

SPECIFICATIONS - DETAILED PROVISIONS
Section 06100 - Carpentry Work

C O N T E N T S

PART 1 - GENERAL	1
1.01 DESCRIPTION.....	1
1.02 QUALITY STANDARDS.....	1
1.03 SUBMITTALS.....	2
1.04 VERIFICATION OF CONDITIONS	2
1.05 COORDINATION AND COOPERATION	3
1.06 PROTECTION	3
PART 2 - PRODUCTS	3
2.01 MATERIALS.....	3
PART 3 - EXECUTION	5
3.01 INSTALLATION	5
3.02 BAFFLE ERECTION	7
3.03 INSTALLATION OF FINISH HARDWARE.....	7
3.04 REPAIRS AND REPLACEMENT.....	8
3.05 CLEAN UP AND DISPOSAL	8

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**SECTION 06100
CARPENTRY WORK**

PART 1 - GENERAL

1.01 DESCRIPTION

Provide carpentry work, complete as indicated, specified and required.

A. Work Included in This Section. Principal items are:

1. Rough bucks, blocking, curbs, and nailers.
2. Wood baffles.
3. Utility Backboards.
4. Miscellaneous wood framing and rough carpentry work.
5. Installation of finish hardware and hinged doors.

B. Related Work Not Included in This Section.

1. Formwork. (Section 03150)
2. Concrete unit Masonry. (Section 04220)
3. Insulation.

1.02 QUALITY STANDARDS

Without limiting the generality of other requirements of these Specifications, all work specified herein shall conform to or exceed the applicable requirements of the referenced portions of the following publications to the extent that the requirements therein specified are not in conflict with the provisions of this Section:

- A. Governing Building Code. Except as more stringent requirements are designed or specified work of this section shall conform with applicable requirements of Chapter 23 of the UBC, latest edition.

Carpentry Work
Section 06100 – 2

- B. Lumber Standard. For each use, provide lumber complying with Product Standard PS 20 "American Softwood Lumber Standard" by National Bureau of Standards (NBS). Nominal sizes are indicated, provide actual sizes complying with the minimum size requirements of PS 20 for the moisture content specified for each use.
- C. Plywood Standard. For each use specified under this Section, provide plywood complying with Product Standard PS 1 "Softwood Plywood/Construction and Industrial" by NBS.
- D. Lumber and Plywood Grade Marking. Factory mark each piece of lumber and plywood with type, grade, mill and grading agency identification; except omit marking from surfaces to receive transparent finish, and submit mill certificate that material has been inspected and graded in accordance with requirements if it cannot be marked on a concealed surface. Certificates of Inspection and Grading by recognized agency may be submitted with each shipment of lumber and plywood, in lieu of factory marking at Contractor's option.

1.03 SUBMITTALS

- A. Material Certificates - Wood Frame Construction. Where dimension lumber is provided to comply with minimum allowable unit stresses, indicate species and grade selected for each use, and submit evidence of compliance with specified requirements. Compliance may be in the form of a signed copy of the applicable portion of the lumber producer's grading rules showing design values for each selected specie and grade. Design values shall be as approved by the Board of Review of American Lumber Standards Committee.
- B. Wood Treatment Data. For information only, submit two (2) copies of chemical treatment manufacturer's instructions for proper use of each type of treated material. Indicate by transmittal form that copy of each instruction has been distributed to the Installer.
 - 1. Pressure Treatment. For each type specified, include certification by treating plant stating chemicals and process used, net amount of salts retained and conformance with applicable standards.

1.04 VERIFICATION OF CONDITIONS

Verify all dimensions at the job, especially when fabricated materials are required to conform to and fit adjacent walls and building surfaces. Contractor shall acquaint himself with work of all other crafts whose work abuts, adjoins, or is in any manner affected by work under this Section. He shall consult with Drawings and other Subcontractors, and shall expedite and coordinate materials and labor with them to avoid omissions and delays. Correlate location of furring, nailers, blocking, grounds, and similar supports so that attached work will comply with design requirements.

1.05 COORDINATION AND COOPERATION

Perform work of this Section in a fully coordinated and cooperative manner with work of other related trades to provide completed installation as detailed and specified in most expeditious manner without delay to job progress and to provide freedom of operation of completed operative members.

1.06 PROTECTION

Protect all work of other trades, Owner's equipment, and work of this Section from any damage in performance of work of this Section. At all times, protect and preserve all materials, supplies, and equipment of every description. Any damage or loss caused in performance of this work shall be repaired or paid for without additional expense to the Owner.

