



SAS Superstructure

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 21-Nov-14

Time 11:25 PM

Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 538 Const Calendar Day: 931 Date: 27-Mar-2012 Tuesday

Inspector Name: Bruce, Matt Title: Transportation Engineer

Inspection Type: Intermittent

Shift Hours: 03:30 am 02:00 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 50 - 60

Precipitation 0.80"

Condition Overcast to rain w/moderate to high winds

Working Day [] If no, explain:

Diary:

Dispute

Work description.

- John Lyons, Sami Dauok, Alex Schmitt, 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 John were responsible for checking the north/south mainspans and west-loop. Damon assisted me with the measurements and tabulating the data as I took all of the measurements unless otherwise noted. I used the Victor Tree Gauge (#2) to take the out to out measurements of the cable strands.

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

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

The official sunrise time per weather.com for San Francisco today was at 7:02am. The following measurements were taken of the relative sag from cable strand number 1 at the given times below:

// North Sidespan //

Time = 4:18am

Ambient Temperature = 51.9F

Condition = Cloudy

Wind = SSE @ 17mph

ABF Surveyor(s) = None at this time

Caltrans Engineer(s) = Matt Bruce and Damon Brown

Table with 5 columns: Cable Strand (mm), Steel Temperature (F), O-O (#2) CT / ABF (mm), Theor (mm), CT Delta. Rows include strand 1, 113, and 114 with their respective measurements.

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



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the dimension is in () millimeters. Cable strand numbers 115/116 were floated and 117 was in the rollers at the time of the measurements. The cable strands oscillated +/- 5mm while taking the out-out measurement on the strands.

The length of adjustment in the tower saddles was to be 10-West for CS#113 and 5-West for CS#114. This information was conveyed to Daryoush Bahar who was at the tower saddle during "Live-Adjustments".

// South Sidespan //

Time = 4:45am

Ambient Temperature = 51.9F

Condition = Cloudy

Wind = SSE @ 19mph

ABF Surveyor(s) = James Allen and Ken Woon

Caltrans Engineer(s) = Matt Bruce and Damon Brown

| Cable Strand (mm) | Steel Temperature (F) | O-O (#2) CT / ABF (mm) | Theor (mm) | CT Delta |
|-------------------|-----------------------|------------------------|------------|----------|
| 1 | 51.6 | Baseline or Zero | 78 | 0 |
| 112 | 51.4 | 682 (-61) = 621 / 608 | 557 | + 64 |
| 113 | 51.6 | 809 (-61) = 748 / 743 | 624 | + 124 |
| 114 | 51.3 | 757 - 34 = 723 / 725 | 691 | + 32 |
| 115 | 51.6 | 818 (-61) = 757 / 755 | 758 | - 1 |

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. Cable strand number 116 was floated and 117 hadn't reached the rollers on this span yet as it was at the west-loop (secondary hauling system) at the time of the measurements. The cable strands oscillated +/- 5mm while taking the out-out measurement on the strands.

The length of adjustment in the tower saddles was to be 7-West for CS#112, 14-West for CS#113, and 4-West for CS#114. This information was conveyed to Daryoush Bahar who was at the tower saddle during "Live-Adjustments".

// South Sidespan //

Time = 5:20am

Ambient Temperature = Not taken

Condition = Cloudy

Wind = Not taken

ABF Surveyor(s) = James Allen and Ken Woon

Caltrans Engineer(s) = Matt Bruce and Damon Brown

| Cable Strand (mm) | Steel Temperature (F) | O-O (#2) CT / ABF (mm) | Theor (mm) | CT Delta |
|-------------------|-----------------------|------------------------|------------|----------|
| 1 | N/A | Baseline or Zero | 78 | 0 |
| 112 | N/A | 646 (-61) = 585 / 575 | 557 | + 28 |
| 112 | N/A | 631 (-61) = 570 / 559 | 557 | + 13 |
| 113 | N/A | 683 (-61) = 622 / 631 | 624 | - 2 |
| 114 | N/A | 728 (-61) = 667 / 682 | 691 | - 24 |
| 114 | N/A | 731 (-61) = 670 / N/A | 691 | - 21 |

Comments: All cable strands remained 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. The cable strands oscillated +/- 5mm while taking the out-out measurement

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on the strands.

