

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program

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September 14, 2009

Contract No. 04-0120F4
04-SF-80-13.2 / 13.9
Self-Anchored Suspension Bridge
Letter No. 05.03.08-000026

Michael Flowers
Project Executive
American Bridge/Fluor, A JV
375 Burma Road
Oakland, CA 94607

Dear Michael Flowers,

Transverse Linear Indications in OBG Transverse Segment Splices

The Department has discovered transverse linear indications in the OBG Transverse Segment Splice between Segments 1AAW and 1AW (please see attached spreadsheet for locations). These indications were documented on September 8, 2009, when a Caltrans Quality Assurance (QA) Inspector performed Ultrasonic Testing (UT) after receiving notification from ZPMC that the welds had previously been inspected and approved by their Quality Control (QC) Inspectors. Caltrans QA Inspector notified Larry Luo from ABF shortly after discovering the indications. The Department elected to utilize Scanning Pattern D in accordance with AWS D1.5 Section 6.24 'Scanning Patterns', Figure 6.7, a more effective method for discovering transverse indications.

A total of thirteen Class A rejectable transverse linear indications were discovered throughout the splice between Segments 1AAW and 1AW. Six of the said indications were located on the Side Plate on the Crossbeam side, one on the deck plate, three on the Side Plate on the Counterweight side, and the remaining three were located on the Counter Weight side Edge Plate. Magnetic Particle Testing (MT) confirmed one of the transverse indications on the Counterweight side Edge Plate to be a transverse crack. The rejectable indications discovered by UT and MT were documented by the Department in Incident Report 698. Currently, no repair work has been performed at said weld locations.

The Department is concerned that the Transverse Segment Splice welds in Lifts 1W and 1E may also contain transverse cracks, and believes it prudent to investigate the extent and nature of these indications. The Department would like to partner with ABF in order to determine if the transverse indications discovered on the Transverse Segment Splice between Segments 1AAW and 1AW are transverse cracks or other indications, and proposes that the weld areas be gradually removed by means of grinding with MT performed after each intermittent grinding pass to verify if transverse cracking is present.

The Department also requests that a procedure be jointly developed by CT/ABF using alternate scanning patterns and transducer angles in accordance with AWS D1.5 Section 6.26.3.2, in order to determine a more precise method for locating transverse cracks when indications such as those mentioned above are discovered.

AMERICAN BRIDGE/FLUOR, A JV

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Please contact Doug Coe if you would like to discuss this matter further or have any questions.

Sincerely,

GARY PURSELL

Resident Engineer

Attachment

cc: R. Morrow, P. Siegenthaler

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