

ASSISTANT RESIDENT ENGINEER'S DAILY REPORT

CEM 4601 (REV 4/1999) CT# 7541-3504-6

CC0106, EWB 0015 - Paid
0021 - Paid

JOB STAMP

04-0120F4
04-SF-80-13.2/13.9
SFDBB-SAS

Report No. 8
Date 9/16/09
S M T W T F S Circle Day
Shift Hours Start 2000 Stop 0430
9/16/09 9/17/09

ASSISTANT RESIDENT ENGINEER'S DAILY CC0106 Skyway Lowering REPORT

Location & Description of Operation ABF ironworkers work regular time. ABF surveyors (4+ super-intendant - Allen, Ander, Denis, Roberts, Adams) work a special shift on OT - 8hrs. OT ea. & 10hrs. OT for super-intendant Adams - see David Bradd diary. ABF safety officer Allen McDonald is present for the entire night shift. ABF junior field engineer Eric Blue is present for recording jack pressure and other measurements. ABF barge and crane are not used for this night work.

HOURS - ITEM NO. WEATHER
Clear
55-60°F

EQUIPMENT AND / OR LABOR:

EQPT. NO.	NO. PERSONS	DESCRIPTION (Of Equipment or Labor)	CC0106 - Lowering							REMARKS (Reason for Idleness or other remarks)
	5	Iron workers	8							IDLE OR DOWN Carlos Valverde, Steve Batista, Darryl Webb, Josh Galvin, Gabriel Ries Dave Meche
	1	Ironworker Superintendent	8							
		Pickup Trucks (8 ea.)	8							
002054, 002072		Light Plants	8							Bea. for ABF - 2 for iw's, 1 for iw sup, 2 for surveyors, 1 for survey sup, 1 for safety officer, 1 for engineer
002083		Welding Machine	8							Two Light Plants - Genie TML-4000N
000008		Generator	8							Lincoln Electric Vantage 500
		Hydraulic Pumps	8							MGR Power 25
Crane Barge #1		Crane Barge								Two Power Team Pumps 8 Crane not being used @ night

Access is via skyway on pickup trucks and no material deliveries by crane to skyway - crane is not used, no operations on site at night. Shift started @ 20:00 at Pier 7. Liftoff & survey in stages down to PGL. Prior to reaching PGL, the skyway became a free cantilever and would not go down any farther @ 95 mm from PGL. Consulting with DSV representative John Denis on site, we raised the structure approx. 1" to put a force on the structure. Final position is 123 mm above PGL. Done with jacking @ 2300. See attached email with details of elevation survey and lift off forces for lowering stages. Then ABF surveyors checked control and surveyed 16 points. ABF ironworkers tack welded shims, wood wedged the shear keys tight to the steel skyway, did misc cleanup EB+WB, and reattached hand rails (cut to clear lowered skyway) EB+WB.

PRINT NAME Bob Brignano SIGNATURE Bob Brignano TITLE RE

Bob
Brignano/D04/Caltrans/CAGo
v

09/17/2009 03:40 AM

To george.baker@tylin.com, pchou@chousimage.com,
jadenis@comcast.net, jduxbury@tylin.com,
mnader@tylin.com

cc Brian Boal/D04/Caltrans/CAGov@DOT, David
Bradd/D04/Caltrans/CAGov@DOT, Alex
Schmitt/D04/Caltrans/CAGov@DOT, Laraine
Woo/D04/Caltrans/CAGov@DOT

bcc

Subject WB Skyway Lowering Info

The lowering of the WB Skyway happened the night starting Wednesday 9/16/09.

As with the EB Skyway, the WB Skyway was lowered as much as it would go under its self weight and did not reach profile grade. When we were about 4 inches higher than profile grade target, the Skyway structure was a free cantilever. So that it would not be left as a free cantilever, we shimmed it up by an inch from that free cantilever condition. It now sits 123 mm higher than PGL. At the bottom of this email, I have the survey elevations and forces tabulated.

It should be noted that the EB Skyway had part of the counterweight assembled - timber and steel beams in place, but water tanks not placed yet. We did not have any counterweight components on the cantilever deck at the WB Skyway. All of those elements were sitting back over the center of Pier E3 so as to not have to be considered in the calculations. Attached is a map of the loads on the two cantilevers (from last night's work at EB Skyway and tonight's work at WB Skyway). This map only locates the loads and does not include the weights of what is shown on the deck.



