



SAS Superstructure

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 21-Nov-14

Time 11:30 PM

Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 503 Const Calendar Day: 888 Date: 13-Feb-2012 Monday
Inspector Name: Bruce, Matt Title: Transportation Engineer
Inspection Type: Intermittent
Shift Hours: 04:45 am 03:15 pm Break: 00:30 Over Time: 02:00
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 60 - 70
Precipitation 0.15" Condition High winds, mostly cloudy, and intermittent rain

Working Day [] If no, explain:

Diary:

Dispute

Work description.

[]

- The tasks completed today by the Alta Vista surveyors included the following:
1.) Dave continued to process the surveying data for the OBG centerline dimensional verification done last Wednesday and Thursday.
2.) Chris continued to process the raw data from the total station of the OBG centerline dimensional verification done last Wednesday and Thursday.
3.) Erol continued to compile all of the Alta Vista reports done for the OBG and Tower fabrication at ZPMC in China. He also assisted Dave and Chris.
- The following is the hours worked by the Alta Vista consultants today:
Dave Garrett (survey party chief) = 8hrs
Chris Ferrucci (instrumentman) = 8hrs
Erol Schaller (rodman) = 8hrs
- John Lyons, Sami Daouk, Alex Schmitt and myself checked the out to out distance for the cable strands today as my measurements are tabulated below. John and I were responsible for the mainspans and the west-loop. Similarly Alex and Sami were responsible for checking the sidespans. John assisted me with the measurements and tabulating the data. I used the Maletic gauge (Yellow #1) to take the out to out measurements of the cable strands.

The information tabulated below was conveyed to Alex to inform ABF engineer Zach Lauria which cable strands were either adjusted properly (accepted) or if the cable strand required more adjusting (rejected). The measurements for the west-loop were reported to Alex when we met with ABF engineer Zach Lauria at the top of the tower. See Alex Schmitt's diary on the discussions with ABF engineer Zach Lauria and the decision for acceptance or rejection.

Ambient temperatures were taken with the red temperature gauge. Wind speeds were 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 7:00am. The following measurements were taken of the relative sag from cable strand number 1 at the given times below:

// North Mainspan //
Time = 5:00am
Ambient Temperature = 49F
Condition = Cloudy/High Winds

Daily Diary Report by Bid Item

Job Name: 04-0120F4

Inspector Name Bruce, Matt

Diary #: 503

Date: 13-Feb-2012

Monday

Wind = WNW @ 28mph
 ABF Surveyor(s) = James Allen and Mike Bonidici
 Caltrans Engineer(s) = Matt Bruce and John Lyons

Cable Strand (mm)	Steel Temperature (F)	O-O (#1Y) CT / ABF (mm)	Theor (mm)	CT Delta
1	48	Baseline or Zero	75	
0				
28	47	502, 525 - Ave = 514 / N/A	500	+ 14
29	48	119, 123 - Ave = 122 / N/A	111	+ 11
30	48	283, 289, 283 - Ave = 285 / N/A	168	+
117				
31	47	200, 199 - Ave = 200 / N/A	225	- 25

Comments: All cable strands were considered to be free-hanging by me at the time of measurement on the north mainspan. Straps were placed around the cable strand bundle thus far were "loosely" wrapped which didn't constitute a change in the free hanging geometry. The straps help prevent the cable strands from dramatically swaying in and out of the cable strand bundle. It should be noted that ABF surveyors removed the straps for their measurements.

// South Mainspan //

Time = 5:46am

Ambient Temperature = 47F

Condition = Cloudy/High Winds

Wind = WNW @ 27mph

ABF Surveyor(s) = None at this time

Caltrans Engineer(s) = Matt Bruce and John Lyons

Cable Strand (mm)	Steel Temperature (F)	O-O (#1Y) CT / ABF (mm)	Theor (mm)	CT Delta
1	47	Baseline or Zero	76	
0				
29	48	93, 93 - Ave = 93 / N/A	106	-
13				
30	47	160, 160 - Ave = 160 / N/A	165	-
5				
31	47	227, 223 - Ave = 225 / N/A	224	+ 1
32	48	278, 278 - Ave = 278 / N/A	282	- 4
33	48	448, 447 - Ave = 448 / N/A	341	+
107				
34	48	487, 489 - Ave = 488 / N/A	400	+
88				
35	48	515, 515 - Ave = 515 / N/A	458	+
57				
36	48	544, 545 - Ave = 545 / N/A	517	+
28				

Comments: All cable strands were free-hanging at the time of measurements on the south mainspan. The straps previously placed around the cable strands were removed. As in previous days the wind speed and direction effected the span which was in the same direction. Whereas the other side was relatively calm and unaffected by the wind. To be specific, if the wind was coming from the north then the north main and sidespan cable strands would react/oscillate. On the contrary the cable strands on the south main and sidespans remained relatively calm.

