DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program
333 Burma Rd.
Oakland, CA 94607
(510) 622-5660, (510) 286-0550 fax

CC Myers
51 Macalla Road
San Francisco, CA 94130

Attn: Mr. Bob Coupe

Ref: 215-sub.00082-00

August 25, 2005

Contract No. 04-0120R4
04-SF-80-12.6, 13.2
South – South Detour

Letter No. 05.03.01-000545

Subject: Deck Drainage with Drop-Through Analysis 215-SUB.00082-00

Dear Mr. Coupe,

We have reviewed the latest Deck Drainage submittal (215-SUB.00082-00, received 08/02/05) and it is determined that design exceptions may be necessary. Please utilize submittals 215-STT.00131 (ETI), 215-SUB.00044-02 (Viaduct), and 215-SUB.00064-01 (WTI) and provide the following analysis of the deck drainage system given the parameters below that will assist in finalizing the design exception:

a) Per submittal 215-SUB.0082-00, runoff entering from the existing structure was calculated as 50 percent. For this analysis, please assume that no runoff is entering from the existing structure onto the TBS.
b) Drop-throughs (openings through the deck) may be used in conjunction with submitted drainage inlets (215-STT.00131, 215-SUB.00044-02, and 215-SUB.00064-01) to improve overall drainage capacity. The dimension of each drop-through may not be wider than 50mm and should be placed longitudinally at the face of the concrete barrier.
c) Water from the upper deck drop-through should be deflected to the outside of the structure.
d) Use a 25-year rainfall intensity for all analysis.
e) Zero encroachment of water onto the traveled way.

With the parameters stated above, perform analysis to provide the following for both the upper deck and lower deck:

1) Location of drop-throughs that can be incorporated in conjunction with the submitted drainage inlets to alleviate water encroachment, without impacting the structure's integrity.
2) Dimensions of the drop-throughs.
3) Detailed drawing of the deflection device for the upper deck drop-throughs (Item 'c' above) and the impact of the device to the lower deck vertical clearance.
4) Calculation and table showing water spread at five-meter increments.

Please let us know when you'll be able to submit this analysis. If you have any questions, please contact me at (510) 622-5660.

Sincerely,

<<< ORIGINAL SIGNED >>>

Lourdes David
Resident Engineer

cc: G. Lai, T. Lai, D. Adams, M. Ardakanian, A. Bata, A. Yan
file: 05.03.01, 62.02.09