



STATE ROUTE 520

CONSTRUCTION PROGRESS REPORT JULY 2015



Floating Bridge and Landings (FB&L): Columns and precast panels



West Approach Bridge North (WABN): Curb placement at Montlake Blvd



WABN: Shaft 25b excavation



FB&L: Pontoon J rock ballasting



FB&L: Conduit under bridge deck



WABN: Conduit installation on Foster Island

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** Note: The *State Route 520 Construction Progress Report* is no longer publishing monthly updates for the Pontoon Construction Project and the Eastside Transit and HOV Project as major construction work on those two projects has ended. Please see the April 2015 *Construction Progress Report* for the final updates on those two projects.

Executive Summary

EXECUTIVE OVERVIEW

The SR 520 Bridge Replacement and HOV Program will improve safety and reliability throughout the SR 520 corridor, from I-5 in Seattle to the Eastside. Projects currently under construction include the new six-lane SR 520 floating bridge, the new six-lane Eastside corridor that includes culverts, improved transit facilities and lids, pontoon construction in Aberdeen, and the new west approach bridge for westbound traffic. Future work includes replacing the Portage Bay Bridge, building a new west approach bridge for eastbound traffic, building lids in Seattle, and connecting a bicycle/pedestrian path from the floating bridge to local and regional trails in Seattle.



FB&L: Work continues on the east high-rise



Map of SR 520 Bridge Replacement and HOV Program

CURRENTLY FUNDED PROGRAM

We are currently funded to move forward with:

- Constructing a new, safer floating bridge
- Building the north half of the new west approach bridge, and connecting six lanes of traffic and the regional shared-use path from the Montlake interchange to the new floating bridge.
- Continuing to design the remaining elements of the west side of the corridor in Seattle, and then proceeding with construction.

PROGRAM STATUS

Floating Bridge and Landings (FB&L):

At Medina, concrete finish work continued on the eastbound north transition span barrier. At the east approach, crews fabricated noise wall panels. On Lake Washington, crews continued work on the low-rise portion of the bridge, pouring pontoon E, D, L and H columns. At the bridge maintenance facility, crews installed HVAC ducts, system controls, electrical panels and lights.

West Approach Bridge North (WABN):

Through July 31, the contractor has installed 37 bridge casings at 18 pier locations and constructed 20 drilled shafts at Piers 16-19, 21-23, and 25-26. In July, the contractor placed deck concrete for closure pour between the existing Union Bay Bridge and the new westbound off-ramp to Montlake Boulevard. On land, the contractor continued sidewalk replacements on Montlake Boulevard, signal pole installation, drainage work, installation of Intelligent Transportation System (ITS) conduit, pedestrian path preparation, and widening of Montlake's eastbound on- and off-ramp to SR 520.



FB&L: Camera installation for the westbound temporary tolling gantry

MAJOR RISKS

Notable major risks that could delay the program or increase costs include:

- Inflation costs for labor, materials and equipment.
- New requirements or contract changes required by local communities, regulatory groups or agencies.
- FB&L coordination with the WABN project at Pier 36 and the west side staging area.
- Geotechnical difficulties.
- A lengthy commissioning process that impacts the floating bridge open-to-traffic date.
- Potential for damage to the new bridge during the demolition of the old bridge.

UPCOMING MILESTONES

- **Floating Bridge and Landings:** At Medina, crews will continue work on Piers 1-3, applying pigment sealer, grouting post-tensioning (PT) ducts and installing reinforcement steel. At Lake Washington, crews will continue longitudinal joining, high-rise and low-rise bridge assembly. At the bridge maintenance facility, crews will test the HVAC system and continue the installation of passenger and freight elevators. At Kenmore, crews continue work on precast deck panels, stressing PT tendons and grouting ducts.
- **WABN:** The contractor will open a new, two-lane off-ramp to Montlake Boulevard. Crews will continue fabrication of the shaft rebar cage at the former Museum of History and Industry (MOHAI) yard. At Montlake Boulevard, crews will complete most of the sidewalk and local street improvements. At the 24th Avenue extension, crews will begin mass excavation.