Measurements on the cable strands at this time were done immediately after ABF ironworkers performed a real time or "Live" 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.

The measured length of adjustment in the tower saddle by Daryoush was 6-West for CS#112, 15-West for CS#113. It also should be noted that ABF measured cable strand number 114 once and the surveyors were directed by ABF engineer Zach Lauria to proceed to the north sidespan. He called the adjustment good as I informed Alex of the issue.

// North Sidespan //

Time = 6:10am

Ambient Temperature = 52.8F

Condition = Cloudy

Wind = SSE @ 17mph

ABF Surveyor(s) = James Allen and Ken Woon

Caltrans Engineer(s) = Matt Bruce and Damon Brown

| Cable Strand (mm) | Steel Temperature (F) | O-O (#2) CT / ABF (mm) | Theor (mm) | CT Delta |
|-------------------|-----------------------|------------------------|------------|----------|
| 1 | 52.3 | Baseline or Zero | 78 | 0 |
| 113 | 52.1 | 676 (-61) = 615 / 618 | 632 | - 17 |
| 113 | 52.1 | 699 (-61) = 638 / 642 | 632 | + 6 |
| 114 | 52.1 | 756 (-61) = 695 / 692 | 697 | - 2 |

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.

Measurements on the cable strands at this time were done immediately after ABF ironworkers performed a real time or "Live" 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. The numbers were better on this side since the wind was coming from the south, where it is well documented that the strand on that side will oscillate.

- All of the prescribed measurements were completed at 6:30am and conveyed to Alex. 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 around 5:15am when it was scheduled for 6:00am at the tower saddle and east anchorages. See Daryoush Bahar's diary for comments, measurements, labor, and equipment at the tower saddle. See Saman Soheilifard's diary for comments, measurements, labor, and equipment at the east anchorage.

// South Sidespan //

Time = 6:55am

Ambient Temperature = Not taken

Condition = Cloudy

Wind = Not taken

ABF Surveyor(s) = James Allen and Ken Woon

Caltrans Engineer(s) = Matt Bruce and Damon Brown

| Cable Strand | Steel Temperature (F) | O-O (#2) CT / ABF (mm) | Theor (mm) | CT Delta |
|--------------|-----------------------|------------------------|------------|----------|
|--------------|-----------------------|------------------------|------------|----------|



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| | | | | |
|------|-----|-----------------------|-----|------|
| (mm) | | | | |
| 1 | N/A | Baseline or Zero | 78 | 0 |
| 114 | N/A | 731 (-61) = 670 / 668 | 691 | - 21 |

Comments: Cable strand number 114 was considered to be free-hanging at the time of measurement on the south sidespan. I re-took the measurement while Damon assisted me with setting up the target, 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. The cable strands oscillated +/- 5mm while taking the out-out measurement on the strands. This was a recheck since there was a significant difference between ABF surveyors and Caltrans engineers. Since the recheck values agreed the strand will be adjusted and remeasured tomorrow. See Alex's diary for additional comments related to this issue.

- Completed processing and checking all of the data for the "Suspender Bracket" surveys done March 8-9, 12-13, and 21-22, 2012. To reiterate the information is time sensitive since cable hauling, placing, and adjusting is nearly complete. Compaction is expected to take a few weeks prior to cable band layout which is indirectly related to the suspender bracket survey. Emailed pertinent people related to the cable band layout and installation operation.

- Wrote an email related to the Hinge K pipe beam alignment and related issues with the closure section. Also discussed the issue with Karen Wang over the phone regarding the content and issues addressed in the email.

- Began to calculate the coordinates for the cable band position for 48F to upload into the data collector. Also began to prepare for the cable band "Rough" layout QA check to be scheduled for this week.

- Began to review the plans for the suspender geometry related to the cable bands.

- Picked up 3 spare telephones at the District 4 office from Romana Alado and Carolyn Duncan per Alex's request since my phone was not working properly. To be specific, the ringer and speaker on the phone were not functioning properly.

- Prepared for tomorrows survey of the YBITS W-Line cantilever pulldown jacking operation.

- Wrote outstanding diaries.

Attachment



Cable strand number 114 was not bearing on the strand below as though by ABF engineer Zach Lauria.



Cable strand number 114 was not bearing on the strand below as though by ABF engineer Zach Lauria.