Communication

Hood Canal Bridge Project Team

The ultimate goal of the Hood Canal Bridge Project Team is to administer a world-class project to replace the Hood Canal Bridge. Meet one of the people who makes it all happen.

Jessica Plante, *Technical Services Engineer, Hood Canal Bridge Project Team*

Jessica joined the Hood Canal Bridge (HCB) Project Team in June 2007 after receiving her bachelor's degree in mechanical engineering from Virginia Tech. Her main project responsibilities include processing requests for information (RFIs) and requests for change (RFCs) received from Kiewit General (K-G). She is responsible for ensuring the accuracy of all the mechanical and truss fabrication information on the RFIs and RFCs.

Jessica's first experience in construction was as a flagger for Kitsap County. She enjoyed the work but wanted to further her experience while having a positive effect on her community. During her final summer break from college, she interned at Parametrix, Inc. in Bremerton, Wash., reviewing stormwater and wastewater plans. Her education, prior construction related experiences, attention to detail, cooperative nature, interest and growing expertise in transportation projects and desire to gain new construction and engineering knowledge, made her the ideal candidate for her challenging position on the HCB Team.

Outside of work, Jessica stays active and enjoys the outdoors. She is a downhill skier, is currently learning to snowboard and recently started mountain biking. She also likes to go for runs on the boardwalk in Tacoma. Besides playing in the sunshine, Jessica enjoys traveling. Her ultimate goal is to travel the world and learn about other cultures. This young engineer has already explored much of the United States and will soon travel to Italy to visit her parents.

Project responsibilities: Researching and ensuring all mechanical and truss fabrication information is correct on the RFIs and RFCs

Questions? 253-305-6407 or PlantJe@consultant.wsdot.wa.gov

Next Month's Activities

Work continues on the west truss of the Hood Canal Bridge. The truss is expected to be completed in April 2008. The 270-foot-long truss will connect the bridge's floating pontoons to an approach span in Jefferson County. Feb. 21, 2008.

Pontoon Construction

- Ironworkers will work on placing slab post-tensioning duct and rebar on pontoon U.
- Crews from K-G will finish placing interior and exterior wall curtains on pontoon W.

East-half Assembly, Outfitting and Testing

- Crews from K-G will begin grouting the tendons for draw span pontoons ZC and ZD.
- Crews will begin setting forms for the maintenance ramp on the draw span assembly.
- K-G crews will place rebar and embeds for the control tower's second floor.

West-half Leak Detection System

- Electrical work is suspended but is scheduled to restart May 1.

Transition Span and Lift Fabrication

- Work on the transition span and lift fabrication is expected to be put on hold so crews at Oregon Iron Works can shift their efforts to west truss grating drilling and bolting operations. The west truss is expected to be completed in April 2008.

Hood Canal Bridge Retrofit and East-half Replacement Project

East-half Replacement: 2009
West-half Retrofit: 2010

Q. Where is the bridge?

A. The Hood Canal Bridge is located between Kitsap and Jefferson counties at the mouth of the Hood Canal.

Q. Why is it important?

A. It serves as a vital economic and social link between the greater Puget Sound and the Olympic Peninsula.

Q. What is WSDOT doing?

A. The Washington State Department of Transportation is improving this lifeline by replacing the east-half floating portion of the bridge, replacing the east and west approach spans, replacing the east and west transition truss spans and updating the west-half electrical system. The project completion estimate is 2010.

Q. What can drivers do to stay informed?

A. Sign up to receive the latest news regarding the Hood Canal Bridge Project and other related area transportation news in your e-mail. Visit ***www.HoodCanalBridge.com****.*

This report highlights updated Hood Canal Bridge Project information from **March 1 – 31, 2008.**

For more information about the Hood Canal Bridge Project visit the project web site, **www.HoodCanalBridge.com**, or contact project staff:
Theresa Gren, *Communication Manager*
(253) 305-6428, grent@wsdot.wa.gov

Dave Ziegler, *Principal Engineer*
(253) 305-6424, ziegled@wsdot.wa.gov

Washington State Department of Transportation

EAST-HALF REPLACEMENT COMPLETION GOAL: 2009
WEST-HALF RETROFIT COMPLETION GOAL: 2010

Monthly Report

March 2008

Hood Canal Bridge Retrofit and East-Half Replacement Project

Large photo: The west truss assembly construction is making progress toward completion, the grating that will be its roadway was recently installed. March 19, 2008. Inset photos: (Left) An Oregon Iron Works (OIW) crewmember machines a section of the trusses' bottom chord. Aug. 27, 2007. (Center) Crews watch as a side of the west truss is raised into place at OIW. Jan. 10, 2008. (Right) Here's what the new west truss will look like when it is put in place during the May-June 2009 closure. Photo illustration created Sept. 16, 2006.