Skyway_Weights_2009.09.15-16.pdf

Regarding horizontal movement of the WB Skyway, it was similar to what we saw for the EB Skyway. We had 4 to 5 mm movement of the WB Skyway to the south (the low side), which is the same as we saw at the EB Skyway. The WB Skyway also moved longitudinally by 26 to 27 mm to the west, which is only a few millimeters more than the EB Skyway moved. There was also a similar problem as we had the night before with the benchmark near Pier E3 moving. ABF is doing some work to make the necessary corrections to the previous values for the benchmark. Surveying is taking a little longer tonight as the surveyors do more work to tie into other points.

Attached is a scan showing some points from the night time survey from a few weeks ago in black and the new survey results in red. Comparing the numbers gets the 4 to 5 mm south translation, the 26 to 27 mm movement to the west, and the 123 mm above PGL.



Skyway_Westbound_Lowered_2009.09.16_Summary.pdf

We will not get the results of the survey of all 16 points for a few days. I should note that the survey results I am providing in this email for the WB Skyway and what I provided yesterday for the EB Skyway are preliminary. While I do not expect any changes for the final survey, with the checks that have to happen and with the benchmark issues, there could be slight changes.

LOWERING FORCES AND ELEVATIONS:

As with the previous night's work, ABF tabulated the gage pressures, but I do not know when we will get forces and other data from ABF. ABF and I took independent reading off the gages and we read those numbers slightly differently. Also, ABF's engineer planned to get forces graphically off the calibration charts, and I am doing this differently by calculating forces from the two nearest points on the calibration tables. My point is that my numbers may be slightly different than ABF's but we should be close and this is a good QA check. For now, we only have my numbers. I have the air and steel temperatures recorded at the deck level - the soffit temperatures are essentially the same for zero temperature gradient.

Initial elevation = 49.820 (need to lower 429 mm to PGL)

Air = 64F, Steel = 64F

Lift off forces at 21:00 =

NE: 244 k

NW: 245 k

SW: 258 k

SE: 241 k
Total: 988 k

Then lower by approximately 3 inches, settling on the shim stack. Note, we actually lowered it by 4 inches, then could not free the shims above the jacks, raised by an inch, and added a one inch shim to the shim stack, meaning we lowered by 3 inches.

Elevation = 49.744 (lowering was 76 mm, need to lower 353 mm to PGL)
Air = 63F, Steel = 63F
Lift off forces at 21:20 =
NE: 198 k
NW: 199 k
SW: 211 k
SE: 198 k
Total: 806 k

Then lower by approximately 4 inches, settling on the shim stack.

Elevation = 49.642 (lowering was 102 mm, need to lower 251 mm to PGL)
Air = 63F, Steel = 63F
Lift off forces at 22:05 =
NE: 105 k
NW: 111 k
SW: 119 k
SE: 111 k
Total: 446 k

Then lower by approximately 4 inches, settling on the shim stack.

Elevation = 49.538 (lowering was 104 mm, need to lower 147 mm to PGL)
Air = 63F, Steel = 63F
Lift off forces at 22:30 =
NE: 28 k
NW: 35 k
SW: 42 k
SE: 39 k
Total: 144 k

Then attempted lowering approximately 4 inches. Note that we needed to do this next 4 inch lowering and also an additional approximately 2 inches to get to PGL. The WB Skyway lowered a little more than half of this planned 4 inch lowering step and then was a free cantilever. We had approximately 1.5" to 1.75" gaps at the four shim stacks, and we were about 4" from reaching PGL. The gaps varied for each of the 4 locations and gap measurements at different areas (four corners of leveling plate on the OBG) were slightly different.

Elevation = 49.486 (lowering was 52 mm, need to lower 95 mm to PGL)
Air = 63F, Steel = 63F
Force = 0 k -> free cantilever

So as to not leave the structure as a free cantilever, just as we did the previous night for the EB Skyway, we shimmed tight and then added 1" of shims, raising the structure slightly from the free cantilever position. Final surveys were performed in this 1" raised from free cantilever position. Final Elevation = 49.514, which is raised 28 mm from the previous free cantilever position. The target PGL = 49.391, so the structure is 123 mm high.

