



SAS Superstructure

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 22-Nov-14

Time 7:51 AM

Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 818 Const Calendar Day: 305 Date: 05-Apr-2013 Friday
Inspector Name: Bruce, Matt Title: Transportation Engineer
Inspection Type: Continuous
Shift Hours: 07:00 am 05:30 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 0.00" Condition Mostly overcast

Working Day [ ] If no, explain:

Diary:

Dispute

Work description.

- Inspected the stressing operation to verify the Pjack load in tower foundation anchor rods with Sami Daouk, see his diary for the ABF ironworker names. Today Boltight pump number 59836-0577000106 with gauge number 29901041/18 was used for verifying the loads in all rods mentioned below. Similarly Boltight jacks RN7194, RN7197 and RN 7208 was used for this stressing operation. Sami took the majority of measurements on the anchor rods stressed today from the top surface of the bearing plate to the end of the anchor rod before and after load verification of the anchor rods.

Stressing operations began today in the East tower shaft on rods E62 & E63 at 7:00am. Operations were substantially completed in the East tower shaft and South tower shafts. As in previous days all 3" anchor rods were stressed to 105% of Pjack. The majority of the nuts were found to be loose today and three stressing cycles were run to Pjack at 13.2ksi. The practice to verify the load in the anchor rods by checking the anchor rod nut at 5.0ksi, 10.0ksi, and then to 13.2ksi before conducting 2 more cycles straight up to 13.2ksi or 105% Pjack was done for all rods today.

As stressing commenced in the East tower shaft anchor rod E56 wouldn't hold 13.2ksi. As in previous days this anchor rod would be addressed at a time after the initial load verification was completed. Stressing operations were completed in the East tower shaft at 8:40am. Once stressing equipment was mobilized in the South tower shaft load verification operations began at 9:45am on rods S73, S74, and S75. The rod threads had to be chased on these three rods to enable stressing equipment to be fully engaged. The only issue in the South tower shaft to note is that four stressing cycles were done prior to verification cycles on anchor rods S42, S43, and S44. The anchor rod where it was difficult to turn the nut was S42, and these rods should be checked again after a few days. Stressing operations were completed at 1:20pm in the South tower shaft.

After work was completed in the South Tower shaft it was decided by the ABF ironworker foreman and Andre to try and fix the other anchor rods where the nut seized up. The first anchor rod was a1(S)04 which was detensioned by bringing the pressure to 13.2ksi, 6.0ksi, then 2.5ksi. While the rod was being raised the bridge/ gearbox was turned to loosen the nut. Also the jack puller was slightly raised to enable the nut to be moved up the rod while detensioning was in progress. Similarly anchor rod S05 was detensioned in the same manner going to 9.0ksi, 10.5ksi, 7.5ksi, 6.0ksi, then to 3.0ksi before the nut broke loose. After this was done the ABF ironworkers cleaned, filed down, sprayed WD40, used a thread chaser and dye to prepare the threads of these two rods. Anchor rod S05 was then restressed using three ram cycles of 7.0ksi, 11.5ksi, and 13.2ksi. The measured elongation for anchor rod S05 was 224-241 = 17mm. Then both S05 and S06 were verified together three times up to 13.2ksi to confirm the nut was locked with 105% Pjack load in the rod. Similarly rod a1(S)04 was stressed to 5.0ksi, 9.5ksi, then to 13.2ksi. The elongation for this rod was 236-254 = 18mm after being restressed. Also both a1(S)03 and 04 were tested



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Friday

together three times up to the Pjack load of 13.2ksi before confirming the nut had been locked off. Finally while in the South diaphragm the threads for anchor rods a2(S)01 & 02 were cleaned/fixd and load verified using three cycles to ensure the nut was locked off.

It also should be noted that ABF engineer Andre Markarian briefly was present for the stressing operation today.

### Attachment



Rust seen on the rod threads of S05 which were cleaned after destressing the rod and removing the nut.



Match marks made on the nut and bearing plate for anchor rod S72 to show how much the nut would turn after tightening when brought up to 105% Pjack.