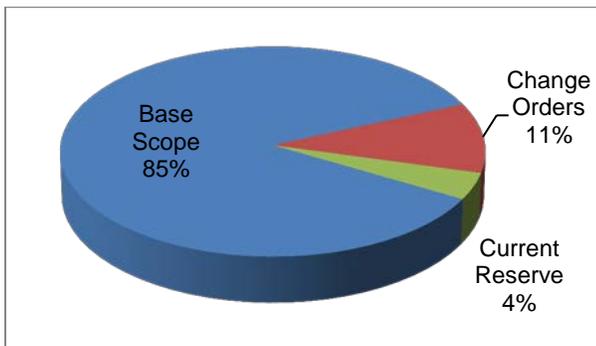
Total Program

	Total Budget	Actuals to Date	Remaining
SR520 Program Totals*	\$4,562,210,704	\$2,302,471,106	\$2,259,739,598
Funded Program	\$4,562,210,704	\$2,302,471,106	\$2,259,739,598
Row Labels			
Federal	\$498,134,693	\$336,327,733	\$161,806,960
FEDERAL GRANT FUNDS	\$3,000,000	\$3,000,000	\$0
FEDERAL FORMULA FUNDS	\$179,952,810	\$122,946,486	\$57,006,324
HIGHWAY SAFETY IMPROVEMENT	\$14,015,000	\$14,015,000	\$0
OUTDOOR ADVERTISING-INTERSTATE	\$855,000	\$855,000	\$0
STATE MATCHING (FUND 880)	\$311,883	\$311,883	\$0
TIFIA (USDOT - TIFIA LOAN)	\$300,000,000	\$195,199,364	\$104,800,636
Local	\$2,303,701	\$1,928,596	\$375,105
LOCAL PROJECT(CURRENT)	\$2,303,701	\$1,928,596	\$375,105
State	\$3,902,372,310	\$1,964,214,777	\$1,938,157,533
TRANSPORTATION PARTNERSHIP ACCOUNT (TPA)**	\$535,732,598	\$389,667,476	\$146,065,122
NICKEL ACCOUNT STATE DOLLARS	\$52,243,840	\$52,243,840	\$0
CONNECTING WASHINGTON	\$1,642,000,000	\$0	\$1,642,000,000
SR520 CORRIDOR	\$549,032,022	\$549,032,022	\$0
SR520 GARVEE	\$924,612,501	\$924,612,501	\$0
SR520 TRIPLE BACKED BOND SECOND SALE	\$110,906,800	\$0	\$110,906,800
Toll Revenue	\$70,271,057	\$45,984,118	\$24,286,939
SR520 Civil Penalties Account***	\$15,000,000	\$101,327	\$14,898,673
STATE FUNDS	\$2,573,492	\$2,573,492	\$0
Deferred Sales Tax	\$159,400,000		\$159,400,000
DEFERRED SALES TAX*	\$159,400,000		\$159,400,000

* Deferred sales tax currently represents the "Toll funded Program"

**TPA Includes \$10M from ESSB 6001 for west side *design development*

*** \$15M Included for Civil Penalties



Cumulative Reserve	\$434,100,000
July Change Orders	\$1,683,600
Previous Change Orders	(\$312,102,581)
Right of Way Settlements	(\$3,777,010)
Current Reserve	\$119,904,009

