Daily Diary Report by Bid Item

Contract No.: 04-0120F4
Diary #: 409 **Const Calendar Day:** 982 **Date:** 17-May-2012 Thursday
Inspector Name: Brignano, Bob **Title:** Transportation Engineer
Inspection Type:
Shift Hours: **Break:** **Over Time:**
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** **12 PM** **4PM**
Precipitation **Condition** overcast am, clear and windy pm

Working Day ☑ If no, explain:

Diary: Dispute ☐

General Comments

ITEM 60 ERECT STRUCTURAL STEEL (BRIDGE)(SADDLE):
WEST DEVIATION SADDLES HOUSING COVER PLATES:

For the north west deviation saddle housing plates that were removed yesterday from a test fit-up, ABF continues work today to slot some holes and trim some edges of the plates. Before removing the plates yesterday, ABF identified which bolt holes in the ZPMC housing plates did not line up with the drill and tap holes in the JSW saddles. Some holes need to be elongated by using a die-grinder and some edges that conflict with the adjacent plate need to be trimmed with a cutting disk on a disk grinder. Note that these housing plate to saddle bolt connections are not high strength bolt connections - stainless steel cap screws are used at a sealing spacing requirement with a sealing strip of neoprene between the saddle and the plates (what would be the faying surface in a high strength bolt connection). ABF also grinds the top surfaces of the previously reamed holes to deburr the holes. This work is done in the morning by ironworkers Ryan Nash and Rigo Garcia from 0700 to 1000. Then after 1030, they start painting all the surfaces that were worked by the tools and had paint removal. They use organic zinc primer from CCC. After completion of this work later in the morning, the ironworkers move to CCO 185 work.

Ironworker foreman Jim Benninghove also works with ironworkers Ryan Nash and Rigo Garcia on the housing plates that go over the troughs of the saddles. In some cases, the drill and tap holes in the grip plates that are shop welded to the back of the plates do not line up with the drilled holes in those plates. The holes in the plates need to be slotted to line up with the drill and tap holes in the grip plates. This work is done with a mag-drill in the front plate with the drilling stopping before drilling in the grip plate - when done cutting through the first ply, the steel slug spins and the ironworker knows the first ply is drilled and that he needs to stop there to not drill through the second ply (the grip plate). Only a few plates are fixed this way today because the plates are stacked and most of the drilling locations cannot be accessed until the plates are un-stacked. Note that these housing plate to housing plate connections are not high strength bolt connections - stainless steel cap screws are used at a sealing spacing requirement with a sealing strip of neoprene between the saddle and the plates (what would be the faying surface in a high strength bolt connection).

The neoprene seals for the housing plates are supposed to start arriving later this week on Saturday 5/19/2012. Only some of the neoprene will arrive then and more will arrive next week. Previously, it was thought that the neoprene would start arriving earlier this week.

Prior to erecting the neoprene and saddle housing plate, touch up paint is necessary. I discuss ABF's plan with ABF engineer Levi Gatsos. He says that ABF plans to complete all the CCO 185 drill and tap work, clean out all debris from the top of the saddles, tape over all the drill and tap holes (item work holes and

CCO holes), and then have painting subcontractor CCC do all the necessary paint repairs.

Other necessary work prior to erecting the housing cover plates discussed with ABF is to use caulk to fill abandoned drill and tap holes on certain ribs where JSW drilled holes for the handrail that was deleted by CCO 28 (replaced by padeyes in CCO 41). Also to be done before erecting the housing cover plates as discussed with ABF is to use bolts to plug holes in the ribs that were used for erection lugs.

ABF engineer Levi Gatsos also asks a question about a proposed method to temporarily hold the neoprene in place while the plates are being erected. Between the saddle and plates being erected, a soft/flexible sheet or strip of neoprene needs to be erected with all the holes lining up in these 3 elements. ABF requests to use caulking or epoxy to glue the neoprene in place during the erection of all these different elements. This would be particularly helpful on the saddle trough face where the saddle surfaces face downward slightly and are essentially vertical. During discussion, I agree with Levi that a brittle epoxy may not be appropriate but a soft caulking to hold the neoprene while erecting the plates and lining up bolt holes may not be harmful. I tell him that I will check with others and get a response in a few days.

CCO 185 WEST DEVIATION SADDLES HOUSING COVER PLATES:

At the north west deviation saddle, ironworkers Mike Draper and Jonathan Canites work from the start of the day tapping previously drilled holes along the top edge of the saddle (saddle base plate). Later in the morning, Ryan Evanchik joins Jonathan Canites and Mike Draper moves to the south west deviation saddle. Later in the morning, ironworker Ryan Nash finishes item 60 work and moves here to assist with the tapping of the previously drilled holes. In the afternoon, ironworker Rigo Garcia finishes item 60 work and moves here to assist with the tapping of the previously drilled holes. Ironworker foreman Jim Benninghove is also involved part time today on this operation.

