SECTION 061063 - EXTERIOR ROUGH CARPENTRY

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. RELATED DOCUMENTS
				1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			2. SUMMARY
				1. Section Includes:

Wood fences.

Wood <**Insert description**>.

* + - * 1. Related Requirements:
			1. DEFINITIONS

Retain terms that remain after this Section has been edited for a project.

* + - * 1. Boards: Lumber of less than 2 inches nominal in thickness and 2 inches nominal or greater in width.
				2. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
				3. Timber: Lumber of 5 inches nominal or greater in least dimension.

Retain paragraph and list below if lumber grading agencies are referenced with products.

* + - * 1. Lumber grading agencies, and the abbreviations used to reference them, include the following:

Coordinate list below with product lists; delete those not required. See Evaluations.

NeLMA: Northeastern Lumber Manufacturers' Association.

NLGA: National Lumber Grades Authority.

RIS: Redwood Inspection Service.

SPIB: The Southern Pine Inspection Bureau.

WCLIB: West Coast Lumber Inspection Bureau.

WWPA: Western Wood Products Association.

* + - 1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: For preservative-treated wood products. Include chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
				5. Sustainable Design Submittals:
				6. Material Certificates:

For preservative-treated wood products. Indicate type of preservative used and net amount of preservative retained.[**For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.**]

* + - * 1. Certificates of Inspection: Issued by lumber grading agency for exposed wood products not marked with grade stamp.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

* + - * 1. Evaluation Reports: For preservative-treated wood products, from ICC-ES.
			1. QUALITY ASSURANCE
				1. Mill and Producers Mark: Each piece of lumber and plywood shall be gradestamped indicating type, grade, mill, and grading agency certified by the Board of Review of the American Lumber Standards Cokpittee. Mark shall appear on unfinished surface, or ends of pieces with finished surfaces.

Pressure Preservative Treated Material: Accredited agency quality mark on each piece of wood indicating treatment.

Fire-Retardant Treated Material: Accredited testing agency mark on each piece of wood indicating compliance with the fire hazard classification.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Store materials under cover and protected from weather and contact with damp or wet surfaces. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.
1. PRODUCTS

Manufacturers and products listed in SpecAgent and Masterworks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

* + - 1. LUMBER, GENERAL
				1. Comply with DOC PS 20 and with grading rules of lumber grading agencies certified by ALSC's Board of Review as applicable. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by ALSC's Board of Review.

Factory mark each item with grade stamp of grading agency.

Retain first option in first subparagraph below if authorities having jurisdiction require grade stamps on all materials.

For items that are exposed to view in the completed Work, [**mark grade stamp on end or back of each piece**] [**or**] [**omit grade stamp and provide certificates of grade compliance issued by grading agency**].

In DOC PS 20, dressed sizes of green lumber are larger than those of dry lumber.

Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry wood products.

Provide dressed lumber, S4S, unless otherwise indicated.

* + - * 1. Maximum Moisture Content:

Boards: [**15**] [**19**] percent.

Retain one of five options in "Dimension Lumber" Subparagraph below, or delete subparagraph if green lumber is acceptable in all thicknesses. Verify availability of lumber with 15 percent maximum moisture content before retaining. Lumber more than 2-inch nominal thickness is often shipped green.

Dimension Lumber: [**15 percent**] [**19 percent**] [**15 percent for 2-inch nominal thickness or less; 19 percent for more than 2-inch nominal thickness**] [**15 percent for 2-inch nominal thickness or less; no limit for more than 2-inch nominal thickness**] [**19 percent for 2-inch nominal thickness or less; no limit for more than 2-inch nominal thickness**].

Timber. [**19 percent**] [**No limit**].

* + - 1. LUMBER

First paragraph below can provide high-quality appearance but adds cost and can require extra effort to enforce. Delete paragraph if species and grades retained in remaining paragraphs are suitable without revision.

* + - * 1. Hand select wood for <**Insert descriptions of items requiring high-quality appearance**> for freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot holes, shake, splits, torn grain, and wane.

Retain one of two "Dimension Lumber" paragraphs below if required.

* + - * 1. Dimension Lumber: [**Select Structural**] [**No. 1**] [**No. 2**] [**Construction or No. 2**] grade and[**any of**] the following species:

Hem-fir or hem-fir (North); NLGA, WCLIB, or WWPA.

Douglas fir-larch, Douglas fir-larch (North), or Douglas fir-south; NLGA, WCLIB, or WWPA.

Mixed southern pine; SPIB.

Redwood; RIS.

* + - * 1. Dimension Lumber: [**Heart B or Select Heart**] [**Construction Heart**] [**Construction Common**] redwood; RIS.

Retain one of two "Boards" paragraphs below, or retain both and indicate what each applies to. Grades in first paragraph have higher-quality appearance than grades in second paragraph.

