movements:** Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss. Temperature Change (Range): 120° F, ambient; 180° F, material surfaces.

##### SUBMITTALS

- A. **Product Data:** For each glass product and glazing material indicated.
- B. **Samples:** For the following products, in the form of 12"- square Samples for glass and of 12"- long Samples for sealants. Install sealant Samples between two strips of material representative in color of the adjoining framing system.
- C. **Samples:** For the following products, in the form of 12"- square Samples for glass.

1. 5/8" insulated tempered vision glass
- D. Product Certificates: Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements.
- E. Warranties: Special warranties specified in this Section.

#### QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Source Limitations for Insulating Glass: Obtain insulating-glass units from one manufacturer using the same type of glass and other components for each type of unit indicated.
- C. Source Limitations for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.
- D. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201 and ANSI Z97.1.
1. Subject to compliance with requirements, permanently mark safety glass with certification label of Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.
  2. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the Insulating Glass Certification Council.

#### DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
- B. For insulating-glass units that will be exposed to substantial altitude changes during shipment, comply with insulating-glass manufacturer's written recommendations for venting and sealing to avoid hermetic seal ruptures.

#### PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
1. Do not install liquid glazing sealants when ambient and substrate temperature conditions are outside limits permitted by glazing sealant manufacturer or below 40° F.

#### WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Manufacturer's Special Warranty on Insulating Glass: Written warranty, made out to Owner and signed by insulating-glass manufacturer agreeing to furnish replacements for insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
1. Warranty Period: 10 years from date of Substantial Completion.

## **PART 2: PRODUCTS**

### **PRODUCTS AND MANUFACTURERS**

- A. Manufacturers: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products manufactured by the following manufactures:
1. PPG Industries
  2. Spectrum Products
  3. Hordis Bros. Inc.
  4. ASG Industries, Inc.
  5. Guardian Industries
  6. Globe Amerada

### **PRIMARY FLOAT GLASS**

Float Glass: ASTM C 1036, Type I (transparent glass, flat), Quality q3 (glazing select).

### **HEAT-TREATED (TEMPERED) FLOAT GLASS**

- A. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed, unless otherwise indicated.
- B. Fabrication Process: By vertical (tong-held) or horizontal (roller-hearth) process, at manufacturer's option, except provide horizontal process where indicated as tongless or free of tong marks.
- C. Heat-Treated Float Glass: ASTM C 1048; Type I (transparent glass, flat); Quality q3 (glazing select).

### **INSULATING GLASS**

- A. Insulating-Glass Units: Preassembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class CBA units and with requirements specified in this Article.
1. Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in "Performance Requirements" Article. Provide Kind FT (fully tempered) where safety glass is required.
  2. Outer lite: clear glass with Low-E coating on airspace side.
  3. Inner lite: clear glass.
- B. Sealing System: Dual seal, with primary and secondary sealants as follows:
1. Polyisobutylene and silicone.
- C. Spacer Specifications: Manufacturer's standard spacer material and construction.
- D. Spacer Specifications: Manufacturer's standard spacer material and construction complying with the following requirements:
1. Aluminum with bronze-anodized finish.
  2. Desiccant: Molecular sieve or silica gel, or blend of both.
  3. Corner Construction: Manufacturer's standard corner construction.

### **ELASTOMERIC GLAZING SEALANTS**

- A. General: Provide products of type indicated, complying with the following requirements:

1. **Compatibility:** Select glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
  2. **Suitability:** Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
  3. **Colors of Exposed Glazing Sealants:** As selected by Architect from manufacturer's full range for this characteristic.
- B. **Glazing Sealant for Fire-Resistive Glazing Products:** Identical to product used in test assembly to obtain fire-protection rating.

#### GLAZING TAPES

- A. **Back-Bedding Mastic Glazing Tape:** Preformed, butyl-based elastomeric tape with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
1. AAMA 804.3 tape, where indicated.
- B. **Expanded Cellular Glazing Tape:** Closed-cell, PVC foam tape; factory coated with adhesive on both surfaces; packaged on rolls with release liner protecting adhesive; and complying with AAMA 800 for the following types:
1. Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

#### MISCELLANEOUS GLAZING MATERIALS

- A. **General:** Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. **Cleaners, Primers, and Sealers:** Types recommended by sealant or gasket manufacturer.
- C. **Setting Blocks:** Elastomeric material with a Shore A durometer hardness of 85, plus or minus 5.
- D. **Spacers:** Elastomeric blocks or continuous extrusions with a Shore A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- E. **Edge Blocks:** Elastomeric material of hardness needed to limit glass lateral movement (side walking).

