

**Recent Construction Highlights**

Flatiron Constructors Intermountain continued construction at Cantilever 4 WB, finished Abutment 6 WB backwall, and constructed Approach Slab 1 and 6 WB. The following is a summary of the construction progress for the last month.



**Figure 1 – Abutment 1 Approach Slab Construction – September 23, 2009:**

The ironworkers install the reinforcing for the approach slab at Abutment 1. This approach slab will service both the westbound and the eastbound bridges.



**Figure 2 – Abutment 1 Approach Slab Construction – September 28, 2009:**

The finishers begin to place the concrete for the approach slab at Abutment 1.

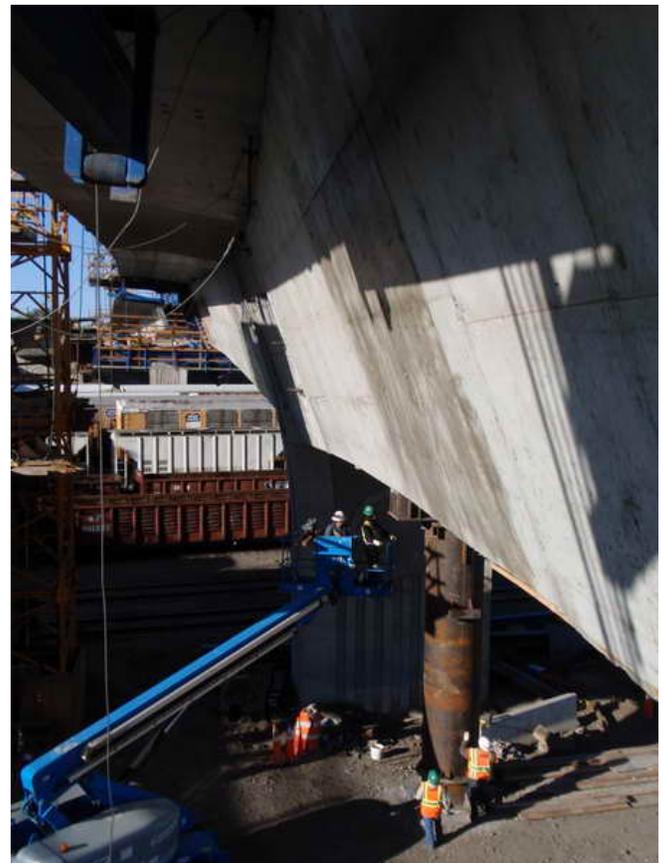


**Figure 3 – Cantilever 4 WB Segmental Construction – October 5, 2009:**

The post-tensioning superintendent and a worker pause the stressing operations for the stability prop diaphragm 1 3/4" diameter PT bars, as a BNSF coal train passes by below.

**Figure 4 – Cantilever 4 WB Segmental Construction – October 6, 2009:**

The stability prop is installed after stressing all of the horizontal PT bars in the stability prop diaphragm. Once the prop is engaged by jacking 750 kips of force into the cantilever, 286 kips of counterweights are placed on the deck to prevent uplift on the prop. The horizontal curvature of Cantilever 4 WB is becoming more noticeable in this picture.





**Figure 5 – Abutment 6 WB Approach Slab Construction – October 6, 2009:**  
Following casting of Abutment 1 approach slab, the forming begins for Abutment 6 WB approach slab. The eight conduits shown will be used for utilities (i.e. fiber optic cable) that will run within the box girder.

**Figure 6 – Span 2 WB Closure Joint Construction – October 7, 2009:**  
The external formwork is removed from the closure at Span 2 WB showing continuity between the end span and the cantilever.



**Figure 7 – Cantilever 4 WB Segmental Construction – October 12, 2009:**  
Cantilever construction continues over the BNSF and Union Pacific Railroads at Cantilever 4 WB.

**Figure 8 – Cantilever 4 WB Segmental Construction – October 13, 2009:**  
The ironworkers tie the bottom slab double anchor block reinforcing for Segment W4-6W. These blisters, located only in the main-span, will anchor two, twelve strand tendons each.



**Figure 9 – Cantilever 4 WB Segmental Construction – October 13, 2009:**  
A BNSF engine passes under Cantilever 4 WB, while the form traveler is positioned for casting Segment W4-6E. The stability prop is located to the right of the train and meets the BNSF temporary horizontal clearance requirement. The counterweights can be seen on the deck, as well.