* + - * 1. Boards:[**Any of the following species and grades:**]

Douglas fir, C & Btr finish or C Select; NLGA, WCLIB, or WWPA.

Hem-fir, C & Btr finish or C Select; NLGA, WCLIB, or WWPA.

Redwood, [**Heart Clear**] [**Heart B or Select Heart**]; RIS.

Southern pine, B & B finish; SPIB.

Western red cedar, [**Clear Heart**] [**Grade A**] [**Grade B**]; NLGA, WCLIB, or WWPA.

* + - * 1. Boards:[**Any of the following species and grades:**]

Eastern white pine, Idaho white, lodgepole, ponderosa, or sugar pine; [**Premium or No. 2 Common (Sterling)**] [**Standard or No. 3 Common**] grade; NeLMA, NLGA, WCLIB, or WWPA.

Mixed southern pine;[**No. 1**] [**No. 2**] grade; SPIB.

Hem-fir or hem-fir (North); [**Select Merchantable or No. 1 Common**] [**Construction or No. 2 Common**] grade; NLGA, WCLIB, or WWPA.

Northern white cedar, [**No. 1 Common**] [**No. 2 Common**]; NeLMA or NLGA.

Spruce-pine-fir (South) or spruce-pine-fir; [**Select Merchantable or No. 1 Common**] [**Construction or No. 2 Common**] grade; NeLMA, NLGA, WCLIB, or WWPA.

* + - 1. POSTS

Retain "Dimension Lumber Posts" Paragraph below for posts 4 by 4 inches nominal. Posts 6 by 6 inches nominal and larger are timber rather than dimension lumber.

* + - * 1. Dimension Lumber Posts: [**No. 2**] [**Construction or No. 2**] [**Construction, Stud, or No. 3**] grade and[**any of**] the following species:

Hem-fir or hem-fir (North); NLGA, WCLIB, or WWPA.

Douglas fir-larch, Douglas fir-larch (North), or Douglas fir-south; NLGA, WCLIB, or WWPA.

Mixed southern pine; SPIB.

Spruce-pine-fir or spruce-pine-fir (South); NeLMA, NLGA, WCLIB, or WWPA.

Species group in first subparagraph below includes hem-fir (North) and spruce-pine-fir.

Northern species; NLGA.

Species group in first subparagraph below includes spruce-pine-fir (South).

Eastern softwoods; NeLMA.

Species group in subparagraph below includes hem-fir and spruce-pine-fir (South).

Western woods; WCLIB or WWPA.

Retain one of three "Timber Posts" paragraphs below for rectangular posts 6 by 6 inches nominal and larger.

* + - * 1. Timber Posts: Balsam fir, Douglas fir-larch, Douglas fir-larch (North), eastern hemlock tamarack (North), hem-fir, southern pine, western hemlock, or western hemlock (North); [**No. 1**] [**No. 2**]; NeLMA, NLGA, SPIB, WCLIB, or WWPA.
				2. Timber Posts: Alaska cedar; [**No. 1**] [**No. 2**]; WCLIB.
				3. Timber Posts: Southern pine; [**No. 1**] [**No. 2**]; SPIB.

Standard in "Round Wood Poles" Paragraph below is a specification for round timber construction poles that is based on specification for wood piles.

* + - * 1. Round Wood Poles: Clean-peeled wood poles complying with ASTM D3200, with at least 80 percent of inner bark removed and with knots and limbs cut flush with the surface.

Species: <**Insert species required**>.

* + - 1. PRESERVATIVE TREATMENT
				1. Pressure treat boards and dimension lumber with waterborne preservative according to AWPA U1; Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
				2. Pressure treat timber with waterborne preservative according to AWPA U1; Use Category UC4a.

Delete subparagraph below if chromium and arsenic are not allowed. Timber treated with preservatives other than CCA may not be readily available.

Treatment with CCA shall include post-treatment fixation process.

* + - * 1. Pressure treat poles with waterborne preservative according to AWPA U1; Use Category UC4a.

Delete subparagraph below if chromium and arsenic are not allowed. Poles treated with preservatives other than CCA may not be readily available.

Treatment with CCA shall include post-treatment fixation process.

See Evaluations for information about treatment chemicals.

* + - * 1. Preservative Chemicals: Acceptable to authorities having jurisdiction.

Do not use chemicals containing arsenic or chromium [**except for timber posts**] [**except for poles**] [**except for timber posts and poles**].

Usually retain one of first two paragraphs below.

* + - * 1. Use process[**for boards and dimension lumber**] that includes water-repellent treatment.
				2. Use process[**for boards and dimension lumber**] that does not include water repellents or other substances that might interfere with application of indicated finishes.

Revise options in first paragraph below to eliminate items for which treated kiln-dried wood is not required.

