Daily Diary Report by Bid Item

Contract No.: **04-0120F4**

Diary #: **526** **Const Calendar Day:** 914 **Date:** **10-Mar-2012** **Saturday**
Inspector Name: **Bruce, Matt** **Title:** **Transportation Engineer**
Inspection Type: Intermittent
Shift Hours: 03:30 am 12:00 pm **Break:** 00:30 **Over Time:** 08:00
Federal ID:
Location:
Reviewer: **Schmitt, Alex** **Approved Date:** **Status:** Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature **7 AM** 40 - 50 **12 PM** 50 - 60 **4PM** 50 - 60
Precipitation 0.00" **Condition** Mostly cloudy

Working Day ☐ If no, explain:

Diary: Dispute ☐

Work description.

- Phil Latasa, Sami Dauok, Michelle Chui, Damon Brown, and myself checked the out to out distance for the cable strands today as Damon's and my measurements are tabulated below. Damon and I were responsible for both the north/south sidespans today. Similarly Sami and Phil were responsible for checking the north/south mainspans. Damon assisted me with the measurements and tabulating the data as I took all of the measurements unless otherwise noted. I used the Maletic gauge (#1) to take the out to out measurements of the cable strands.

All measurements by both crews were reported to Michelle who was stationed in the Caltrans conex recording and analyzing the data. When all of the measurements were completed, Michelle was responsible for reviewing the measurements with ABF engineer Adam Roebuck. See Michelle's diary for more details related to the acceptance or rejection of cable strand sag adjustment.

Today the green dual function anemometer and digital thermometer was used to measure the ambient temperature and wind speeds. Wind speeds were also obtained from weather.com at the time of the measurements. The steel temperature measurements were taken with the digital thermometer placed on the outer cable strand wires.

The official sunrise time per weather.com for San Francisco today was at 6:27am. The following measurements were taken of the relative sag from cable strand number 1 at the given times below:

// North Sidespan //
Time = 4:35am
Ambient Temperature = 42.5F
Condition = Mostly cloudy
Wind = WNW @ 11mph
ABF Surveyor(s) = James Allen and Ken Woon
Caltrans Engineer(s) = Matt Bruce and Damon Brown

Cable Strand	Steel Temperature (F)	O-O (#1) CT / ABF (mm)	Theor (mm)	CT Delta (mm)
1	46.9	Baseline or Zero	78	0
86	46.0	497 (-61) = 436 / 440	429	+ 7
87	45.8	682 (-61) = 621 / 624	494	+ 127
88	45.6	708 (-61) = 647 / 646	559	+ 88

Comments: All cable strands were considered to be free-hanging at the time of measurement on the north

sidespan. I took all of the measurements while Damon assisted me with setting up the targets, being level, normal to cable, etc. A timber block was used on cable strand number 1 to obtain measurements where the dimension is in ( ) millimeters. ABF continued to use the timber block placed by ABF laborers the other day. We used our own timber block instead of the one fixed to strand one by the ABF laborers. The plastic wrapping on the timber block impeded the end of the Maletic gauge flat plate from bearing properly.

// South Sidespan //
Time = 4:55am
Ambient Temperature = 46.1F
Condition = Mostly cloudy
Wind = W @ 8mph
ABF Surveyor(s) = James Allen and Ken Woon
Caltrans Engineer(s) = Matt Bruce and Damon Brown

Cable Strand (mm)	Steel Temperature (F)	O-O (#1) CT / ABF (mm)	Theor (mm)	CT Delta
1	46.5	Baseline or Zero	78	0
86	46.7	520 (-61) = 459 / 468	421	+ 38
87	46.5	600 (-61) = 539 / 533	488	+ 51
88	46.7	597 (-61) = 536 / 537	555	- 19

Comments: All cable strands were considered to be free-hanging at the time of measurement on the south sidespan. I took all of the measurements while Damon assisted me with setting up the targets, being level, normal to cable, etc. A timber block was used on cable strand number 1 to obtain all of the measurements where the dimension is in ( ) millimeters. It should be noted that at times the bottom blade of the calipers used by ABF surveyors was not bearing properly on the timber block varying the readings taken. The ABF rodman was not fully concentrating during many of measurements taken as this likely is the reason for discrepancies between the two groups. This issue was brought up with the ABF foreman surveyor.

// South Sidespan //
Time = 5:21am
Ambient Temperature = 44.6F
Condition = Mostly cloudy
Wind = W @ 8mph
ABF Surveyor(s) = James Allen and Ken Woon
Caltrans Engineer(s) = Matt Bruce and Damon Brown

Cable Strand (mm)	Steel Temperature (F)	O-O (#1) CT / ABF (mm)	Theor (mm)	CT Delta
1	48.0	Baseline or Zero	78	0
86	46.7	457 (-61) = 396 / 407	421	- 25
86	46.7	491 (-61) = 430 / 432	421	+ 9
87	46.7	540 (-61) = 479 / 480	488	- 9
88	46.9	616 (-61) = 555 / 556	555	0

Comments: The measurements taken at this time were done while ABF ironworkers performed a real time adjustment on the cable strand. Once the cable strand was adjusted ABF surveyors would take a measurement followed by Caltrans engineers. Numbers amongst the two groups were compared to expedite final buy-off.

All cable strands were considered to be free-hanging at the time of measurement on the south sidespan. I took all of the measurements while Damon assisted me with setting up the targets, being level, normal to cable, etc. A timber block was used on cable strand number 1 to obtain all of the measurements where the dimension is in ( ) millimeters. There were two live adjustments performed on cable strand number 86.