Floating Bridge and Landings Project

FLOATING BRIDGE AND LANDINGS

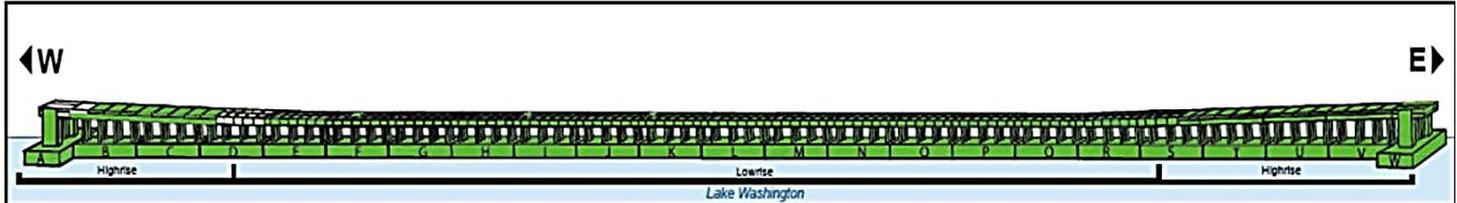
The SR 520 Floating Bridge and Landings (FB&L) Project will replace the existing, vulnerable four-lane structure with a new six-lane bridge that can withstand windstorms of up to 89 miles per hour. The new six-lane facility will include a bicycle/pedestrian path and a bridge maintenance facility on the east end. The project includes construction of 44 supplemental stability pontoons in Tacoma.



FB&L: Pier 36 from Pontoon B

Original Engineers Estimate	\$640,769,000
Bid Price	\$586,561,000
Change Orders to date	\$168,810,995
Current Contract Value	\$755,371,995

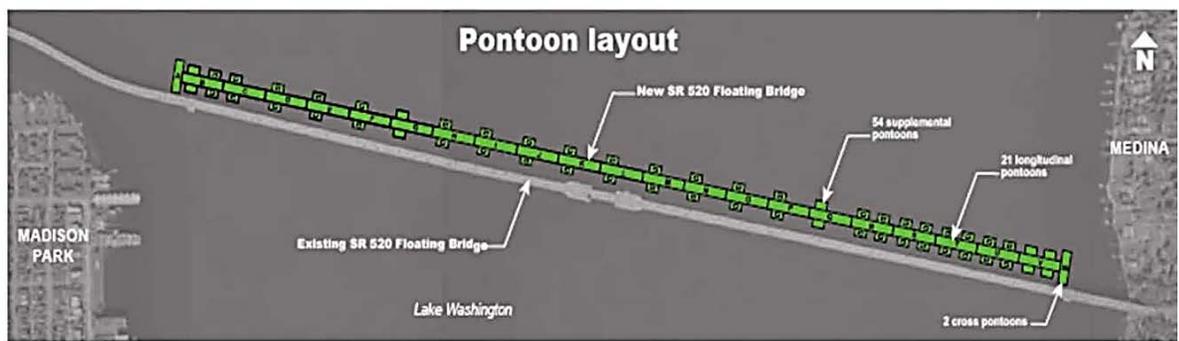
Pontoon tracking on Lake Washington, 7/30/15



GRAPHIC KEY AND FACTS

- 778 low-rise roadway deck sections
- 23 high-rise roadway deck spans
- 331 girders
- 771 columns
- 21 longitudinal pontoons + 2 cross pontoons

In Final Location
 Construction Complete
 Under Construction
 Future Construction



- Low-rise roadway deck includes pre-cast deck panels being constructed in Kenmore.
 - 778 out of 778 pre-cast deck panels have been constructed. 744 of 778 have been placed.
- High-rise roadway deck includes girders and cast-in-place deck.
 - 23 out of 27 cast-in-place deck spans have been constructed.
 - 331 out of 331 girders have been constructed. 318 of 331 have been placed.
- The number of columns shown is a representation of the total number of columns.
 - 771 out of 771 columns have been installed.
- Current number of pontoons on Lake Washington: 77
- Total number of pontoons constructed to date: 77
- Pontoons currently under construction: 0

Note: not to scale, for illustrative purposes only

JULY ACCOMPLISHMENTS

Floating Bridge: Longitudinal pontoon joining continued, crews tensioned PT bolts between pontoons A and B, grouted and painted PT bolts between pontoons D and E, and continued work on low-rise and high-rise bridge superstructure construction.

Bridge maintenance facility: Crews installed HVAC ducts, system controls, electrical panels and lights.

Medina area: Concrete finish work continued on the eastbound north transition span barrier. At the east approach, crews fabricated noise wall panels.