- A. Carpentry Materials. Keep carpentry materials dry during delivery, storage and handling. Store lumber and plywood in stacks with provision for air circulation within stacks. Protect bottom of stacks against contact with damp surfaces. Protect exposed materials against weather.
- B. Storing of Materials. Store materials for which a maximum moisture content is specified, only in areas where relative humidity has been reduced to a level where specified moisture can be maintained with a tolerance of plus or minus 1%.

PART 2 - PRODUCTS

2.01 MATERIALS

Conform with the following, except as more stringent requirements are designated on the Drawings.

- A. Lumber and Plywood Grade Marking. Factory mark each piece of lumber and plywood with type, grade, mill and grading agency identification; except omit marking from surfaces to receive transparent finish, and submit mill certificate that material has been inspected and graded in accordance with requirements if it cannot be marked on a concealed surface.
- B. Lumber. Unless otherwise indicated or specified, Douglas Fir S4S manufactured and grades in accordance with latest edition of Standard Grading and Dressing Rules of WCLIB, or in accordance with "Grading Rules for Western Lumber", published by Western Wood Products Association as referenced herein. Moisture content at time of installation shall not exceed 19 percent nor be less than 7 percent as measured by surface meter method. Each piece of lumber shall bear the official grade mark of recognized grading agencies using the above-mentioned grading rules. The association standards for grading and grade marking of the lumber will be acceptable to the Owner.

Carpentry Work
Section 06100 – 4

1. Light Framing Lumber. Where framing lumber from 2 inches through 4 inches thick and 4 inches or less wide is shown or scheduled on the Structural drawings, provide lumber complying with the specified requirements for dimension lumber.
 2. Structural Framing Lumber. Where framing lumber 6 inches and wider, and from 2 inches through 4 inches thick is shown or scheduled, provide lumber complying with notes on Structural Drawings.
 3. Timbers.
 - a) General. Where solid wood framing of 5 inches by 5 inches or larger nominal size is shown, provide lumber dressed S4S to minimum green size requirements of PS 20.
 - b) Where members of timber size are shown, provide Select Structural Grade, beams and Stringers.
 4. Miscellaneous Lumber. Provide wood for support or attachment of other work such as nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of the sizes shown or specified, worked to shapes shown, and as follows:
 - a) Moisture Content. 15% maximum for lumber items not specified to receive wood preservative treatment.
 - b) Sills, Cants and Nailers for Fascia or Coping. Preservative pressure-treated Number 2 Douglass Fir or better.
 - c) Roof Nailer. Use preservative pressure-treated Number 2 Douglass Fir or better nailers for gravel stops at edges of roof and at roof expansion joints. Match thickness of nailers and roof insulation.
 5. Lumber for Baffles. Select Heart Redwood in accordance with California Redwood Association (CRA) grading rules.
- C. Plywood. Provide Douglas Fir Plywood, APA grade-marked, of the following types and grades or better conforming to U.S. Product Standard PSI-74:
1. For Sheathing. Unless otherwise indicated, Structural 1 or C-D with Exterior glue.
 2. For Utility Backboards. A-D or better grade with "A" face exposed, Interior type, except at exterior and "wet" interior locations where Exterior type shall be used.
- D. Rough Hardware

1. General. Nails, bolts, screws, washers, shields, inserts, etc., sizes as required, American Commercial Standard type. Galvanize items where used in wet areas, exterior locations.
 2. Connectors Into Concrete. Bolts and expansion shields, sleeved cinch anchors, drilled and bolted shells or other approved device, galvanized or stainless steel where exposed. Concrete nails and powder-driven fasteners are not acceptable.
 3. Special Fabrication Rough Hardware and Connectors. Furnish under Section "Miscellaneous Metals", and installed under this Section.
 4. Standard Product Hardware. As manufactured by Simpson or Arch Rib of the catalog designations indicated or approved equal.
 5. Galvanizing or Ferrous Metal Items. Items shall be hot-dip galvanized in accordance with the requirements of ASTM Designation A 123 for shapes, plates and bars, and A 153 for hardware.
- E. Building Paper. Asphalt saturated felt, 15-lb. non-perforated, complying with ASTM D226.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General

1. Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate the work with a minimum of joints or the optimum jointing arrangement.
2. Closely fit and accurately set wood framing to required lines and levels. Provide framing members of sizes and on spacings shown, openings as shown. But, join and tightly fit framing around other work. Do not splice structural members between supports unless otherwise detailed. Members shall not be cut, notched, or bored more than one quarter (1/4) of their depth without adequate and approved reinforcing. Horizontal members shall be set with crown edge up. Completed framing shall be acceptable to receive work of other trades.
3. Securely attach rough carpentry in accordance with governing Building Code unless more stringent requirements are designated.