At the south west deviation saddle, ironworker Mike Portillo starts the day drilling holes along the top edge of the saddle (saddle base plate). Later in the morning, Mike Draper moves to the south west deviation saddle to join Mike Portillo in this work. Ironworker foreman Jim Benninghove is also involved part time today in this operation. Note the difficulty in drilling holes while sitting on the sloped housing plates with the concrete W2 cap beam overhanging the work in close proximity for some of the locations. It takes some effort to get setup at the work location and move to the drill locations along the saddle base plate.

Along the top edge of the saddle where the CCO 185 drill and tap M16 holes are being added, there are also some 1/2" drill and tap holes that were used to attach grout formwork. Several of these holes are full of grout or epoxy. ABF was going to drill out the grout/epoxy and try not to damage the threads in the drill and tap holes so that they could accommodate the future 1/2" cap screws to be added here to attach the housing cover plate along with the M16 cap screws. Instead, ABF decides to drill these holes out and tap for M16 bolts, like the other bolts along this edge, and I agree with this change in plans.

Approximately 1400, most of the ironworker crew (Jim Benninghove, Mike Portillo, Mike Draper, Ryan Nash, and Jonathan Canites) moves to CCO 247 work at the north mainspan to remove cable bands - work there is inspected by others. The ironworker crew works a 10 hour shift to 1700 on the deck and 1730 back to Pier 7, except for Ryan Evanchik and Rigo Garcia who work short days today and leave early without going to CCO 247 work - Ryan works to 1500 for 7.5 hours all on CCO 185 and Rigo works to 1430 for 7 hours on the day with only 2 hours on CCO 185.

This work is included in CCO 185 (previously was in CCO 37S1 but moved) and is per the response to ABF-RFI-002264R00. This CCO does not yet have an agreed lump sum, so an Extra Work Order is signed with ABF is for the following:
Ironworker Foreman Jim Benninghove - 7 hours
Ironworker Ryan Evanchik - 7.5 hours
Ironworker Jonathan Canites - 7 hours
Ironworker Mike Portillo - 7 hours
Ironworker Mike Draper - 7 hours

Ironworker Ryan Nash - 4 hours
Ironworker Rigo Garcia - 2 hours
2 mag drills - 7 hours
M16 taps - 7 hours

See the attached Extra Work Order - Signed with ABF for CCO 185 work

ITEM 53 ERECT STRUCTURAL STEEL (BRIDGE)(TOWER):
TOWER SPLICE 2, WEST SHAFT, E-FACE:

See Mohammad Awal diary for other details of the work.

From the E-Face, 28 A490 bolt assemblies were replaced 4/18/2012 (including 4 that broke and were empty holes for some time), then another 180 bolts were replaced today 5/17/2012, for a total of 208 bolt assemblies replaced at this location. The existing bolts, nuts, and washers were removed and replaced with new bolts, nuts, and washers in the morning today and I did not inspect this work.

I arrive on site about 1330, and I meet with Mohammad Awal on the OBG deck next to the tower. We examine the removed bolts. From the sampling (around 5% to 10%) of bolts that I removed from the buckets, I did not see over-tensioned bolts. They were not noticeably or excessively necked down from yield. The Geomet coating did not flake off from excess elongation from going too far down the yield portion of the curve (note that turn of the nut tensioning methods intentionally result in yield). We examined the bolts only for a few minutes, before these replaced bolts were to be taken away by forklift (operator Theo Rohr) to the recycle bin on the deck, and before the scheduled inspection torque testing of the new bolt assemblies.

I then go inside the tower shaft to witness inspection torque on the newly installed bolt assemblies. The inspection torque is from the nuts on the inside. I select 10% of the assemblies for testing per spec. The rocap lot is DH4GM270003, M27x280 with inspection torque of 946 N-m or 698 ft-lb. All the selected assemblies pass the inspection torque test. From Smith-Emory for QC is Brian Connolly. From ABF for handling the torque wrench are ironworkers Matt Holt (foreman) and Jonathan Biskner. Testing is done by 1345.

After examining the removed bolts and completing testing of the newly installed assemblies, Robert Mertz and Aaron Prchlik from METS visit the site. We examine the interior splice plates and the new assemblies, with this field visit lasting until approximately 1430.

CCO 240 SADDLE DIVIDER PLATE BLOCKING; EAST SADDLES:

There is no work on this CCO at this location today, but there is a DJV visit to the location to examine the completed work. The CCO 240 blocking at the east saddles is complete, including all the epoxy. At about 1700, I visit the north east saddle with DJV Designer Sudarshni Ramesh. She examines the blocking and takes photos.

INSPECTOR OT REMARK:

2 hours OT: Work in the office to review ABF Extra Work Agreements for CCO 240 for the previous week's work, and a field visit at 1700 with the DJV to examine the blocking at the east saddle.