RISK

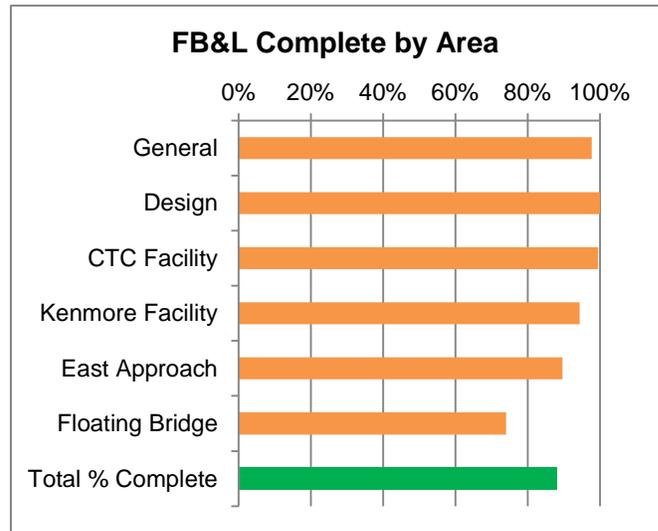
West Approach Bridge North (WABN) construction is underway with work progressing toward the FB&L work area. Coordination will continue to be a priority between contractors and WSDOT project offices.

The design-builder has begun the process of grinding the bridge deck for smoothness. It is critical that the grinding be completed to achieve good driving feel (ride smoothness), provide proper slope for drainage and maintain minimum concrete cover over bridge deck reinforcement.

Removal of the existing bridge will begin after traffic is switched to the new bridge. Good planning and execution of the removal plan is critical to ensure the removal operation does not damage or impact the new bridge.

There have been environmental concerns regarding project use of the Kenmore site. WSDOT is monitoring the situation. Continued use of the Kenmore site is critical to completing the floating bridge on schedule.

Commissioning of the new floating bridge is a complex and potentially time-consuming process and is on the critical path to switching traffic to the new bridge. Traffic cannot be switched to the new bridge until commissioning is completed to ensure all systems are in working order and safe for public use.



FB&L: Pontoon BCD "raft" moving for alignment on mainline

JULY COSTS

Preliminary engineering is complete. The right of way budget is complete. The total actual cost to date from the contractor is 88 percent of the budget.

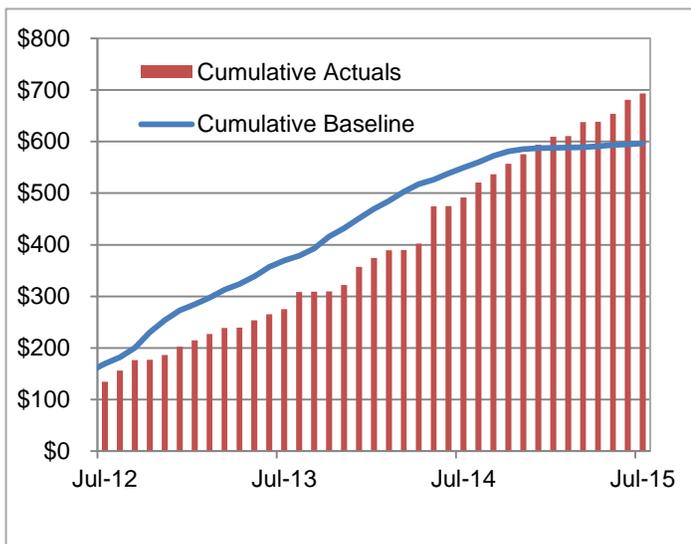
	Current Budget	Actuals to Date	Remaining Budget
Floating Bridge and Landings Construction Project Totals	\$835,618,593	\$739,386,886	\$96,231,707
Preliminary Engineering	\$10,659,063	\$10,659,063	\$0
Right of Way	\$4,426,535	\$3,770,680	\$655,855
Construction	\$820,532,995	\$724,957,143	\$95,575,852
Current Contract Value	\$755,371,995	\$668,858,168	\$86,513,827
Agreements	\$35,814,857	\$32,235,517	\$3,579,339
Construction Engineering	\$21,606,143	\$17,155,331	\$4,450,813
State Force Work	\$60,000	\$3,270	\$56,730
State Materials	\$0	\$0	\$0
Vendor Supplied Materials	\$7,680,000	\$6,704,857	\$975,143

