Second Round of 520 Pontoons Under Construction in Aberdeen

Local News

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ABERDEEN, Wash. - The next batch of pontoons for the new State Route 520 bridge are currently under construction in Aberdeen, and improved design and construction techniques will be used to eliminate concrete spalling and reduce cracking.During the first round of pontoon construction, crews encountered spalling (chipped concrete) and cracking in pontoon end walls. Crews repaired the spalling by adding reinforcing steel and replacing concrete and fixed the cracks by injecting epoxy.To evaluate these problems and improve construction of future pontoons, the Washington State Department of Transportation convened an expert-review panel to review the repairs and propose recommendations.Media and WSDOT construction managers toured the casting facility Wednesday, Sept. 26, for a first-hand look at six new pontoons under construction. This construction cycle includes one cross pontoon, two supplemental pontoons, and three large longitudinal pontoons -that measure 75 feet wide, 29 feet tall and 360 feet long. Photos and videos of this construction are available online.

“We’re completely confident that the pontoons we floated to Lake Washington in July are safe and structurally sound,” said Julie Meredith, SR 520 program director. “They’ll last 75 years or longer and so will all the rest of the pontoons we build.” To eliminate spalling, the expert-review panel recommended adjusting the design and position of post-tensioning strands and ducts. Post-tensioning is a standard practice in major construction projects when construction crews tighten metal strands within the concrete for additional strength. From now on, the post-tensioning ducts will be moved closer to the edge of the end walls, applying more direct force and strength through the length of the pontoon.The panel also recommended decoupling the end walls from interior walls to reduce cracking. Originally, precast interior walls were directly attached to the end walls before post-tensioning. This caused excess stress on the ends walls, creating cracks. Now crews will post-tension the pontoons and then pour concrete to join the interior and end walls.“We believe these improvements will eliminate spalling and reduce cracking in the next construction cycles,” said Jeff Carpenter, WSDOT state construction engineer.The SR 520 Pontoon Construction Project includes building a casting basin in Aberdeen and 33 concrete pontoons for a replacement SR 520 floating bridge on Lake Washington. Under a $367.3 million contract, Kiewit-General built the basin and is constructing pontoons. Construction began in spring 2011 and the target date for opening the replacement six-lane floating bridge to traffic is December 2014.Project information is available at www.wsdot.wa.gov/Projects/SR520/Pontoons.htm