



LOCATION

Tillamook, OR

OWNER

Oregon Department of Transportation (ODOT)

GENERAL CONTRACTOR

Oregon State Bridge Construction, Inc.

ENGINEERS

OTAK, Quincy Engineering

COMPLETION DATE

2018

CATEGORY

Load Reduction



Project Spotlights: US 101 and HWY-6: Load Reduction



ABOUT THE PROJECT

The Hoquarton Slough in Tillamook, OR is an area of tidal flats next to downtown. It gets especially congested during the tourist season. The Oregon Department of Transportation (ODOT) determined the old three-lane bridge over Hoquarton Slough was in need of repairs, and because of traffic demands, a new four-lane bridge was contracted in 2015. A number of obstacles in the new bridge-building process was evaluated: being in close proximity to existing businesses at risk of sinking, poor soil conditions surrounding each end of the bridge, and the contaminated soils from years of adjacent property used in the lumber industry. Low-density cellular concrete (LDCC) was then chosen as the load reduction material for each bridge approach because its track record as a load-reduction method has been successfully used since the 1970s.

THE SOLUTION

Cell-Crete was subcontracted in 2016 to pour approximately 12,000 CY over the duration of 2.5 years. LDCC was poured under from each of the bridge approaches up to the bridge abutments. For the wing walls, through the general contractor, Cell-Crete suggested using a gabion-basket-style wall system to replace the sheet pile that was planned to stay in place. This saved time and money through a VE Alternate. The overall load reduction used an approximately net-zero added load not including a factor of safety. Cell-Crete used a maximum 30 PCF (pounds per cubic foot) mix to achieve the needed load design.