Cost information through July 31, 2015

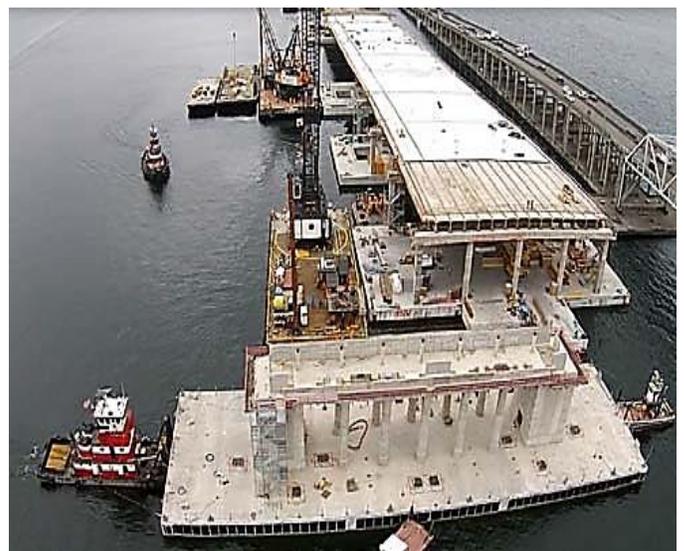
JULY CHANGE ORDER SUMMARY

There were four change orders executed in July with a net credit of **(\$60,000)**. Change orders total \$168,810,995 for the FB&L project at the time of this report.

JULY PERFORMANCE



Cumulative actuals are above the baseline for July



FB&L: Moving Pontoon A (in foreground) into final position

SUMMARY SCHEDULE

The contractor's current schedule submittal is showing on-time substantial completion by April 28, 2016, consistent with the revised contract date.

Milestone	Revised Contract Date	Actual/Trend
Notice to Proceed 1 - Design Initiated	9/1/2011	9/1/2011
Notice to Proceed 2 - Site Construction Start	9/1/2011	9/1/2011
Pier 36 Construction	11/15/13	8/23/2013
Substantial Completion	4/28/2016	On Time
Physical Completion	2/22/2017	Early

JULY QUALITY SUMMARY

“Audits – Actual” are audits performed by WSDOT Quality Verification staff on the design-builder’s compliance with contract requirements.

“Nonconformance Reports” are incidents recorded by the design-builder’s quality inspection staff that do not appear to be constructed in accordance with the approved drawings and specifications.

“Nonconformance Issues” are incidents recorded by WSDOT’s Quality Verification staff due to an audit finding based on their observance of the work.

	Previous Total	Current Period	Project Total	Open	Closed
Audits - Actual	3494	98	3592	41	3551

	Previous Total	Open	Current Period	Avg. Time Open
Nonconformance Reports (NCR)	343	51	3	433 days
Nonconformance Issues (NCI)	876	46	6	127 days

JULY SAFETY SUMMARY “Recordable Incidents” are job-related safety incidents that have been recorded.

“Lost Time Incidents” are job-related safety incidents that result in personnel not being able to work.

“Contract Days without an Incident” are the number of days since a lost-time incident has occurred.

Design-Builder	Previous Total	Current Period	Project Total
Recordable Incidents	37	0	37
Lost Time Incidents	4	0	4
Contract Days without an Incident	21	31	52

JULY ENVIRONMENTAL SUMMARY

“Noncompliance Event (ECAP)” is an action not in compliance with environmental standards, permits or laws.

“Minor Environmental Event” is an environmental impact that does not meet the requirements to become an ECAP.

	Previous Total	Current Period	Total
Noncompliance Event (ECAP)	53	0	53
Minor Environmental Event	48	2	50

On 7/7/15 a Minor Environmental Event occurred. A hydraulic hose broke on a manlift working on a barge. Approximately one cup of hydraulic fluid spilled into the containment below the equipment. None of it entered the lake. The equipment was immediately shut down, the hoses were replaced and the spilled fluid was cleaned up.