- Since the cable strands were wrapped with the straps for the initial measurements at the north mainspan and not considered free-hanging by ABF. Myself and John proceeded to remeasure the required cable

Daily Diary Report by Bid Item

Job Name: 04-0120F4

Inspector Name Bruce, Matt

Diary #: 503

Date: 13-Feb-2012 Monday

strands to confirm our initial readings.

// North Mainspan //

Time = 6:05am

Ambient Temperature = 49F

Condition = Cloudy/High Winds

Wind = WNW @ 28mph

ABF Surveyor(s) = James Allen and Mike Bonidici

Caltrans Engineer(s) = Matt Bruce and John Lyons

Cable Strand (mm)	Steel Temperature (F)	O-O (#1Y) CT / ABF (mm)	Theor (mm)	CT Delta
1	48	Baseline or Zero	75	
0				
28	47	518, 510, 517 - Ave = 515 / N/A	500	+ 15
29	48	126, 124 - Ave = 125 / N/A	111	+ 14
30	48	289 / N/A	168	+
121				
31	47	189, 194 - Ave = 192 / N/A	225	- 33

Comments: All cable strands were free-hanging with no straps wrapped around the cable strand bundles.

- John called Alex at or around 6:30am with the required measurements requested by ABF on both the north and south mainspans. However the preliminary cable strand sags for the north mainspan were not reported at this time. Rather the preliminary measurements for the north mainspan were reported after the 7:00am deadline. As John conveyed the information to Alex, I proceeded to go get started on measuring the west-loop until John arrived.

// South West-Loop //

Time = 6:33am

Ambient Temperature = 49F

Condition = Cloudy/High Winds

Wind = WNW @ 27mph

ABF Surveyor(s)/Engineer(s) = None at this time

Caltrans Engineer(s) = Matt Bruce and John Lyons

Cable Strand (mm)	Steel Temperature (F)	O-O (#1Y) CT / ABF (mm)	Theor (mm)	CT Delta
1	48	Baseline or Zero	80	
0				
33	47	450 (-114) = 336 / N/A	363	- 27
34	47	556 (-114) = 442 / N/A	457	-
15				
35	47	683 (-114) = 569 / N/A	552	+ 17
36	48	778 (-114) = 664 / N/A	646	+ 18

Comments: All cable strands were free-hanging at the time of measurement except for cable strand number 37. The () denotes that a block was used with the block width or height dimension in millimeters.

// North West-Loop //

Time = 6:48am

Ambient Temperature = 49F

Condition = Cloudy/High Winds

Wind = WNW @ 27mph

ABF Surveyor(s)/Engineer(s) = None at this time

Caltrans Engineer(s) = Matt Bruce and John Lyons

Daily Diary Report by Bid Item

Job Name: 04-0120F4 Inspector Name Bruce, Matt Diary #: 503 Date: 13-Feb-2012 Monday

Cable Strand (mm)	Steel Temperature (F)	O-O (#1Y) CT / ABF (mm)	Theor (mm)	CT Delta
0	1	48	Baseline or Zero	80
5	34	48	566 (-114) = 452 / N/A	457 -
	35	48	685 (-114) = 571 / N/A	552 + 19
	36	48	782 (-114) = 668 / N/A	646 + 22

Comments: All cable strands were free-hanging at the time of measurement except for cable strand number 37. The () denotes that a block was used with the block width or height dimension in millimeters.