* + - * 1. After treatment, redry [**boards**] [**dimension lumber**] to 19 percent maximum moisture content.
				2. Mark treated wood with treatment quality mark of an inspection agency approved by ALSC's Board of Review.

Retain first option in subparagraph below if authorities having jurisdiction require quality mark on all materials.

For items indicated to receive a stained or natural finish, [**mark each piece on surface that will not be exposed**] [**or**] [**omit marking and provide certificates of treatment compliance issued by inspection agency**].

* + - * 1. Application: Treat [**all wood unless otherwise indicated**] [**items indicated on Drawings**].
			1. FASTENERS
				1. General: Provide fasteners of size and type indicated, acceptable to authorities having jurisdiction, and that comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches into wood substrate.

Use [**stainless steel**] [**fasteners with hot-dip zinc coating complying with ASTM A153 or ASTM F2329**] unless otherwise indicated.

For pressure-preservative-treated wood, use stainless steel fasteners.

California Redwood Association recommends stainless steel fasteners or hot-dip galvanized-steel fasteners.

For redwood, use [**brass/bronze**] [**stainless steel**] [**hot-dip galvanized-steel**] fasteners.

* + - * 1. Nails: ASTM F1667.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

* + - * 1. Power-Driven Fasteners: ICC-ES AC70.
				2. Wood Screws and Lag Screws: ASME B18.2.1, ASME B18.6.1, or ICC-ES AC233.
				3. Carbon-Steel Bolts: ASTM A307 with ASTM A563 hex nuts and, where indicated, flat washers all hot-dip zinc coated.
				4. Stainless Steel Bolts: ASTM F593, Alloy Group 1 or 2; with ASTM F594, Alloy Group 1 or 2 hex nuts and, where indicated, flat washers.
				5. Postinstalled Anchors: Stainless steel, [**chemical**] [**or**] [**torque-controlled expansion**] anchors with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing according to ASTM E488, conducted by a qualified independent testing and inspecting agency.

Stainless steel bolts and nuts complying with ASTM F593 and ASTM F594, Alloy Group 1 or 2.

* + - 1. METAL ACCESSORIES

Retain this article for fence brackets, post caps, and other metal accessories if required.

* + - * 1. [Manufacturers:](http://www.specagent.com/Lookup?ulid=7573) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Cleveland Steel Specialty Co](http://www.specagent.com/Lookup?uid=123457137907).

[Phoenix Metal Products, Inc](http://www.specagent.com/Lookup?uid=123457137909).

[Simpson Strong-Tie Co., Inc](http://www.specagent.com/Lookup?uid=123457137911).

Approved equivalent.

Retain "Galvanized-Steel Sheet" or "Stainless Steel Sheet" Paragraph below. For pressure-preservative-treated wood, G185 galvanizing or stainless steel is required by the IBC for exterior applications. Type 304 is usually standard for stainless steel; use Type 316 where subject to salt spray or immersion in salt water.

* + - * 1. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A653, [**G60**] [**G90**] [**G185**] coating designation.
				2. Stainless Steel Sheet: ASTM A240 or ASTM A666, [**Type 304**] [**Type 316**].

Insert descriptions for fence brackets, post caps, and other metal accessories required, or indicate basis-of-design product on Drawings.

1. EXECUTION
	* + 1. PREPARATION
				1. Stain wood[**indicated to be stained**], including both faces and edges. Cut to required lengths and stain ends. Comply with requirements in Section 099300 "Staining and Transparent Finishing."
			2. INSTALLATION
				1. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit work to other construction; scribe and cope as needed for accurate fit.
				2. Framing Standard: Comply with AF&PA WCD1 unless otherwise indicated.
				3. Install metal framing anchors to comply with manufacturer's written instructions.
				4. Do not splice structural members between supports unless otherwise indicated.
				5. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
				6. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of members or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

Delete first paragraph below for southern pine.

* + - * 1. Apply copper naphthenate field treatment to comply with AWPA M4, to cut surfaces of preservative-treated lumber.
				2. Securely attach exterior rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code. If retaining first subparagraph below, verify that evaluation report is acceptable to authorities having jurisdiction.

ICC-ES AC70 for power-driven fasteners.

Retain one of two subparagraphs below, with or without subparagraph above.

"Fastening Schedule" in the UNIFORM CODE.

"Fastener Schedule for Structural Members" and "Alternate Attachments" in ICC's International Residential Code for One- and Two-Family Dwellings.

Revise paragraph below to include other nail types if required.

* + - * 1. Use common wire nails unless otherwise indicated. Select fasteners of size that do not fully penetrate members where opposite side is exposed to view. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads unless otherwise indicated.

Indicate locations of other fasteners, such as wood screws, bolts, and lag screws, on Drawings.

END OF SECTION 061063