

SECTION 06400

ARCHITECTURAL WOODWORK

PART 1 GENERAL

1.01 SUMMARY

- A. Provide necessary services, tools, equipment, material, and labor required to furnish and install millwork and cabinet work. Install cabinet hardware specified. Do all finishing work in the shop.
- B. Related Sections:
 - 1. 08710 - Finish Hardware.
 - 2. 08210 - Wood Doors.

1.02 REFERENCES

- A. ANSI/AHA A135.4 - Basic Hardwood.
- B. American Society for Testing and Materials (ASTM):
 - 1. D1037-96a Test Methods for Evaluating the Properties of Wood-Base Fiber and Particle Panel Materials.

1.03 SUBMITTALS

- A. Manufacturer's Data: Submit 8 copies of manufacturer's data for each item furnished under this Section.
- B. Shop Drawings:
 - 1. Submit 8 copies of shop drawings showing plans, elevations, and large scale details for each fabricated item. Identify locations of each item. Show plastic laminate colors, patterns, and inserts.
- C. Samples:
 - 1. Submit samples of each wood species to receive transparent finishes.
 - 2. Submit a finished sample of each finish.
 - 3. Submit samples of milled paneling and trim items.

Project Name
Project No.

**M-DCPS MASTER
SPECIFICATION GUIDELINES**

March 03
06400 - 1

1.04 QUALITY ASSURANCE

- A. Built-ins and casework shall be constructed and installed to carry intended loads, not have sharp corners, splinters, or any construction features or projections that would be hazardous to occupants and users. Casework and cabinets shall be constructed in conformance with applicable state and federal accessibility requirements.
- B. Cabinet work shall follow minimum requirements described in the latest edition of the Architectural Woodwork Institute (AWI) following "Custom Grade" standards.
- C. Particle board is not allowed.
- D. Casework shall be "Custom Grade" overlay design with plastic laminate finish.
- E. Only manufacturers with financial stability and 5 years experience in casework manufacture and installations of similar scope will be considered.
 - 1. The installer must be a company whose primary business is the manufacturing of plastic laminate casework.
 - 2. The installer shall have adequate physical facilities and personnel for this size project with a qualified engineering department to provide layout and shop drawings for review before fabrication.
- F. Evidence of qualifications shall include product catalog, descriptive literature, and specifications for the proposed product. Submit a sample cabinet, complete with drawer, door hardware, and corner sample of counter top with the product literature.

1.05 PRODUCT DELIVERY AND STORAGE

- A. Deliver casework when the building is secure and weather tight.
- B. The air circulation control system shall be operating and maintaining humidity and temperature conditions similar to the conditions to be maintained by the Board.
- C. Interior plaster and plaster veneer work shall be complete and dry.

- D. Painting and other finish work shall be complete in immediate and adjacent areas within the building where millwork/cabinet work/casework is stored.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Plastic Laminate:

- 1. Nevamar.
- 2. Formica.
- 3. Micarta.
- 4. Pionite.
- 5. Wilson Art.

2.02 MATERIALS

- A. Case members, tops, bottoms, sides, dividers, shelves, door fronts, and drawer fronts shall be 3/4" thick 7 ply closed grain hardwood plywood.
- B. Case backs shall be 1/4" thick closed grain hardwood plywood.
- C. Plywood shall have type II water-resistant glue.
- D. Plywood: Provide manufacturer's association stamp except where exposed to view.
- E. Plywood exposed to view unless otherwise specified shall be hardwood plywood with exterior glue.
- F. Plastic Laminate: High pressure laminate conforming to NEMA specification LD3 latest edition. Laminate the plastic laminate sheets to the core stock under pressure with water resistant adhesive to achieve a Type II bond.

1. Material Thickness:

- a. 0.050" - Exposed surfaces and edges of drawer fronts, door fronts, counter tops, backsplash, and all other remaining exposed exterior horizontal and vertical surfaces.
- b. 0.027" - Exposed interior surfaces of door backs,

cabinet sides, backs, and shelving and all other remaining exposed interior horizontal and vertical surfaces.

c. Concealed Surfaces: Not applicable.

NOTE TO SPECIFIER: As indicated in the following paragraph, insert colors and manufacturers as on the M-DCPS accepted colorboard.

2. Colors and Patterns:

- a. As shown on the drawings, colors and patterns shall be _____ by _____ or accepted equivalent.
- b. Colors and patterns shall be judged equivalent, as determined by the A/E, to those preselected or above specified colors and patterns.
- c. Any preselected colors and patterns shown on the drawings or in the specifications shall govern.
- d. Where colors or patterns are not shown, plastic laminate equivalent in cost to standard solid colors shall be bid upon, assuming not more than 10 colors.
- e. A/E's range of color selection shall not be limited to colors stocked locally, but by entire color line of specific manufacturer as determined by samples in A/E's office.