#### FABRICATION OF GLASS AND OTHER GLAZING PRODUCTS

Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing standard, to comply with system performance requirements.

### **PART 3: EXECUTION**

#### EXAMINATION

- A. Examine framing glazing, with Installer present, for compliance with the following:
1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
  2. Presence and functioning of weep system.
  3. Minimum required face or edge clearances.
  4. Effective sealing between joints of glass-framing members.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

## PREPARATION

Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

## GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
- B. Glazing channel dimensions, as indicated on Drawings, provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.
- C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.
- E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- G. Provide spacers for glass lites where the length plus width is larger than 50" as follows:
  - 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
  - 2. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.
  - 1. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

## TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Where framing joints are vertical, cover these joints by applying tapes to heads and sills first and then to jambs. Where framing joints are horizontal, cover these joints by applying tapes to jambs and then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until just before each glazing unit is installed.
- F. Apply heel bead of elastomeric sealant.

- G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

#### SEALANT GLAZING (WET)

- A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
- C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

#### PROTECTION AND CLEANING

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove them immediately as recommended by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build-up of dirt, scum, alkaline deposits, or stains; remove as recommended by glass manufacturer.
- D. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in any way, including natural causes, accidents, and vandalism, during construction period.
- E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer.

#### END OF SECTION 088000

## Division 9

### SECTION 099000: PAINTING

#### **PART 1: GENERAL**

#### RELATED DOCUMENTS

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

#### SUMMARY

- A. This Section includes surface preparation and field painting of the following:
  - 1. Exposed exterior items and surfaces.
  - 2. Exposed interior items and surfaces.
- B. Paint or stain exposed surfaces, except where the finish schedules indicate that a surface or material is not to be finished or is to remain natural. If the finish schedules do not specifically

mention an item or a surface, finish the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the Architect will select from standard colors and finishes available.

- C. Do not finish prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

## DEFINITIONS

General: Standard coating terms defined in ASTM D 16 apply to this Section.

## SUBMITTALS

- A. Product Data: For each paint system specified. Include block fillers and primers.
  - 1. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
- B. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.
- C. Samples for Verification: Of each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
  - 1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.

## QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.

## DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:
  - 1. Product name or title of material.
  - 2. Product description (generic classification or binder type).
  - 3. Manufacturer's stock number and date of manufacture.
  - 4. Contents by volume, for pigment and vehicle constituents.
  - 5. Thinning instructions.
  - 6. Application instructions.
  - 7. Color name and number.
  - 8. VOC content.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45° F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
  - 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

## PROJECT CONDITIONS

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50° and 90° F.

- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45° and 95° F.
- C. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or at temperatures less than 5° F above the dew point; or to damp or wet surfaces.
  - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

## **PART 2: PRODUCTS**

### **MANUFACTURERS**

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in the paint schedules.
- B. Manufacturers Names: The following manufacturers are referred to in the paint schedules by use of shortened versions of their names, which are shown in parentheses:
  - 1. Devoe & Reynolds Co. (Devoe).
  - 2. United Gilsonite Labs (ZAR).
  - 3. Benjamin Moore & Co. (Moore).
  - 4. PPG Industries, Inc. (PPG).
  - 5. Pratt & Lambert, Inc. (P & L).
  - 6. Sherwin-Williams Co. (S-W).

### **PAINT MATERIALS, GENERAL**

- A. Material Compatibility: Provide block fillers, primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality material of the various coating types specified. Material containers not displaying manufacturer's product identification will not be acceptable.
  - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- C. Colors: Provide color selections made by the Architect.

## **PART 3: EXECUTION**

### **EXAMINATION**

- A. Examine substrates, areas, and conditions, with the Applicator present, under which finishing will be performed for compliance with application requirements.
  - 1. Do not begin to apply finish until unsatisfactory conditions have been corrected and surfaces receiving finish are thoroughly dry.
- B. Start of finishing will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

- C. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
  - 1. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

#### PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and finishing.
  - 1. After completing finishing operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning.
  - 1. Schedule cleaning and finishing so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. Surface Preparation: Clean and prepare surfaces to be finished according to manufacturer's written instructions for each particular substrate condition and as specified.
  - 1. Provide barrier coats over incompatible primers or remove and re-prime.
  - 2. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
    - a. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides.
    - b. When transparent finish is required, backprime with spar varnish.
- D. Materials Preparation: Mix and prepare finish materials according to manufacturer's written instructions.
  - 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
  - 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
  - 3. Use only thinners approved by manufacturer and only within recommended limits.
- E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

#### APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
  - 1. Surface treatments and finishes are indicated in the schedules.
  - 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable finish film.
  - 3. Provide finish coats that are compatible with primers used.
  - 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend

coatings in these areas, as required, to maintain the system integrity and provide desired protection.

5. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
  2. If undercoats, stains, or other conditions show through final coat, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
  3. Allow sufficient time between successive coats to permit proper drying. Do not re-coat surfaces until finish has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
  2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
  3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- E. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.
- F. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
1. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections. Provide satin finish for final coats.
- G. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.
1. The Architect may direct the Contractor to stop painting if test results show material being used does not comply with specified requirements. The Contractor shall remove noncomplying paint from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with specified paint, the 2 coatings are incompatible.

## CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
  - 1. After completing finishing, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

## PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
  - 1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

## EXTERIOR PAINT SCHEDULE

Woodwork and Hardboard: Provide the following paint finish systems over new, exterior wood surfaces:

- A. Semigloss, Alkyd-Enamel Finish: 2 finish coats over a primer.
  - 1. Primer: Alkyd or latex-based, undercoater applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils.
  - 2. Devoe: 51701 Wonder-Prime All-Purpose Latex Primer Sealer & Vapor Barrier.
  - 3. Moore: Moore's Alkyd Enamel Underbody #217.
  - 4. PPG: 17-255 Quick-Drying Enamel Undercoater.
  - 5. S-W: ProMar 200 Alkyd Enamel Undercoater B49W200.

## INTERIOR PAINT SCHEDULE

Natural-Finish Woodwork: Provide the following natural finishes over new, interior woodwork:

- A. Alkyd-Based, Stain Varnish Finish: One coat oil-based penetrating stain and 2 finish coats of an alkyd-based, clear-satin varnish over a sanding sealer. Provide tinted wood filler on open-grain wood fasteners before applying first stain coat.
  - 1. Filler Coat: Paste-wood filler applied at spreading rate recommended by the manufacturer.
    - a. Devoe: None required.
    - b. Moore: Benwood Paste Wood Filler #238.
    - c. PPG: None required.
    - d. P & L: None required.
    - e. S-W: Sher-Wood Fast-Dry Filler.
  - 2. Stain Coat: Alkyd-based, interior wood stain applied at spreading rate recommended by the manufacturer.
    - a. Devoe: 96XX WoodWorks Alkyd Interior Stain.
    - b. Moore: Benwood Penetrating Stain #234.
    - c. PPG: 77-302 Rez Interior Semi-Transparent Stain.
    - d. P & L: S-Series Tonetic Wood Stain.
    - e. S-W: Oil Stain A-48 Series.
  - 3. Sealer Coat: Clear sanding sealer applied at spreading rate recommended by the manufacturer.

- a. Devoe: 4900 WoodWorks Quick-Dry Clear Sealer.
  - b. Fuller: None recommended.
  - c. Glidden: 5035 Ultra-Hide Quick-Dry Sanding Sealer, Clear.
  - d. Moore: Moore's Interior Wood Finishes Quick-Dry Sanding Sealer #413.
  - e. PPG: 77-30 Rez Interior Quick-Drying Sealer and Finish.
  - f. P & L: H-40 Sanding Sealer.
  - g. S-W: ProMar Varnish Sanding Sealer B26V3.
4. First and Second Finish Coats: Alkyd-based or polyurethane varnish, as recommended by the manufacturer, applied at spreading rate recommended by the manufacturer.
- a. Devoe: 4600 WoodWorks Alkyd Satin Varnish.
  - b. Fuller: 653-01 EPA Compliant Clear Polyurethane Satin Finish.
  - c. Glidden: 82 Satin Sheen Woodmaster Polyurethane Clear Finishes Varnish.
  - d. Moore: Benwood Satin Finish Varnish #404.
  - e. PPG: 77-7 Rez Varnish, Interior Satin Oil Clear.
  - f. P & L: H24 38 Clear Finish Gloss.
  - g. S-W: Oil Base Varnish, Gloss A66V91.

**END OF SECTION 099000**