Project Delivery

Heavy metal rises as truss work progresses

Significant progress on the Hood Canal Bridge's new west transition span occurred in March 2008, bringing overall span work at Oregon Iron Works (OIW) in Vancouver, Wash. to 56 percent complete.

The bridge's east and west transition spans (or trusses) are coming up on the half century mark and will be replaced with new structures.

The Hood Canal Bridge's new trusses will connect the pontoons to the fixed approach structures on land. The east and west spans will rotate up and down, allowing the pontoons to adjust to the waterway's 16.5-foot tidal swings.

In March, OIW crews continued fitting the top decking on the west truss as well as welding and fabrication work, and painting the upper frame. The west truss — measuring approximately 280 feet long, 70 feet wide and 35 feet tall — is expected to be finished in April 2008.

OIW crews will then move the gigantic span, which features supporting chords, struts and diagonals ranging from 20-42 inches in diameter, out of the expansive work space and begin major assembly operations on the east span. They will also begin work on the east and west A-frames, which are tubular-framed structures that will be attached to the pontoons and support the trusses.

The trusses will be shipped by barge to the Hood Canal site — and in the interest keeping to the six-week closure timeline — will arrive fully assembled. They will be raised on supports and floated into place at high tide. As the tide goes out, the spans will slowly descend and crews will use jacks to precisely move them into place.

They will be larger than the existing spans and able to accommodate the wider roadway. Furthermore, changing the shape of the trusses' frames from a standard I-beam to a tubular design — modeled after those used on oil rigs — will better handle stress on the structures as they adjust to the harsh marine environment.

Accountability

Preparing the new bridge for a battle against corrosion

The Hood Canal Bridge faces an adverse existence. From winter storms, high winds and crashing waves to tidal swings of up to 16.5 feet, the world's longest floating bridge over saltwater is constantly tested.

The majority of the battle against the elements takes place daily beneath the surface of the 340-foot-deep canal, where iron, steel and concrete defends against the highly corrosive nature of saltwater. In this contest, armor is everything and as a result, WSDOT designers took innovative measures to protect the 1.5-mile bridge – from the bottom up.

On the canal floor, the use of zinc and induced electrical currents help prevent corrosion of the anchors' connecting cables that maintain the alignment of the floating bridge. The protection starts with the anchor cables being charged with a small electrical current, called cathodic protection, which helps them resist oxidation. The 3-inch thick cables are also ringed at their base by a necklace of 50-pound beads which negate friction between the cable and anchor as the bridge constantly adjusts to conditions above.

Some of the beads serve another vital purpose.

The necklace includes 12-inch long zinc beads, or "jewels," which further combat corrosion of the anchor cables. These "sacrificial" zinc anodes attract the oxidation process, essentially keeping rust away from both the steel cables and iron beads.

Heading to the surface, everything from the pontoons, piping, machinery and roadway to the box girders, trusses, roller guides and lift spans also required special protective steps.

Stainless steel piping was used throughout the bridge's new draw span pontoons to prevent corrosion of the hydraulic system. But because stainless steel is very expensive and it was not feasible to use for all steel components, the Hood Canal Bridge Project Team had to develop other preserving strategies for steel structures as well.

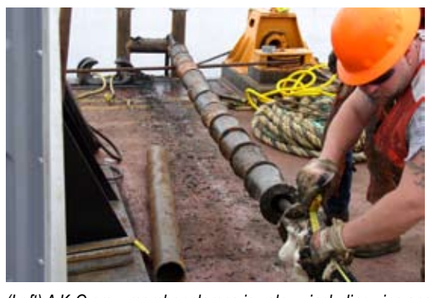
Winter weather pounds the Hood Canal Bridge, reemphasizing why the structure is built to resist corrosion. Feb. 19, 2007..

WSDOT designers used weathering steel for the bridge's major structural steel components. A galvanized coating with three coats of paint further protect the bridge. Normally, steel structures built to withstand marine environments are either galvanized or painted. The Hood Canal Bridge features both methods, employing a three-coat system with galvanizing that further protects it against corrosion.

Even parts of the bridge that are sealed away from the saltwater and weather were built to withstand the elements.

WSDOT used epoxy-coated rebar extensively to build the 14 new pontoons. The concrete which covers the rebar is between 1.5 and 2 inches thick, providing additional protective cover. The concrete was formulated to prevent rebar and other steel components from being exposed to corrosive salt.