We also measured shim heights before lowering and after the final condition (with 1" of shims above free cantilever) as follows:

NE: 1340 mm initial - 1050 mm final = 290 mm lower
NW: 1390 mm initial - 1095 mm final = 295 mm lower
SW: 1170 mm initial - 870 mm final = 300 mm lower
SE: 1105 mm initial - 815 mm final = 290 mm lower

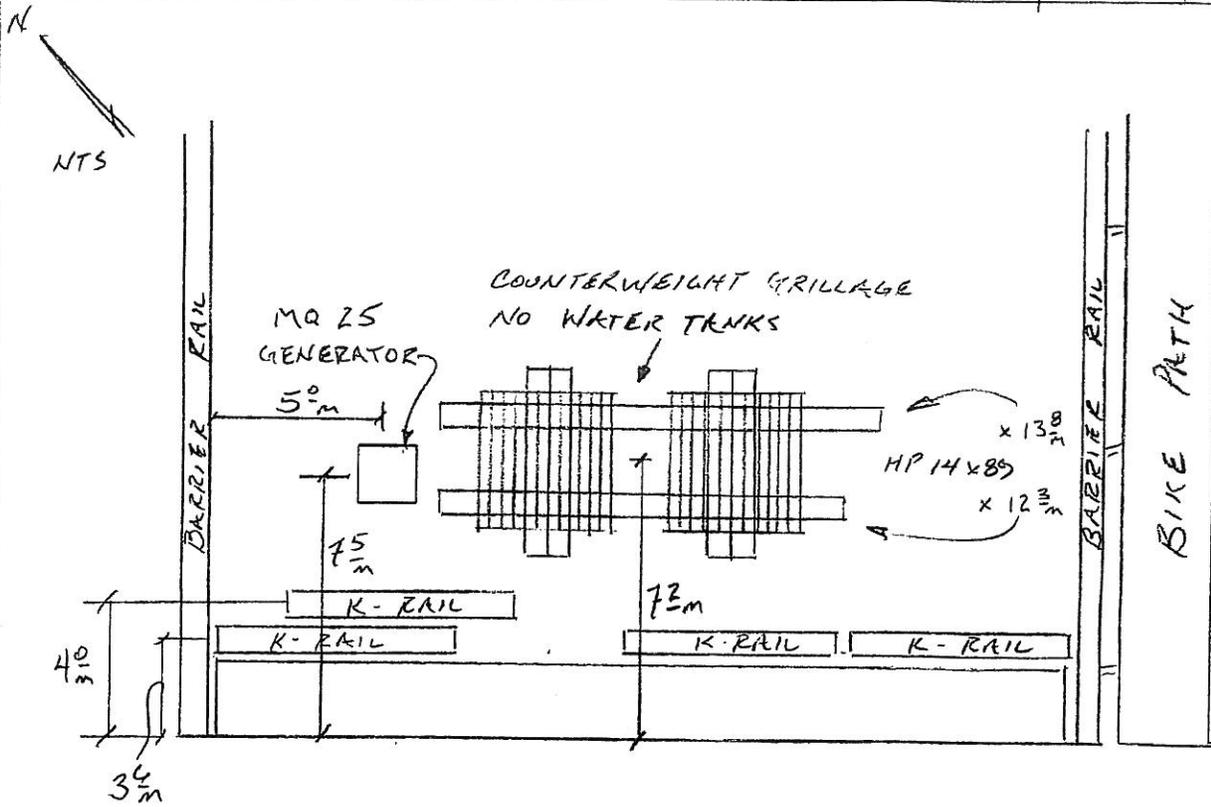
Note that these initial shim heights are after the reconfiguration. These were slightly higher and slightly lower than the original shim condition during the nighttime survey from a few weeks ago. However, based on the initial survey tonight saying we needed to cut 429mm and the survey from a few weeks ago saying that we needed to cut 440mm, apparently the reconfiguring operation resulted in the WB Skyway being about 3/8-inch lower. The initial shim condition is at the same time as the initial survey at the start of the

night's work. Adding the lowering from the stages, we get $76 + 102 + 104 + 52 - 28 = 306$ mm lowering, which is close to what we got for changes in shim heights at the four jacking points.