Carpentry Work
Section 06100 – 6

- a) Provide washers under bolt heads and nuts in contact with wood. Countersink to prevent interference with other work.
 - b) Countersink nail heads on exposed carpentry work.
4. Firestop concealed spaces with wood blocking of nominal two (2) inch thickness, unless blocked by other framing members.
 5. Provide sill plates where wood framing is supported by concrete or masonry walls or piers. Anchor to embedded bolts as shown.
- B. Fasteners. Use common wire nails, except as otherwise shown or specified herein. Use finishing nails for exposed work. Do not wax or lubricate fasteners that depend on friction for holding power. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required. Do not drive threaded friction type fasteners; turn into place. Tighten bolts and lag screws at installation and retighten as required for tight connections prior to closing in or at completion of work.
1. Bolts. Drill holes 1/32 inch to 1/16 inch larger than bolts, bored true to line. Draw nuts up tight when installed and again just before being enclosed.
 2. Lag Screws. Lag screws shall be screwed and not driven into place, with anchorage embedment in piece lagged of not less than six-tenths (0.6) of the screw length or eight (8) diameters. All lag screws shall be fitted with standard malleable iron or steel plate washers under the head. A hole shall first be bored of same diameter and depth as shank. Holes for threaded portion of screw shall be bored with a bit not larger than the base of thread.
 3. Common Wire Nails or Spikes. Use common wire nails or spikes of such length that, where joining one piece of lumber or timber to another, the penetration into the second or furthest piece shall not be less than one-half (1/2) length of the nail, provided, however, that 16d nails may be used to connect pieces of two (2) inch net thickness. Nails shall not be closer than one-half (1/2) their length, nor closer to the edge of the timber than one-quarter (1/4) their length. Where necessary to prevent splitting, bore holes for nails or spikes, diameter of hole to be smaller than diameter of nail or spike.
- C. Wood Nailers, Blocking and Backing. Provide wherever shown and where required for attachment of other work. Form to shapes as shown and cut as required for true lines and level of work to be attached.
1. Coordinate location with other work; refer to Shop Drawings of such work, if any.

2. Attach to substrates securely with anchor bolts or other attachment devices as shown and as required to support applied loading. Countersink bolts and nuts flush with surfaces where shown. Build into masonry as work progresses, cutting to fit masonry unit size involved. Anchor to formwork before concrete placement.
- D. Wood Furring. Install plumb and level with closure strips at edges and openings. Shim with wood as required.
- E. Wood and Plywood Backing. As indicated or required to complete the Work, provide securely attached and accurately positioned wood and plywood backing to receive plumbing and or electrical, instrumentation fixtures and equipment; other fixed equipment, cabinets, toilet room accessories and door stops.

3.02 BAFFLE ERECTION

At each location, use single length boards accurately fitted to permit ease of installation and/or removal without possible inadvertent slipping out of concrete notches.

3.03 INSTALLATION OF FINISH HARDWARE

In accordance with manufacturer's recommendations, install finish hardware furnished under Section "Finish Hardware", except items specified to be installed under other Sections. After installation and fitting, remove all finish hardware, tag and box, and reinstall after completion of painting. Adjust and leave in perfect working condition.

- A. Adjustments and Inspections. During installation, a periodic inspection in company with the Inspector, shall be made by the Architectural Hardware Supplier or his agent, as a representative of the Owner. Any hardware improperly installed shall be removed and reinstalled at the Contractor's expense. At the completion of the work, a final inspection shall be made by the Architectural Hardware Supplier or his agent. Make any and all adjustments recommended by the Architectural Hardware Supplier or his agent.
- B. Save all adjusting wrenches, instructions, keys and templates furnished with hardware and deliver to Owner or maintenance representative of the Owner.
- C. Protection. Contractor shall be responsible for protecting all finishing hardware from damage during the progress of the Work. Upon completion of the Project, the Contractor shall see that all finishing hardware is properly cleaned and that any damaged parts are promptly replaced so that all hardware will be in perfect working order.
- D. Guarantee. All hardware shall be guaranteed for a period of two (2) years from date of acceptance of the work. Defects in materials and workmanship occurring during the guarantee period shall be corrected to the complete satisfaction of the Owner.

Carpentry Work
Section 06100 – 8

3.04 REPAIRS AND REPLACEMENT

Repair, or remove and replace, defective work as directed upon completion of installation and/or during erection.

3.05 CLEAN UP AND DISPOSAL

The Contractor shall maintain the site in a neat and orderly condition, to the satisfaction of the Owner, throughout the construction period, free from litter, trash and waste material. Upon completion of all work, the Contractor shall remove falsework, temporary structures and equipment used in execution of the work and he shall dispose of all rubbish, debris, and excess materials off the site.

END OF SECTION 06100