The new Hood Canal Bridge will stand up to the extreme conditions it will face each day and be able to perform as designed for decades to come because WSDOT took such preventative measures.



(Left) A K-G crew member clamps jewelry – including zinc anodes – onto an anchor necklace. May 2005. (Center) Epoxy-coated rebar covered with concrete is designed to protect the bridge's mechanical and electrical. Sept. 11, 2006. (Right) Charging anchor cables with a small electrical current provides cathodic protection and resistance against rust. Sept. 11, 2006

Performance Measures: Constituent Correspondence

The Hood Canal Bridge Project Team is dedicated to keeping the public in the loop concerning project information and bridge work or closures.

To ensure residents, local governments and business are aware of much of the news before it happens, the team takes proactive measures, posting information at www.HoodCanalBridge.com, sending updates via an extensive e-mail distribution list, updating the Hood Canal Bridge Project information line and responding to public e-mail questions within three days and phone calls within one day.

During March, the Hood Canal Bridge Project Team edited the Web site nearly 60 times, responded to seven community member questions, gave three presentations, provided a tour of the construction site at Concrete Technology Corporation, and successfully sent two e-mail project updates to 1,002 community members.

Constituent correspondence is one of the primary methods the Hood Canal Bridge Project Team uses to reach out educate the public.

Residents are encouraged to ask questions and further their knowledge of the project as the May-June 2009 bridge closure nears. If you have any questions regarding the project or would like to arrange a tour or presentation for your organization, visit www.HoodCanalBridge.com.

Financial Status

Project Cost Summary

Period Ending March 31, 2008

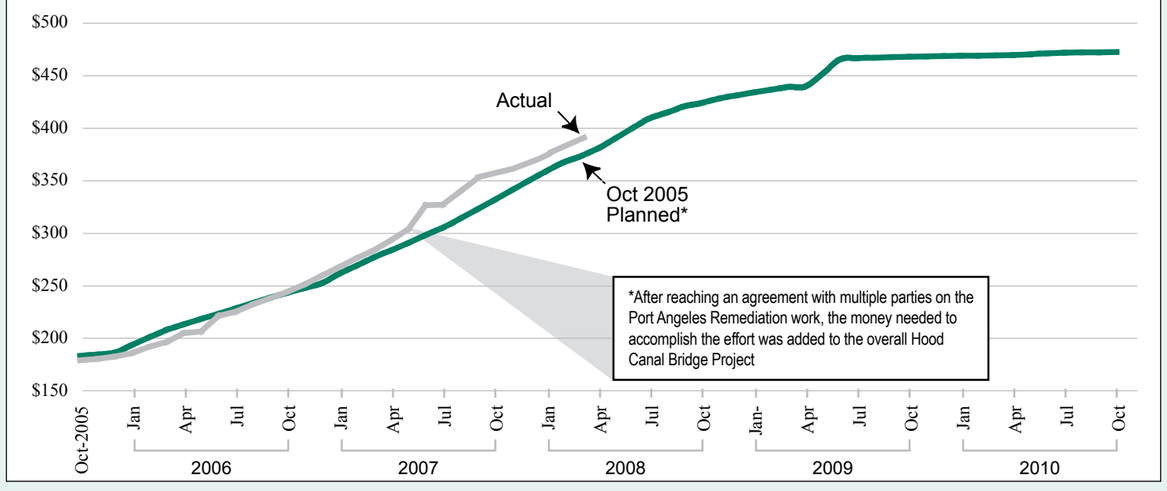
CATEGORY	BUDGET	EXPENDED
Original Commitments		
Port Angeles	$82,741,000	$82,893,000
Bridge Site Work	$41,594,000	$40,836,000
Work in Progress	$81,728,000	$76,937,000
Subtotal Original Commitments	$206,063,000	$200,666,000
Modified Commitments		
WSDOT Construction Management	$32,036,000	$17,995,000
Bridge Closure Mitigation	$9,644,000	$1,418,000
New Facilities & Bridge Construction	$223,225,000	$164,044,000
Subtotal Modified Commitments	$264,905,000	$183,457,000
PAR - Port Angeles Remediation		
PAR - Construction & Engineering	$2,300,000	$2,116,000
PAR - Design Engineering	$1,500,000	$835,000
PAR - Settlement & Other Costs	$3,040,000	$2,657,000
Subtotal Port Angeles Remediation	$6,840,000	$5,608,000
Project Total	$477,808,000	$389,731,000

K-G crews place rebar and forms on pontoon U. March 20, 2008.

Planned vs. Actual Expenditures

Total Project Cost, Dollar (millions).

Period Ending March 31, 2008



Source: WSDOT Hood Canal Bridge Project Office