On 7/30/15 a Minor Environmental Event occurred. A hose failed on the grout mixer being used for the bolt sleeves on the joining operation. Approximately ¼ cup of hydraulic fluid sprayed out. All of the fluid was contained and none of it entered the lake. The hose was replaced and because none of the fluid entered the lake, resource agencies did not need to be notified.

West Approach Bridge North Project

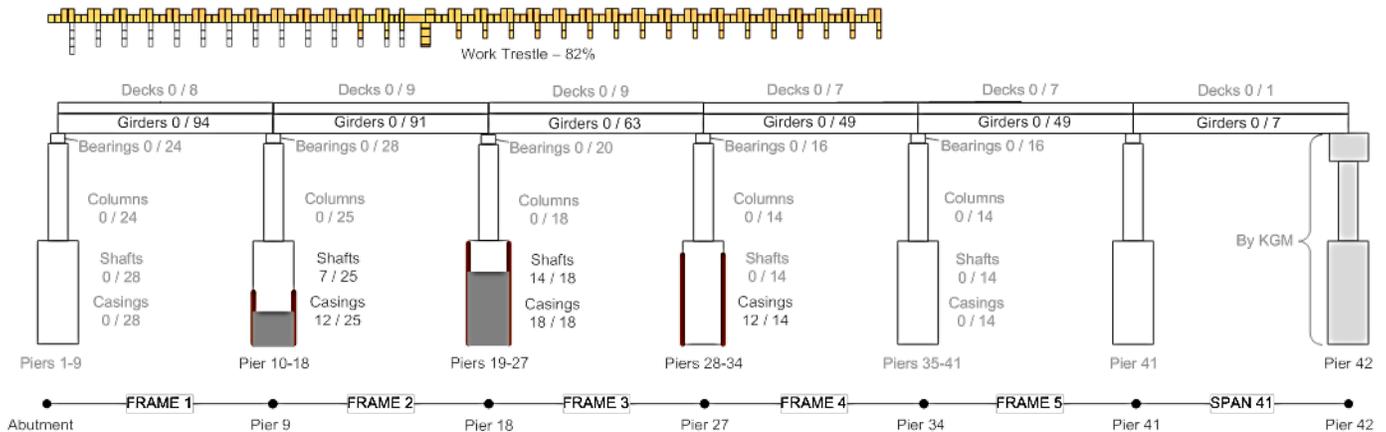
CONSTRUCTION OVERVIEW

The West Approach Bridge North Project (WABN), the first stage of western landings for the new SR 520 floating bridge, continues WSDOT's commitment to replace vulnerable structures and improve mobility for motorists. The new approach bridge, more than 6,000 feet long, will support a six-lane highway corridor and a regional shared-use path for bicyclists and pedestrians between the new floating bridge and Montlake. The WABN project will also greatly benefit the local built and natural environment by improving stormwater treatment, employing noise reduction measures, mitigating for wetland and aquatic impacts, and improving the Arboretum and local parks.



WABN: Fabrication of shaft 25b rebar cage

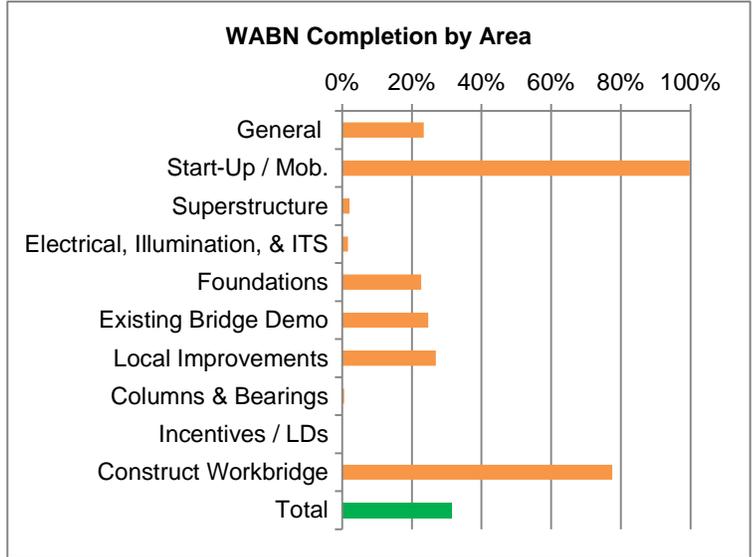
Original Engineers Estimate	\$209,905,587
Bid Price	\$199,537,371
Change Orders to date	(\$301,169)
Current Contract Value	\$199,236,202