- The required measurements to be done by me and John were done at 6:55am. At this time we both headed to meet Alex at the top of the tower where numbers would be reviewed with Zach. ABF engineer Levi Gatsos was responsible for taking measurements at the west-loop and wasn't done by the 7:00am deadline. As Zach and Alex were reviewing the numbers compiled this morning by their surveyors and Caltrans engineers it was decided that Zach wanted to recheck cable strands 31 and 32 at the south mainspan. These two strands were requested for acceptance. It should be noted that my initial measurements were close to the theoretical values.

// South Mainspan //

Time = 7:33am

Ambient Temperature = 49F

Condition = Cloudy/High Winds

Wind = WNW @ 27mph

ABF Surveyor(s) = James Allen, Terry Denis, and Mike Bonidici

Caltrans Engineer(s) = Matt Bruce and John Lyons

Cable Strand (mm)	Steel Temperature (F)	O-O (#1Y) CT / ABF (mm)	Theor (mm)	CT Delta
0	1	47	Baseline or Zero	75
	31	47	220, 217 - Ave = 219 / N/A	224 - 5
	32	47	279 / N/A	282 -
3				

Comments: All cable strands were free-hanging at the time of measurements on the south mainspan. The straps previously placed around the cable strands were removed. Similar to the initial measurements done early this morning, the cable strands remained relatively calm at this location. Numbers were briefly compared but not recorded with ABF surveyors since the remeasured values were closer than the initial measurements taken this morning.

// North Mainspan //

Time = 7:49am

Ambient Temperature = 47F

Condition = Cloudy/High Winds

Wind = WNW @ 25mph

ABF Surveyor(s) = None at this time

Caltrans Engineer(s) = Matt Bruce and John Lyons

Cable Strand (mm)	Steel Temperature (F)	O-O (#1Y) CT / ABF (mm)	Theor (mm)	CT Delta
0	1	47	Baseline or Zero	75
	32	48	378 / N/A	281 +

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97	33	48	422 / N/A	338	+
84	34	47	502 (+/- 25mm)/ N/A	395	+
107	35	47	517 (+/- 30mm)/ N/A	452	+
65	36	47	540 (+/- 30mm)/ N/A	509	+
31					

Comments: All cable strands were free-hanging at the time of measurements on the north mainspan. Cable strands numbers 32 and 33 were more feasible to measure since the cable strands were oscillating at the same frequency as second set of measurements taken at this location. However it should be noted that cable strands 34 to 36 were difficult to measure due to the continued dramatic oscillations of the cable strands subjected to the high winds. The estimated oscillation of the cable strand is in () to the right of the measured value.

- Worked on resolving the issues related to the laser attached to the Maletic gauge prior to the meeting mentioned below.

- Discussed the current issues with the laser for the Maletic gauge (#1Y) with Victor Maletic, Alex Schmitt and John Lyons at 12:00pm. To reiterate the button spring in the laser (Transverse Industries laser leveler; Model = TI-328-11) is broken and needs to be repaired or buy a replacement laser with the appropriate fittings which needs to be implemented soon. The replacement batteries (Enercell LR44) for the current laser are \$15 for three. The Black and Decker laser level that I gave to Victor uses easily replaceable AAA batteries. Since the spring in the current laser is broken the technique used to operate the laser is to simply unscrew the back end of the connection until it doesn't contact the batteries. This technique can't continue since it would be easy to loose batteries or the end of the laser. Also Alex wanted to have Victor make additional modifications to the target that he is using.

- Talked to and helped Bill Casey write the email about requesting the purchase of the Trimble S8 Total Station at 1:30pm. The email is being sent to Catalino Nicolas and Pochana Chongchaikit in the Toll Bridge Purchasing group. I also mentioned to Bill and Mazen Wahbeh (Alta Vista manager) that I would no longer be able to supervise and have no more work for Dave, Chris, and Erol regarding dimensional control work on the SAS. I am busy with working on the cable adjustment sag measurements and don't have extra time at the moment to dedicate with this work. It is understood that Mazen and Nina Choy (Caltrans METS representative) will be responsible for supervising these gentlemen while they are on the SAS project. I also tried to inform Nina in person today but couldn't find her about the decision. Therefore I will notify her as soon as possible about the decision when I see her. This will be the last day that I document the work performed by them on the project.

- Worked on compiling my measurements and reviewing John's daily cable strand sag adjustment sheets and left them on (submitted) Alex Schmitt's desk.