**Figure 10 – Roadway Approach Construction – October 14, 2009:**  
One of the segment crew workers vibrates the bottom slab concrete for Segment W4-6W. The finished double anchor block can be seen behind him.





**Figure 11 – Cantilever 4 WB Construction – October 15, 2009:**  
The main-span form traveler is launched 16-feet closer to Cantilever 3 WB with the forming of Segment W4-7W. Pike's Peak is in the far background.



**Figure 12 – Cantilever 4 WB Segmental Construction – October 16, 2009:**  
Federal Highway Administration (FHWA) and CDOT Staff Bridge representatives visit the project and pose in front of the main-span form traveler.



**Figure 13 – Cantilever 4 WB Segmental Construction – October 20, 2009:**  
The UPRR storage tracks suddenly become vacant, as forming continues for Segment W4-7W in the main-span.  
These tracks have been occupied with empty train cars for most of the year.



**Project Summary:**

October 20, 2009  
 Day 674 of 1278

<b>Substructure Construction</b>	<b><u>To</u> <u>Date</u></b>		<b><u>Total</u></b>	<b><u>Unit</u></b>	<b><u>% Complete</u></b>
48" Diameter Drilled Shafts (Monuments)	3	of	4	Each	75%
48" Diameter Drilled Shafts (Abutments)	11	of	14	Each	79%
60" Diameter Drilled Shafts (Pier 2 & 5)	6	of	8	Each	75%
96" Diameter Drilled Shafts (Pier 3 & 4)	8	of	8	Each	100%
Type I Footings (Pier 2 & 5)	3	of	4	Each	75%
Type II Footings (Pier 3 & 4)	4	of	4	Each	100%
3'-6" Piers (Pier 2 & 5)	3	of	4	Each	75%
7'-1" Piers (Pier 3 & 4)	4	of	4	Each	100%
Abutments	1 1/2	of	2	Each	75%

<b>Superstructure Construction</b>	<b><u>To</u> <u>Date</u></b>		<b><u>Total</u></b>	<b><u>Unit</u></b>	<b><u>% Complete</u></b>
<b>Westbound</b>					
End Span CIP Westbound	2	of	2	Each	100%
Abutment Diaphragm Westbound	2	of	2	Each	100%
Pier Diaphragm Westbound	2	of	2	Each	100%
Pier Table Westbound	2	of	2	Each	100%
Cantilever 3 Segments Westbound	22	of	22	Each	100%
Cantilever 4 Segments Westbound	12	of	20	Each	60%
Closure Segments Westbound	1	of	3	Each	33%
<b>Eastbound</b>					
End Span CIP Eastbound	1	of	2	Each	50%
Abutment Diaphragm Eastbound	1	of	2	Each	50%
Pier Diaphragm Eastbound	1	of	2	Each	50%
Pier Table Eastbound	2	of	2	Each	100%
Cantilever 3 Segments Eastbound	0	of	22	Each	0%
Cantilever 4 Segments Eastbound	0	of	20	Each	0%
Closure Segments Eastbound	0	of	3	Each	0%