West Approach Bridge North progress tracker as of July 31, 2015

JULY ACCOMPLISHMENTS

Through July 31, the contractor has installed 37 bridge casings at 18 pier locations and constructed 20 drilled shafts at Piers 16-19, 21-23, and 25-26. In July, the contractor placed deck concrete for closure pour between the existing Union Bay Bridge and a new westbound off-ramp to Montlake Boulevard. On land, the contractor continued sidewalk replacements on Montlake Boulevard, signal pole installation, drainage work, installation of ITS conduit, pedestrian path preparation, and widening of Montlake's eastbound on- and off-ramps to SR 520.



RISK

- Environmental noncompliance events
- Procurement of seismic isolation bearings
- Steel piling material traceability and certification
- Expansion joint procurement



WABN: Excavation for new off-ramp to Montlake Boulevard

JULY COSTS

The preliminary engineering and right of way phases are nearly complete; final costs are being recorded. There have been 10 payments made to the contractor through July 2015.

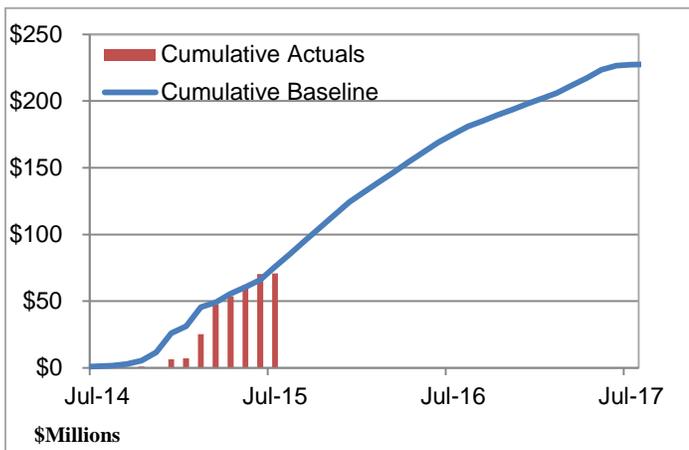
	Current Budget	Actuals to Date	Remaining Budget
West Approach Bridge North Project Totals	\$252,022,294	\$108,593,806	\$143,428,488
Preliminary Engineering	\$26,485,353	\$26,485,353	\$0
Right of Way	\$4,730,000	\$4,211,235	\$518,765
Construction	\$220,806,941	\$77,897,218	\$142,909,723
Current Contract Value	\$199,236,202	\$70,427,362	\$128,808,840
Agreements	\$7,928,281	\$3,318,903	\$4,609,378
Construction Engineering	\$13,478,157	\$4,057,864	\$9,420,293
State Force Work	\$10,301	\$10,301	\$0
State Materials	\$0	\$0	\$0
Vendor Supplied Materials	\$154,000	\$82,788	\$71,212

Cost information through July 31, 2015

JULY CHANGE ORDER SUMMARY

There were six change orders executed in July with a net value of **(\$1,598,600)**. Change orders total **(\$301,169)** for the WABN project at the time of this report.

JULY PERFORMANCE



Cumulative actuals are slightly below the baseline in July.



WABN: Signal pole installation along Montlake Boulevard

SUMMARY SCHEDULE

The fifth progress schedule update (June) was submitted on July 13, with a progress data date of 6/30/15, reviewed by the project team, and approved as noted on July 28.