G. Wood trim, cabinet stiles and rails, and wood door frames:

- 1. Soft wood: Clear "C" or better when covered by laminated plastic.
- 2. Hardwood: AWI "Custom" Quality.

NOTE TO SPECIFIER: Edit the following 2 subparagraphs as required to limit selections or satisfy requirements.

- 3. Where hinges or other attachment requiring screws for holding power in concealed wood are required, lumber shall be one of the following:
 - a. Southern Yellow Pine.
 - b. Gum.
 - c. Birch.

- d. Beech.
- 4. Where screw holding power is not required, concealed lumber shall be:
 - a. Southern Yellow Pine.
 - b. Gum.
 - c. Birch.
 - d. Beech.
 - e. Ponderosa.
 - f. Pine.
 - g. Poplar.

NOTE TO SPECIFIER: Modify the following subparagraph to reflect the previous 2 subparagraph requirements.

- 5. Lumber scheduled or detailed to be covered with plastic laminate shall be one of the following:
 - a. Southern Yellow Pine.
 - b. Gum.
 - c. Poplar.
 - d. Birch.
 - e. Beech.
 - f. Fir.
 - g. Virola/Tek Ply.
- 6. Lumber used for construction of bins or shelving supports located in kitchen pantries, shops, storage rooms, or janitor closets shall be, unless otherwise shown on the drawings, finished under Painting Section with "natural finish" and shall be of one of the following:
 - a. Southern Yellow Pine.
 - b. Gum.
 - c. Poplar.
 - d. Birch.
 - e. Beech.
- 7. Lumber scheduled or detailed to be transparent finished (varnished, stained, oil-rubbed, gloss, or satin polyurethane finish) shall be the following:
 - a. Birch.

- b. White Oak.
- c. Red Oak.

8. Lumber scheduled to be painted or enameled shall be one of the following. Do not use fir plywood in this application:

- a. Southern Yellow Pine.
- b. Gum.
- c. Poplar.
- d. Birch.
- e. Beech.

H. Fiberboard: Class 1 Tempered, smooth face hardboard, with 6,000 psi average modulus of rupture. Comply with ANSI/AHA 135.4 and ASTM D1037.

- 1. Use fiberboard only where specifically scheduled or called for on drawings or in specifications.
- 2. Fiberboard as backs for wall supported cabinets is not allowed.

I. Adhesives: Use adhesives meeting Strength and Rate of Loading, Moisture Resistance, and Heat Resistance requirements set forth in AWI 100-G-11. Do not use glues containing formaldehyde.

1. For interior work:

<u>Adhesive Type</u>	<u>Use</u>
Modified polyvinyl acetate	For normal use except items requiring high moisture resistance.
Casein glue	For normal use except waterproofed items.
Contact cements (not the solvent type)	For bonding high water pressure laminates only.

2. For exterior work or in kitchens, toilets or other rooms with moisture:

<u>Adhesive Type</u>	<u>Use</u>
Phenolic resin	Generally for moisture

resistance of fully
waterproof bond.

J. Wood Paneling:

1. Fabricate with solid lumber to configuration shown on the drawings.
2. Quality: Hardwood meeting AWI Custom Grade.
3. Species: Birch.
4. Type sawing: Plain sawn.
5. Type matching: Random.
6. Type finish: Transparent.

K. Large Hollow-core Doors in Cabinet Work: Comply with requirements of Section 08210 - Wood Doors.

L. Finish Hardware:

1. Hinges for 3/4" Thick Doors:

- a. US26D satin chrome plated steel, 5 knuckle, wrap around type allowing 270 degree swing at end of cabinet work unit, mounted with minimum 4 plated No.8 self-tapping screws per hinge leaf. Concealed European type hinges are not allowed.
- b. For doors up to and including 48 inches high: Provide 2 hinges.
- c. For doors over 48 inches high: Provide 3 hinges.
- d. Manufacturers:
 - 1) RPC 376-26D.
 - 2) Accepted equivalent.

2. Pulls: 5/16" wire pull, 4" long, solid brass, US26D satin chrome plated.

- a. Stanley 4484.
- b. Epcoc MC.
- c. Colonial 753

3. Door Catches: Stanley SP45.

- a. For doors up to and including 38 inches high: Provide 1 heavy duty magnetic type catch, slotted for adjustment. Attach with screws.
- b. For door 38 inches high and over: Provide 2 heavy duty magnetic type catches, slotted for adjustment.

Attach with screws.

NOTE TO SPECIFIER: Refer to Design Criteria for program requirements regarding locks at cabinet doors and drawers.

