Building the galleon

The greatest challenges of building a wooden ship like the San Salvador — a reconstruction of Juan Rodriguez Cabrillo’s vessel that brought the first Europeans to San Diego Bay on Sept. 28, 1542 — have been finding quality wood and using a combination of old and modern shipbuilding techniques.

Work begins

Local VIPs — including representatives of the Kumeyaay who lived around the bay when the original ship first sailed — attended the keel-laying ceremony on Aug. 6. The ship is scheduled for completion in 2013.

1. Keel and sternpost

The bow is made from sturdy, weather-resistant oak, and the sternpost and keel are made from hardwood.

2. Lower framing

Hull and deck planking

The outer layer of oak is laid to form the hull, while the inside oak is used to create the deck. The oak is quality-grade wood that is not subject to warping.

3. Upper framing

Some of the galleon’s distinctive features will take shape as the keel and stern are formed.

4. Hull and deck planking

The upper deck planking is used to form the galleon’s “galleries,” or decks.

5. Walls and rigging

These will be added after the ship is launched.

Searching the world for quality wood

Covers sailing together, the original ship went into the forest around the build site to find the wood they needed. Today, demand for the necessary thicknesses and qualities of lumber that shipbuilders had to secure wood on three continents.

Lighter wood

- Douglas fir
- Pacific Northwest
- San Diego

Denser, heavier woods

- South India and Paraguay
- South America

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Upper framing

The denser wood is used in lower sections, and the lighter wood in upper sections. This lowers the center of gravity, which increases stability.

Revisiting an old method

To save money, the initial shaping of the reconstruction called for the ribs of the ship to be layers of laminated oak, which is relatively inexpensive. But the plan between Cabrillo and the shipbuilders didn’t work, so the project needed a different approach.

Entering San Diego Bay

After the San Salvador is built, it will make a trip up the California coast in the original ship. It will head north to San Diego Bay, where it will be homeported at the Maritime Museum of San Diego. Along the way, it will visit the Star of India and other historic vessels — all open to museum visitors.