

WOOD WINDOWS

GENERAL INFORMATION

- 1.1 Wood Window work includes new double hung, factory-assembled, factory-glazed wood windows, including anchorage devices, blocking, shims, preservative treatment, factory applied prime and finish paint coats, and caulking. New double hung windows larger than 48" wide or 84" tall or with glass that exceeds 25 square feet per sash must have a weight and pulley balance system.
- 1.2 Generally it is preferred to restore existing wood windows, rather than replace them. As such, the work of this section shall only be performed at the direction of Facilities, and all proposed specification, details and procedures shall be thoroughly reviewed and approved in writing prior to submission of Design Documents or commencement of this work.
- 1.3 Wood Window work may also include removal of existing windows (frames, sashes, existing cleaning anchors, accessories and other items) as required for the proper installation of new windows.
- 1.4 Where new windows replace existing, unless otherwise directed, the new windows will be required to closely replicate existing windows being replaced. All window components (jamb, head, sill, sash, true muntins, etc.) shall duplicate size, and profile of existing window components.
- 1.5 Unless more restrictive criteria or differing requirements are explicitly specified or mandated by governing codes or regulations, the recommendations, suggestions, and requirements described in the following standards shall apply:
 - National Wood Window and Door Association (NWWDA)
 - National Woodwork Manufacturers Association (NWMA)
 - American Society for Testing and Materials (ASTM)
 - American Architectural Manufacturers Association (AAMA)

DESIGN REQUIREMENTS

- 2.1 Approved vendors:
 - a. Artistic Doors and Windows, 10 S Inman Ave, Avenel, NJ 07001; contact Guy Cichy, 732.726.9400 or 800.278.3667
 - b. Tradewood Windows; 75A Lake Road, Suite-164, Congers, NY 10920; Contact: Joseph Valentino 845.675.7825

- 2.2 Wood Windows shall be engineered, fabricated, and installed to withstand normal thermal movement, wind loading, and impact loading without failure, as demonstrated by testing manufacturer's standard window assemblies that represent window types, grades, and sizes required for the Project, in accordance with test methods indicated. Anchorage design and structural calculations shall be prepared, signed and sealed by a N.Y. State licensed Professional Engineer.
- 2.3 Performance requirements are those specified for Performance Grade DP 40 in AAMA/NWWDA I.S. 2-93, Industry Standard for Wood Window Units. Testing shall be performed by an AAMA accredited independent testing laboratory based on a design wind pressure of 40 psf, in accordance with ASTM E 283 for air infiltration, ASTM E 547 for water penetration, and ASTM E 330 structural performance.
- 2.4 Wood windows shall be constructed of Honduran mahogany (*Swietenia macrophylla*) obtained from a sustained, managed forest, unless otherwise directed by Facilities.
- 2.5 Wood shall be treated with water repellant preservative conforming to requirements of NWWDA Industry Standard I.S. 4-94 for Water Repellant Preservative Non-Pressure Treatment for Millwork.
- 2.4 Anchors, Clips, and Accessories: Fabricate anchors, clips, and window accessories of nonmagnetic stainless steel, sized to satisfy performance requirements. Fasteners shall comply with NWWDA I.S. 2-93 for fabrication and with manufacturer's recommendations and standard industry practices for type and size. Use zinc-coated or nonferrous nails and screws for window fabrication and installation. Use brass screws for hardware and accessory installation.
- 2.5 Frames shall be tongue-and-grooved or plowed together and fastened with stainless steel screws, rigid and tight.
- 2.6 Weights for Counter Balance (where applicable) shall be equipped with 4 completely housed galvanized sash weights, designed to properly balance sash and fit in pockets. Provide counterbalance for both upper and lower sash so that they remain open in any position. Attach balances to sashes with stainless steel retainer clips and stainless steel flat head wood screws or zinc spiral with wood screw driven through chain. Counter balance weights may be either round or square, for proper balancing so that operating force will not exceed 35 lbs. Hook for chain shall be welded before weights are galvanized.
- 2.7 Provide removable limit stops installed in the track at each jamb of all window frames, including windows with guards but excluding all first floor (or otherwise accessible) windows. Stops shall limit the lower sash opening to 5". Stops shall be finished to match frames. Limit stops shall have security fasteners. Stops shall be of sufficient strength to withstand abuse and/or impact.

