

Pontoon Update: WSDOT Confident Pontoon Repairs Will Ensure 75-Year Design Life of New Bridge

Local News

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Construction crews recently completed the first concrete superstructure on top of Pontoon W at the east end of Lake Washington to support the new State Route 520 floating bridge deck. The five columns are approximately 55 feet tall and 4 feet in diameter. In conjunction with new bridge piers in Medina, the new columns form the eastern navigation channel that will provide 70 feet of vertical clearance for passing vessels and match the Interstate 90 navigation channel. These columns also mark the transition from the floating section to land-based supports for the new six-lane bridge and highway. Pontoon W was one of six pontoons built in Aberdeen that needed additional repairs after crews found end-wall cracking and interior spalling, or chipped concrete, in May. Since then, the Washington State Department of Transportation has [reported construction issues and repairs](#), and continues to provide updates regarding the status of the pontoons. "We are moving ahead with major work on Lake Washington because there is no question that when complete these pontoons will support the world's longest floating bridge for 75 years or more," said Julie Meredith, SR 520 program director. "With each new column that goes up on Lake Washington, drivers can see measureable progress toward replacing the vulnerable SR 520 floating bridge."

Today, WSDOT provided media a firsthand look at the beginning stages of superstructure construction on Pontoon W and the interior of Pontoon V. Nine pontoons are on Lake Washington, including five built in Aberdeen and four in Tacoma. Three pontoons remain in Tacoma for additional outfitting. Photos of construction on Lake Washington are available on the [WSDOT Flickr site](#). During the summer, crews made repairs and modifications to the first construction cycle in Aberdeen. At the same time, WSDOT convened a panel of experts to review those repairs, identify causes of end-wall cracking and spalling, and make recommendations for future cycles of construction. The panel's report and WSDOT's response are [available online](#). Washington Transportation Secretary Paula Hammond reconvened the panel in October to review remaining repair procedures and to evaluate the structural sufficiency of the pontoons in Cycle 1. John Reilly, chair and representative of the expert review panel, noted, "The condition of the pontoons now on Lake Washington is better than the panel originally observed in Aberdeen now that many cracks have been repaired with either epoxy grout or crystalline sealant." In a recent pontoon site visit on Lake Washington, Reilly and the panel saw no significant water coming through the end walls, and no evidence that cracks were weeping, or continuing to weep, in critical locations that they observed within Pontoon U. Previously one of the panel members had visited Pontoon V and reported the same observation. Another panel member is going to visit Pontoon V and W this coming Friday. The panel would expect the above observation to be consistent for all Cycle 1 pontoons. WSDOT and floating bridge project contractor Kiewit/General/Manson, A Joint Venture (KGM), are developing options for final repairs to pontoons on Lake Washington. KGM recently hired marine construction experts from Ben C. Gerwick Inc. to develop repair options for KGM and WSDOT to assess. In addition, WSDOT is further analyzing potential effects of the omission of one specific shape of rebar from the longitudinal pontoons built in the first construction cycle. (There will 21 total

360-foot-long longitudinal pontoons that will form the backbone of the bridge.) The end walls were designed to have rebar bent in a 90-degree shape as a design measure to minimize potential cracking in the bolt beam area. However, this bend was not made in the rebar installed at those locations. WSDOT engineers are currently evaluating the effects of this omission and what, if any, repairs may be needed. The next steps include continuing construction on east- and west-end bridge piers, setting anchors for the new pontoons, and beginning outfitting the pontoons for future precast deck panels that will form the roadway of the new SR 520 floating bridge. Construction on the \$367 million SR 520 Pontoon Construction Project broke ground in February 2011 in Aberdeen. Construction on the \$586.6 million SR 520 Floating Bridge and Landings Project began in spring 2012. The floating bridge contract requires the new six-lane SR 520 floating bridge to open to traffic by July 2015. The latest jobs report counted 832 jobs directly connected to the pontoon and floating bridge project sites in Aberdeen, Tacoma, Kenmore, Bellevue and Lake Washington. Project information is available at www.wsdot.wa.gov/Projects/SR520bridge.