Once again it should be noted that at times the bottom blade of the calipers used by ABF surveyors to

take measurements would not be fully bearing on the timber block varying the readings taken. Once the rodman was concentrating, the measurements became closer as seen from cable strands 86 (2nd adjustment measurement) to number 88.

// North Sidespan //
Time = 6:09am
Ambient Temperature = 45.1F
Condition = Mostly cloudy
Wind = W @ 5mph
ABF Surveyor(s) = James Allen and Ken Woon
Caltrans Engineer(s) = Matt Bruce and Damon Brown

Cable Strand (mm)	Steel Temperature (F)	O-O (#1) CT / ABF (mm)	Theor (mm)	CT Delta
1	46.7	Baseline or Zero	78	0
86	46.3	490 (-61) = 429 / 430	429	0
87	46.0	544 (-61) = 483 / N/A	494	- 11
87	46.0	548 (-61) = 487 / 494	494	- 7
88	46.0	610 (-61) = 549 / 557	559	- 10
89	46.4	687 (-61) = 626 / 626	624	+ 2

Comments: As done on the south sidespan the ABF ironworkers performed a real time adjustments on the north sidespan cable strands prior to measuring. All cable strands except for 86 were considered to be free-hanging at the time of measurement on the north sidespan. Cable strand 86 was bearing on the one below. I took all of the measurements while Damon assisted me with setting up the targets, being level, normal to cable, etc. A timber block was used on cable strand number 1 to obtain all of the measurements where the dimension is in ( ) millimeters. There were two live adjustments performed on cable strand number 87.

// South West-Loop //
Time = 6:47am
Ambient Temperature = 47.8F
Condition = Mostly Cloudy
Wind = W @ 5mph
ABF Engineer(s) or Surveyor(s) = None at this time
Caltrans Engineer(s) = Matt Bruce and Damon Brown

Cable Strand (mm)	Steel Temperature (F)	O-O (#1Y) CT (mm)	Theor (mm)	CT Delta
1	48.7	Baseline or Zero	80	0
84	48.3	244 (-121) = 123	127	- 4
87	47.4	513 (-121) = 392	410	- 18
88	47.6	614 (-121) = 493	505	- 12
89	47.6	724 (-121) = 603	599	+ 4

Comments: All cable strands were considered to be free-hanging at the time of measurement on the south west-loop. I took all of the measurements while Damon assisted me with setting up the targets, being level, normal to cable, etc. The ( ) denotes the fixed timber block (by ABF) to cable strand number 1 dimension in millimeters.

// North West-Loop //
Time = 7:01am
Ambient Temperature = 48.7F
Condition = Mostly Cloudy
Wind = W @ 6mph
ABF Engineer(s) or Surveyor(s) = None at this time

Caltrans Engineer(s) = Matt Bruce and Damon Brown

Cable Strand (mm)	Steel Temperature (F)	O-O (#1Y) CT (mm)	Theor (mm)	CT Delta
1	48.0	Baseline or Zero	80	0
84	48.3	253 (-126) = 127	127	0
87	47.8	521 (-126) = 395	410	- 15
88	47.8	618 (-126) = 492	505	- 13
89	47.8	726 (-126) = 600	599	+ 1

Comments: All cable strands were considered to be free-hanging at the time of measurement on the south west-loop. I took all of the measurements while Damon assisted me with setting up the targets, being level, normal to cable, etc. The ( ) denotes the fixed timber block (by ABF) to cable strand number 1 dimension in millimeters.

- All of the prescribed measurements were completed at 7:10am and conveyed to Michelle. As mentioned in the comments section of the measurement tabulations, live adjustments were performed by ABF ironworkers. An adjustment would be made and then ABF surveyors and Caltrans engineers would measure the cable strand to verify the correct sag adjustment was done before moving on to adjusting another strand. The ironworkers began their shift at 5:00am at the tower saddle and at the east anchorages. See Roman Granados's diary for comments, labor, and equipment at the tower saddle. See Bob Brignano's diary for comments, labor, and equipment at the east anchorage.

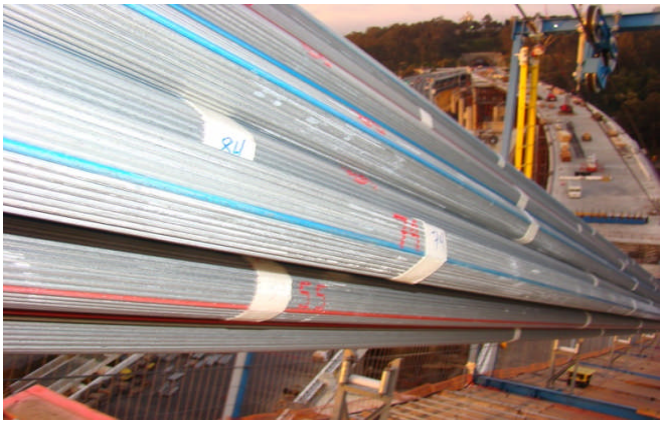
- Completed filling out the daily cable strand sag adjustment sheet.

- Continued to devise a schedule for the upcoming survey work on Hinge K, west jacking saddle check, and the suspender brackets.

- Discussed the issue of cable strands 74 and 84 with Brian Boal and Michelle Chui not being per plan. See photos below for more details regarding this issue as ABF manipulated cable strand number 74 to achieve a more favorable measurement on cable strand 84 yesterday.

Attachment

Sunrise from the east seen from the north sidespan catwalk while taking measurements today.



Cable strands 74 and 84 on the north sidespan which are not oriented per plan due to ABF manipulating strand 74 to achieve a better measurement on 84.

Cable strands 74 and 84 on the north sidespan which are not oriented per plan due to ABF manipulating strand 74 to achieve a better measurement on 84.