- 2.8 Glazing: Provide a true muntin glazing system to match the existing muntin configuration and glazing bead profile.
- a. Wood window units shall be factory glazed using manufacturer's standard extruded, vinyl, or butyl glazing gasket or silicone sealant compatible with adjacent products and finishes.
 - b. Unless otherwise directed by Facilities, wood windows shall be glazed with 7/8" insulating glass units (3/16" clear Low "E" glass - 1/2" air space – 3/16" clear Low "E" glass).
 - c. Glass shall comply with ASTM C 1036 requirements for type and quality.
- 2.9 Weatherstripping: All window frames and sash shall have weatherstripping of zinc cut across the grain, compression type or sliding type singly or in combination.
- 2.10 Hardware:
- a. Sash Pulleys: cast of red bronze (CDA Alloy C83600), US 10 finish with a 300 Series Stainless Steel Pulley Axle, coated with a clear electrostatically applied lacquer to protect finish. Sash Pulleys shall meet a 700 lb. structural load test. Pulley face plate: 5-1/2" x 1-1/8" solid bronze plate with rounded ends.
 - b. Sash Weights: round or square shape cold rolled steel bar, designed to balance sash and operation of sash within permissible operating force; hot-dip galvanize weights after hook for chain is welded.
 - c. Sash Lifts: Cast of red bronze (CDA Alloy C83600), having a burnished finish, coated with a clear electrostatically applied lacquer to protect finish.
 - d. Sash Chain: stainless steel or red metal solid bronze chain; tensile strength 500 lbs. (min.).
 - e. Stop Adjusters: Plated brass, slotted adjusters. Cup ribbed or lugged to prevent turning.
 - f. Double Hung Sash Locks: Pole operated signal lock type, cast of red bronze (CDA Alloy C83600), having burnished finish, coated with a clear electrostatically applied lacquer to protect the finish.
 - g. Provide window poles, hooks, and/or hangers as required for the application and location.
- 2.11 Window painting and finishing: At pulley stiles of frames, parting strips and edges of sashes, apply two coats of pure linseed oil. Before painting coat wood surfaces with water repellent preservative solution.
- a. Exterior Wood Painting: Varnish-type Surface Sealer; Exterior Alkyd Primer Coating (2.2 Mils/DFT); Two Coats Exterior Gloss Alkyd Oil Paint (2.0 Mils/DFT Each Coat)
 - b. Interior Wood Painting: Vinyl Acrylic Latex Enamel Underbody (1.1 Mils/DFT); Two Coats Semi-Gloss Vinyl Acrylic Latex Enamel (1.3 Mils/DFT Each Coat)

CONSTRUCTION REQUIREMENTS

- 3.1 Examine openings before installation. Verify that opening is correctly constructed for intended window unit, and that the sill plate is level. Proceed with installation only after unsatisfactory conditions have been corrected. Masonry surfaces shall be dry and free of construction debris.

Wood frame walls shall be dry, clean, sound, well-nailed, free of voids, and without offsets at joints. Coordinate window installation with wall flashings and other built-in components.

- 3.2 Comply with manufacturer's instructions and recommendations. Set window units level, plumb, true to line, without warp or rack of frames or sash. Provide proper support and anchor securely in place. Set weather bar. Completely fill groove in masonry sill with non-drying sealant prior to setting the frame. Set sill members in a bed of sealant or with joint fillers or gaskets, as indicated, to provide weather tight construction.
- 3.3 Anchor window frames at jambs, head, and sill, as recommended by the window manufacturer. Install anchorage at spacing and with fastener size required by structural calculations at head, jambs and sill. Maximum spacing of anchors shall be 16" o.c.
- 3.4 Check alignment of muntins and glazing beads. Check to make sure gaps are less than 1/16". Check for voids in sealant. Clean excess sealant from all joints.
- 3.5 Replacing Existing Windows:
 - a. Do not remove existing windows until new windows are delivered to the building and ready to be installed.
 - b. Expose existing lintels, scrape and paint.
 - c. Provide rabbet in weather stop for extension plates.
 - d. Do not cut, remove and/or rebuild masonry unless directed to do so by Facilities.
 - e. Cut edges of caulking recesses straight and plumb.
- 3.9 Patching: Patch, extend and restore existing work and finishes damaged as a result of the Work to match existing. Build in work which comes in contact with new masonry. Patch, point, parge window frame recesses as necessary to make them plumb and square. Do not parge masonry surfaces that are in contact with caulking compound.
- 3.10 Trim: New trim shall closely match existing trim on adjoining and/or replaced windows. Provide exterior casings and drip caps where such trim occurs on existing and/or replaced windows.
- 3.11 Preservative Treatment and Touch Up: Treat all unfinished wood surfaces of factory manufactured units that are exposed due to cutting, sawing, planing, or for any other reason. After treatment has been inspected and approved by Facilities, prime paint treated areas. Touch up windows with paint matching that applied in the factory. Finish cut edges, nail holes and exposed areas after window installation is completed.
- 3.12 Seal exterior perimeter of window units to completely fill joint with adjacent construction with sealant. Tool sealant joint.
- 3.13 Adjust operating sash and hardware. Lubricate moving parts.

- 3.14 Clean interior and exterior surfaces immediately after installation. Exercise care to avoid damage to protective coatings and finishes. Remove excess glazing and sealants, dirt, and other substances.
- 3.15 Clean glazing on both faces. Comply with glazing material manufacturer's recommendations for final cleaning and maintenance. Remove nonpermanent labels from glass surfaces.
- 3.16 Remove and replace glazing that has been broken, chipped, cracked, abraded, or damaged during the construction period. Protect window units from damage.

END OF SECTION