- 4. Surface bolts for inactive doors in cabinet door pairs with locks indicated:
 - a. Ives 40 x US26D x 6 inches.
 - b. Quality B-6 x US26D x 6 inches.
 - c. Baldwin 0324 x US26D x 6 inches.
- 5. Locks for 3/4" doors with plastic laminate finish: (Where indicated on drawings). Satin chrome or nickel plated steel 6 tumbler lock with grooved key.
 - a. KV 987, with strike.
 - b. Yale 9660, with strike.
 - c. Corbin 0764L, with strike.
- 6. Drawer Slides: Zinc plated cold rolled steel. Grant or KV 1300 rated for 75 pound capacity.
- 7. Steel Standards: KV 233ZC with zinc plated finish, 5/8" screw nails, and KV 237ZC shelf clips. Surface mount.

2.03 FABRICATION

- A. Construct cabinet work as shown on the drawings and meeting the following requirements:
 - 1. Face frames, mortise and tenon, screw, glue, and make all such joints concealed.
 - 2. Cabinet members, bottoms, sub-top, sides, and back shall be joined by dado and rabbeted joints secured with glue and concealed mechanical fasteners. Case backs shall have a 3-inch anchor cleat the full width of the unit at the top.
 - 3. Case construction of butt joints with dowel pins is not allowed.
 - 4. Construct the toe space base from solid lumber and separately framed.
 - 5. Drawers: Lock shouldered.
 - 6. Drawer Sides and Backs:

- a. Well sanded Southern Yellow Pine, Poplar, Gum, or

Birch, with corners rounded and natural finish.
b. Plastic laminate on 1/2" plywood with plastic laminate interior and exterior.

7. Drawer Bottoms: 1/4" tempered fiberboard with factory applied gloss surface of color approved by A/E.
8. Cabinet interior sides drilled to receive shelf pins leaving exposed core are not acceptable.
9. Shelving:

- a. 3/4" plywood for lengths less than 36 inches.
- b. 1 inch plywood or 3/4" plywood with 3/4" x 1-1/2" hardwood edges at front and rear of shelf for lengths 36 inches or greater.

10. Adjustable Shelving: Use surface mounted standards and notched shelving ends.
11. Exposed Shelving: In storage rooms, utility rooms, kitchen pantries, shops, mechanical or electrical rooms, or in janitor closets, shall be "natural finish" constructed of plywood with edges banded of similar material and have outside face veneers of similar material of either:

- a. Gum.
- b. Poplar.
- c. Beech.
- d. Birch.

B. All other Shelving: Hardwood plywood with bonded edges, finished "transparent" and of plywood with veneers meeting the following criteria:

1. Cabinet and casework hardware will be supplied under the finish Hardware Section and shall be installed by the cabinet and casework fabricator. Locate hardware accurately on shop drawings.
2. Species: Birch, APA grade marked MDO 1 face/2 face, interior grade.
3. Where normally exposed to view (behind cabinet doors): Birch, AWI Custom Quality.
4. Where normally concealed from view (behind cabinet doors): Birch, AWI Economy Quality.

C. When specifically called for on the drawings as laminated plastic faced cabinets doors, ends, drawer fronts, dividers, and backs (except against walls):

1. Provide plywood with laminated plastic on all surfaces not occurring against building walls or fixed partitions.
 2. Provide stiles and rails of laminated plastic covered lumber.
- D. All other cabinets not specifically called for on the drawings as laminated plastic faced shall be constructed of "transparently finished" hardwood plywood doors, ends, drawer fronts, dividers, and backs (except against walls) with lumber stiles and rails of same species, as follows:
1. Species: Birch or White Oak APA grade marked MDO 1 face/2 faced, interior grade.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine the areas and conditions under which the millwork/cabinetwork is to be installed, and notify the Contractor in writing of conditions detrimental to the proper and timely completion of this phase of the Work. Do not proceed with this phase until the unsatisfactory conditions have been corrected. Commencement of work shall be construed as acceptance of the conditions.
- B. Contractor shall take accurate field measurements and adjust the shop drawings accordingly before fabrication. The A/E shall be informed in writing of any dimension changes resulting from such field measurement before fabrication.
- C. The casework shall be set in place, leveled, and secured to walls and floors as normal and standard to the trade. Fillers shall be used between casework and walls and shall be accurately scribed to walls for a neat installation. Casework shall be caulked where meeting walls, floors and soffits. Seal all counter joints and where backsplash meets counter top.
- D. The casework installer shall accurately cut openings required for sinks or other equipment as indicated on plans.

Project Name
Project No.

**M-DCPS MASTER
SPECIFICATION GUIDELINES**

March 03
06400 - 10

3.02 INSTALLATION

- A. Provide first quality construction following best trade practices.
- B. Cuts, miters, joints, etc. shall be well sawn and joined. Nail heads or holes shall not be exposed in finish work. Drive nails and screws true and straight. Glue joints securely together. Sand all surfaces thoroughly, leaving clean and ready for finishing.
- C. Bond plastic laminate to surfaces with technique and contact cement approved by laminated plastic manufacturer.
- D. Install cabinet hardware according to requirements of the finish hardware as specified and in accurate positions as indicated on the drawings.

END OF SECTION