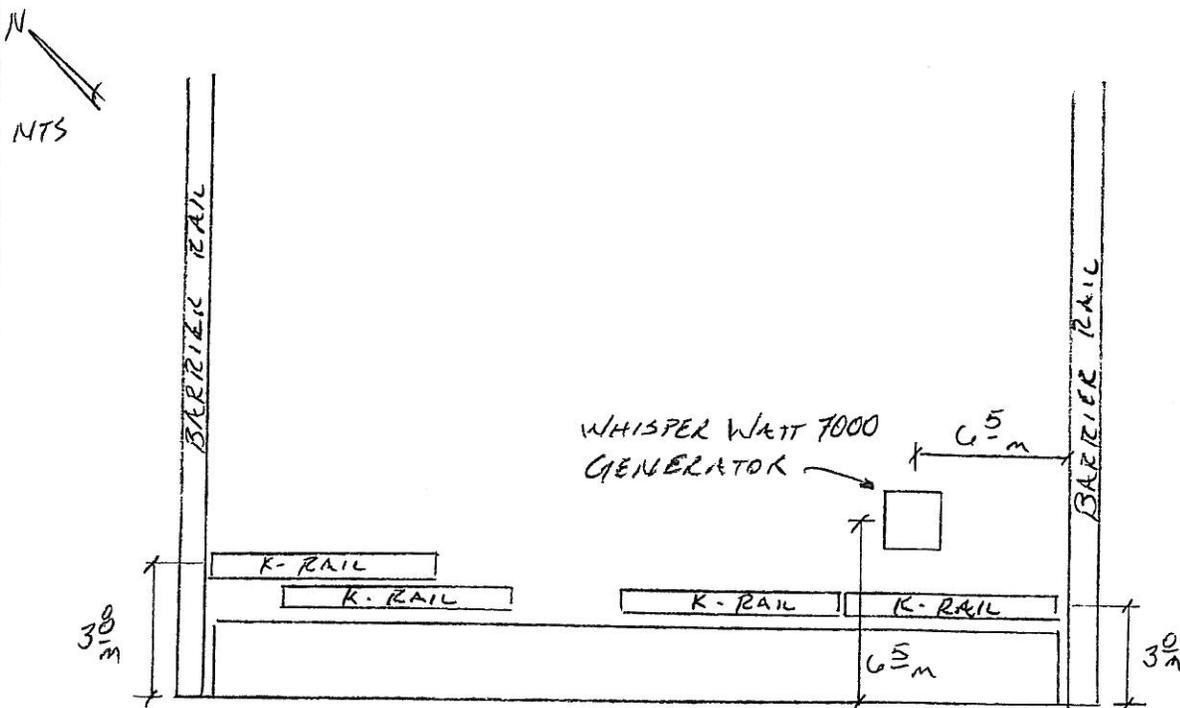
SKYWAY LOWERING EQUIPMENT MAT

9/10-17/09

Division of
 Engineering & Construction

E LINE
PLAN VIEW



W LINE
PLAN VIEW

CCO #106 SKYWAY

LOWERING TARGET
ELEVATIONS



PROJECT _____

SHEET _____ OF _____ DATE 9/16/09

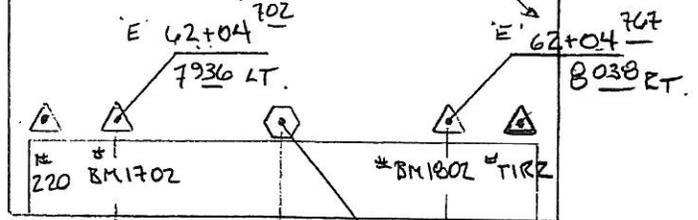
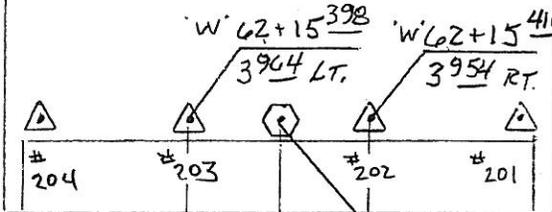


W LINE

E LINE

W' 62+15 371 LT 3960
W' 62+15 385 RT 3959

AS BUILT DATA
8/21/09 (17F)



EQUAL

EQUAL

49 391
49 514

48 578

TARGET ELEV.'S

PLAN VIEW

CCO 106, EWB 0015 - Paid

Job Stamp
 04-0120F4
 SFOBB SAS

Const Calendar Day No. 8
 Project Work Day No. 218
 Date **Wednesday 9/16/2009**
 Shift Hours Start 2000 Stop 04:00

ASSISTANT RESIDENT ENGINEER'S CONTRACTOR - ABFJV

EQUIPMENT AND/OR LABOR:		HOURS - ITEM NO.										IDLE OR DOWN	REMARKS		
Equip. #	N O M E N	DESCRIPTION (Of Equipment or Labor)	CCO 106												Class
		Adams, David	10.0 OT											Surveyor, Party Chief	ABF
		Allen, JV	8.0 OT											Surveyor, Party Chief	ABF
		Anders, RG	8.0 OT											Surveyor, A2	ABF
		Dennis, Teri	8.0 OT											Surveyor, Party Chief	ABF
		Roberts, CB	8.0 OT											Surveyor, A2	ABF
		Newton, Harlow	8.0 OT											Safety	ABF

- Contractor surveyed monitoring points on the WB transition structure at Hinge A during and after the lowering operation of the structure. Work began at 20:00, September 16, 2009, and ended at 04:30, September 17, 2009.

David Bradd, Assistant Resident Engineer