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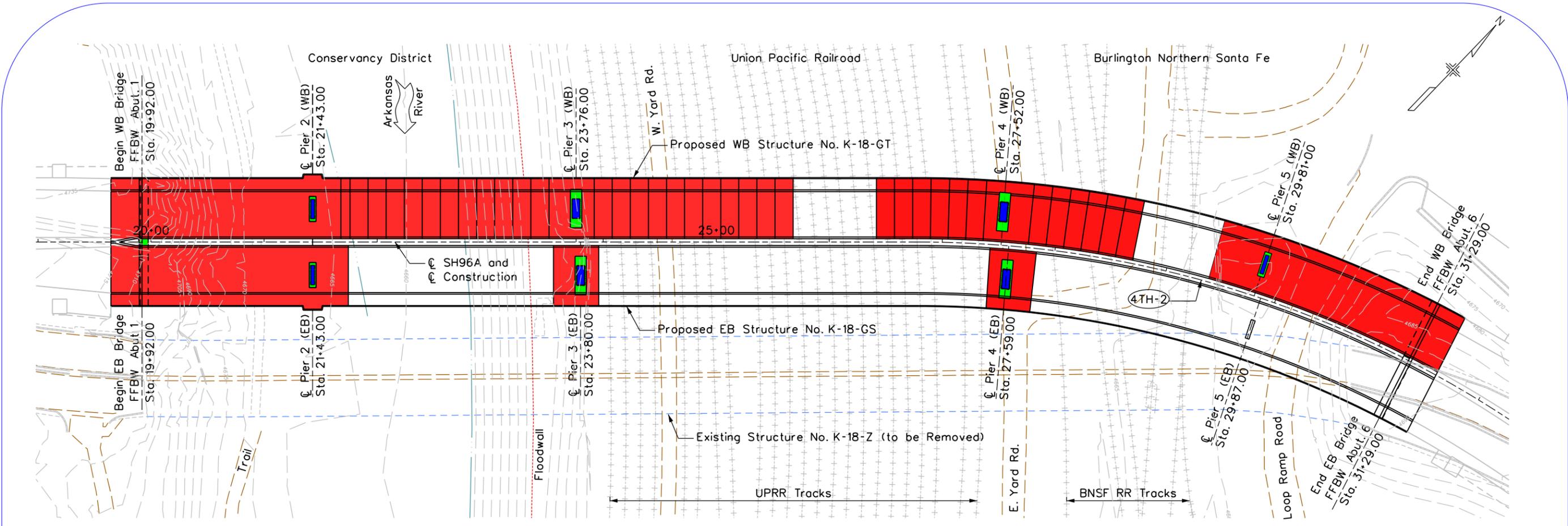
October 20, 2009  
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**Project Milestone Dates**