Milestone	Contract Date	Actual/Trend
First Charged Working Day	9/11/2014	9/11/2014
Begin Access East of Pier 33	9/1/2015	9/1/2015
Begin Access to Floating Bridge	9/1/2016	9/1/2016
Bridge Open to Traffic	6/20/2017	6/20/2017
End of Working Days	11/3/2017	11/3/2017

JULY SAFETY SUMMARY

	Previous Total	Current Period	Project Total
Work-related injuries requiring first aid only	4	0	4
Work-related injuries resulting in transfers or restrictions	3	0	3
Work-related injuries resulting in days away from work	0	0	0

JULY ENVIRONMENTAL SUMMARY

“**Noncompliance Event (ECAP)**” is an action not in compliance with environmental standards, permits or laws.

“**Minor Environmental Event**” is an environmental impact that does not meet the requirements to become an ECAP.

	Previous Total	Current Period	Project Total
Noncompliance Event (ECAP)	46	6	52
Minor Environmental Event	0	0	0

On 6/28/15 a Noncompliance Event was identified. On June 28, the project team received noise complaints via telephone. Pure tone back-up alarms were the source for the noise complaint. The Temporary Noise Variance (TNV) requires the least intrusive broadband type back-up alarms. On both occasions, inspectors were able to confirm that pure tone alarms were active.

On 7/9/15 a Noncompliance Event was identified. Five to 10 gallons of drilling slurry leaked from a hose onto the work trestle and into Lake Washington.

On 7/13/2015 a Noncompliance Event was identified. About 1 gallon of drilling slurry leaked from a hose onto the work trestle. An estimated 1 cup or less entered Lake Washington.

On 7/14/2015 a Noncompliance Event was identified. About 5 gallons of drilling slurry leaked from a hose onto the work trestle. An estimated 2 gallons entered Lake Washington.

On 7/20/2015 a Noncompliance Event was identified. One 17-inch smallmouth bass was found dead near Pier 21. The dead fish was not project related.

On 7/27/2015 a Noncompliance Event was identified. Fifteen gallons of slurry leaked to the lake from drilled shaft casing 24B.

GLOSSARY OF FREQUENTLY USED PROJECT AND INDUSTRY ACRONYMS

ATM	Active Traffic Management
CCMP	Community Construction Management Plan
CIP	Cast-in-Place
CTC	Concrete Technology Corporation (SSP production site)
D-B	Design-Builder
DBIC	Design-Builder Initiated Change
Eastside	Eastside Transit and HOV Project
ECAP	Environmental Compliance Assurance Procedure
ECC	Eastside Corridor Constructors (Eastside Design-Builder)
ESA	Endangered Species Act
FB&L	Floating Bridge & Landings
FONSI	Finding of No Significant Impact
GH	Grays Harbor (Pontoon construction site)
HQ	WSDOT Headquarters
ITS	Intelligent Transportation System
K-G	Kiewit General, A Joint Venture (PCP Design-Builder)
KGM	Kiewit General Manson, A Joint Venture (FB&L Design-Builder)
M-A	Mowat American, A Joint Venture (WCB Contractor)
NCI	Non-Conformance Incident
NCR	Non-Conformance Report
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
NWR	WSDOT Northwest Region
PCI	Potential Change Issue
PCO	Potential Change Order
PCP	Pontoon Construction Project
PT	Post-Tensioning
QA	Quality Assurance
QC	Quality Control
RFI	Request for Information
RFP	Request for Proposal
ROD	Record of Decision
SPI	Schedule Performance Index is a performance index which equals
SSP	Supplemental Stability Pontoon
TCE	Temporary Construction Easement
TIFIA	Transportation Infrastructure Finance and Innovation Act
WABN	West Approach Bridge North
WCB	West Connection Bridge

For more information

Visit: www.wsdot.wa.gov/projects/SR520Bridge
E-mail: SR520Bridge@wsdot.wa.gov
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Mail: Washington State Department of Transportation
SR 520 Bridge Replacement and HOV Program
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