

I. SCOPE OF WORK

The work shall consist of furnishing all tools, labor, equipment, and materials, unless otherwise specified to complete all carpentry and joinery works shown on the Drawings and specified herein.

II. GENERAL REQUIREMENTS

Lumber Grades – Lumber shall be of the best grade available, of the respective kinds required for the various parts of work; well seasoned, thoroughly dry and free from loose or unsound knots, sap, shakes or other imperfections impairing its strengths, durability and appearance. All exposed woodwork shall be smooth by dressed and sandpapered unless otherwise indicated or specified. Framing lumber shall be of the rough dimensions unless otherwise shown on the drawings.

Substitution of Lumber – Any lumber equally good for the purpose intended maybe substituted for the kind specified, subject to prior approval of the Engineer. Provided, however, that in the substitution of the cheaper kind of lumber than that specified, a reduction in the contract price equal to the difference in the costs of the two kinds of lumber shall be made.

Delivery and Storage – The Contractor shall deliver lumber to the site in undamaged condition. Lumber shall be stacked in such a manner as to insure proper ventilation and drainage, and shall be supported at least 150 mm aboveground. Lumber shall be protected against dampness before and after delivery, and enough protection shall be provided to prevent damage from the weather. Lumber shall be stored under cover in well ventilated enclosure, not exposed to extreme changes of temperature and humidity, and in a manner as to provide air-circulation around all surfaces of each pile to insure thorough air-seasoning. Lumber or millwork in buildings shall not be finished until concrete, masonry work, and plaster are dry. Lumber shall be delivered at least thirty (30) days before use.

Grading of Plywood – Each sheet of plywood shall bear the mark identifying the plywood as to wood species, glue type, and grade.

III. MATERIALS

- a. **Lumber** – Lumber of various uses shall be one of the species listed for the purpose indicated unless otherwise specified in the drawing. For any use not specified, the lumber shall be the best commercial grade normally used for the purpose, subject to the approval of the Engineer.

All framings shall be done as far as possible with carefully fitted mortise and tenon joints.

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All doors, windows, transoms, or other opening where so indicated on plans, shall have frames and sills of the dimensions shown or as hereafter detailed, and all frames coming in contact with concrete shall be anchored by means of 20-d nails, spaced not more than 0.20m, apart, all around the contact surfaces. All frames shall be rabbetted, molded and cut with saw and cut under for water drips.

SPECIE

USE

Yakal	-	All door jambs, headers and transom bars, wood plates, and all other woodwork in contact with concrete or masonry and where indicated.
Apitong (pressure treated)	-	All members and rafters, and where indicated; all wood framings and carpentry; except when in contact with concrete.
Tanguile (Kiln dried)	-	All exterior and interior millwork, siding, finish and trim, framework, and all other woodworks not specifically mentioned; except when in contact with concrete.

- b. Plywood – shall conform to Commercial Standard PSI and shall be of local manufacture.

Plywood to be varnished shall be tanguile or kalantas veneers (as indicated), ribbon grained, water resistant, Class B and of the thickness indicated.

Plywood to be painted shall be tanguile veneer ordinary rotary-cut, water resistant, Class C and of the thickness indicated.

Plywood exposed to the outside elements or where indicated shall be waterproof or marine plywood and of the thickness indicated.

- c. Fastenings – Fastenings shall be common nails, glue or specified, flat-head wood screws (F.H.W.S.), round-head wood screws (R.H.W.S.), bolts or lag screws where specified or called for shall be used. Concealed fastenings as much as possible; where not possible, locate them in inconspicuous places.

Where nailing is permitted through woodwork smooth-finished face, conceal nail heads.

Nails – shall be of the smooth shank, zinc coated, common wire nails of local manufacture, and of types and sizes best suited for the purpose.

Wood Screws – shall be brass or cadmium plated, of the best available commercial quality, and of types and sizes suited for the purpose.

IV. PRESSURE TREATED LUMBER

Preservative Treatment – All lumber indicated to be pressure treated, shall contain any of the following net reflection of solid preservative.

Boliden salts - 45.5 kg. dry chemical per cubic foot of wood.

Wolman salts - .31 kg. dry chemical per cubic foot of wood.

Tenalith salts - .34 kg. dry chemical per cubic foot of wood.

The Contractor shall submit any affidavit signed by an official of the representative treatment company to the Engineer. This affidavit shall indicate the net retention of solid preservatives obtained and shall certify that pressure treated lumbers have a moisture content that does not exceed 17 percent upon shipment from the treatment plant.

Where it is necessary to cut or bore pressure-treated lumber on the job, two coats of prepared concentrated preservatives solution shall be applied to the end-cut or bored surfaces.

V. ROUGH CARPENTRY

All work shall be well fitted, accurately set, and rigidly secured in place. Anchors and bolts (with nuts and washers) straps and tie rods shall be provided as required.

Cutting and fitting to accommodate other work shall be done in the required manner; and cut or damaged work shall be patched and made good.

Framing and structural lumber shall be well-seasoned, straight, square-edge stacks, and free from loose or unsound knots, bark edges or other defects that will impair its strength.

Plates for walls and partitions shall be of the same width as the studs and shall form continuous horizontal ties.

Structural members shall not be cut, bred or notched for the passage of pipes or conduits without prior approval of the Engineer. All members damaged by such cutting or boring shall be reinforced by means of specially formed and approved sheet metal or steel shapes or remove or replaced with new member as directed.

Anchors, connectors and fastenings not indicated or specified otherwise shall be of the size and types necessary to suit the conditions encountered. Size, type and spacing of nails, screws or bolts for installation of manufactured building materials shall be as recommended by the product manufacturer unless indicated or specified otherwise. Rough hardware, exposed to weather or in contact with exterior walls or masonry or slabs shall be zinc-coated except as specified otherwise.

All lumber surfaces in contact with concrete or masonry shall be given a brush coat of bituminous paints before installation.

VI. JOINERY WORK

All lumber used for the joinery work shall be of the kinds and grades specified and shall be of the contours, patterns and profiles indicated.

All joints shall be made, installed tight and securely fastened in a manner approved by the Engineer. Exterior joints shall be mitered and interior angles coped. Panels shall be fitted to allow for shrinkage, avoid swelling, and insure that the work remain in place without warping, splitting and opening of joints.

Interior trim shall be approved standard stock moldings, except where special patterns or profiles are indicated.

Joints for cabinet work shall be glued in addition to nails or other fastening device required. Nailing shall be concealed where practicable. Where face nailing is used, nails shall be set for putty stopping.

All exposed surfaces shall be machined or hand sanded finished to an even smooth surface. No hammer marks or other unsightly marks shall be allowed on any wood panel or veneer.

VII. GYPSUM BOARD

Gypsum board to be used for ceiling shall be 13 mm thick and 1.2 m wide and shall conform with ASTM C36. Joint treatment materials and fastening system shall be as recommended by the gypsum board manufacturer and as approved by the Architect/Engineer.

Apply gypsum board to framing and furring members with ASTM C840 and the requirements specified herein. Neatly fit abutting end and edge joints. Use

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gypsum board of maximum practical length. Cut out gypsum board as required to make neat close joints around openings. Apply gypsum board in accordance with ASTM C840.

VIII. FIBERGLASS CEILING BOARD

Fiberglass ceiling board shall be fashionetone, fissured design, and 600mm x 600mm x 19mm in dimension. ACI or equivalent.

Edges of ceiling board shall be in close contact with the metal supports and in true alignment. Arrange units so that units less than ½ width are minimized.

Section 4
Carpentry and Joinery