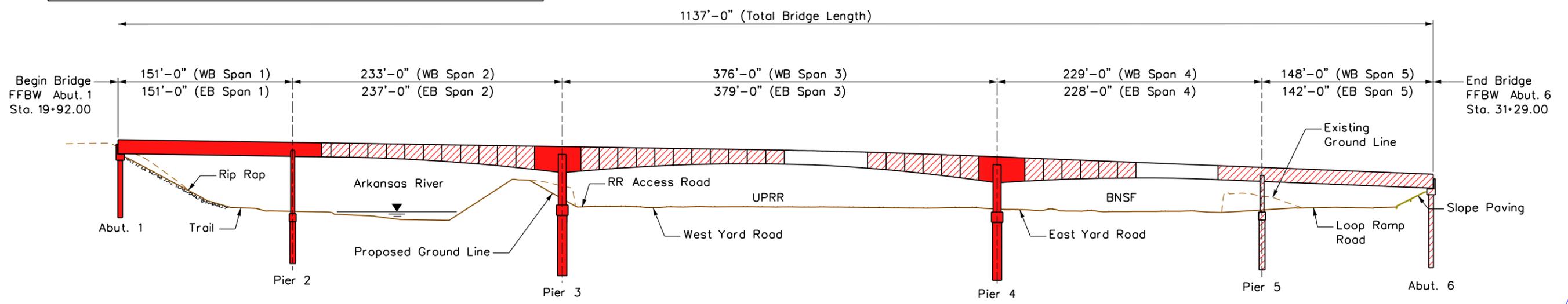
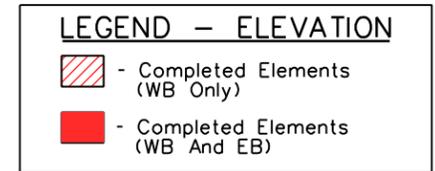
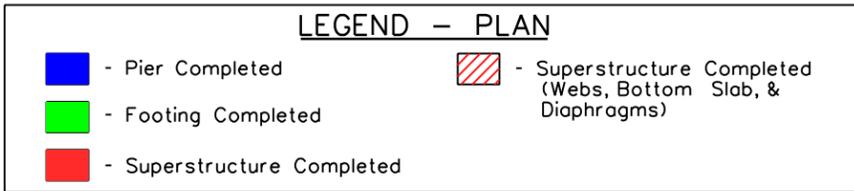
Milestone Event	April 2008 Baseline Finish Date	Actual
Project Award	October 18, 2007	October 18, 2007
Notice to Proceed	November 8, 2007	November 8, 2007
Abutment 1 Drill Caissons	February 15, 2008	February 15, 2008
Abutment 1 Cap Form/Rebar/Pour	March 6, 2008	March 6, 2008
Pier 2 EB Drill Caissons	March 3, 2008	March 3, 2008
Pier 2 WB Form/Rebar/Pour Footing	March 24, 2008	March 24, 2008
Pier 2 WB Column Form/Rebar/Pour	April 29, 2008	April 29, 2008
Pier 3 EB Drill Caissons	April 17, 2008	May 1, 2008
Pier 3 WB Form/Rebar/Pour Footing	May 15, 2008	June 4, 2008
Pier 3 WB Column Form/Rebar/Pour	July 1, 2008	August 5, 2008
Pier 4 EB Drill Caissons	May 8, 2008	July 1, 2008
Pier 4 WB Form/Rebar/Pour Footing	May 13, 2008	August 8, 2008
Pier 4 WB Column Form/Rebar/Pour	August 20, 2008	September 18, 2008
Pier 5 WB Drill Caissons	April 17, 2008	May 30, 2008
Pier 5 WB Form/Rebar/Pour Footing	April 21, 2008	June 12, 2008
Pier 5 WB Column Form/Rebar/Pour	October 21, 2008	July 11, 2008
Abutment 6 WB Drill Caissons	April 18, 2008	April 22, 2008
Abutment 6 WB Cap Form/Rebar/Pour	May 8, 2008	May 8, 2008
Span 1 WB Form/Rebar/Pour Bottom Slab/Webs/Diaphragms	June 17, 2008	August 29, 2008
Span 1 WB Form/Rebar/Pour Deck	July 8, 2008	October 10, 2008
Pier Table 3 WB Form/Rebar/Pour Bottom Slab	August 18, 2008	November 21, 2008
Pier Table 3 WB Form/Rebar/Pour Diaphragm & Webs	September 4, 2008	December 5, 2008
Pier Table 3 WB Form/Rebar/Pour Deck	October 7, 2008	December 31, 2008
Span 5 WB Form/Rebar/Pour Bottom Slab/Webs/Diaphragms	February 12, 2009	January 29, 2009
Span 5 WB Form/Rebar/Pour Deck	March 12, 2009	March 6, 2009
Form and Pour First Segment – W3-1E	November 19, 2008	February 16, 2009
Pier Table 4 WB Form/Rebar/Pour Bottom Slab	March 5, 2009	February 26, 2009
Pier Table 4 WB Form/Rebar/Pour Diaphragm & Webs	March 23, 2009	March 20, 2009
Pier Table 4 WB Form/Rebar/Pour Deck	April 23, 2009	April 15, 2009
Form and Pour First Closure – Span 2 WB	May 19, 2009	August 14, 2009
Span 1 EB Form/Rebar/Pour Bottom Slab/Webs/Diaphragms	October 7, 2008	June 10, 2009
Span 1 EB Form/Rebar/Pour Deck	October 27, 2008	July 10, 2009
Pier Table 3 EB Form/Rebar/Pour Bottom Slab	November 13, 2008	April 30, 2009
Pier Table 3 EB Form/Rebar/Pour Diaphragm & Webs	December 2, 2008	May 13, 2009
Pier Table 3 EB Form/Rebar/Pour Deck	January 9, 2009	June 18, 2009
Pier Table 4 EB Form/Rebar/Pour Bottom Slab	May 15, 2009	July 23, 2009
Pier Table 4 EB Form/Rebar/Pour Diaphragm & Webs	June 2, 2009	August 7, 2009
Pier Table 4 EB Form/Rebar/Pour Top Slab	June 30, 2009	September 10, 2009
Shift Traffic to New WB Structure	February 17, 2010	
Install Last Drilled Caissons – Abutment 6 (EB Only)	April 26, 2010	
Form and Pour Last Segment – E4-10E	October 12, 2010	
Form and Pour Last Closure – Span 3 EB	November 16, 2010	
Complete Structure and Final Traffic Configuration	March 4, 2011	

**All items are based on the April 2008 Baseline Schedule. All dates represent the “Finish” of the activity, unless otherwise noted.**

Cantilever construction has progressed at one pair of segments per week. Although several milestones dates were completed beyond the original date, Flatiron has stated that project completion will occur within contractual requirements.



PLAN



ELEVATION

