Transportation: Bridges

Team Members: Kleinfelder Team with Zia Zafir and Bill McCormick

Questions for South Napa Earthquake Field Team

Group:

1. Please broadly summarize what you saw today in the field. What conclusions can you draw from what you’ve seen?
   Most of the large bridge decks (First and Third Streets) show apparent movement of the decks towards the northeast on the order of 1.5”–2”. North side of Napa River Channel at Third Street had abundant sand boils, fissures, and long linear lateral spread cracks. Also, subsidence of soil at North bent 3”–6”.

2. What in this area should investigators study tomorrow? Are their obstacles that we need to overcome (i.e. access) to study this area or topic tomorrow?
   Coombs Street Pedestrian Bridge: Deck bolts sheared off on southwest corner (2 of 4). All other corner bolts are distorted. Large retaining wall apparent outward movement at top. Subsidence of fill several inches.

3. What future research needs do you see from this area? What comprehensive studies would be helpful? What data would be useful for these studies?

4. Have you seen items in other areas or disciplines that need further study or investigation new or as a longer term topic?
   Ground cracks across Highway 29 and Old Sonoma Road relatively broad & discontinuous (i.e. nonlinear)
1. Concrete Steel Pen Brakes

Date

DO NOT ALLOW USE

SW Bridge Beams Sheared Off
2 of 4
1 2 other loose & Distorted

SE Bridge Beams
Minor distortion of Beams
& Anchor Puts

NE & NW Beams Distorted but not Sheared Off

High Retaining Wall has top movement out Creating crack and West which pin settlement behind wall of 1"-3" Minor cracks in wall & Minor 1/10 offset of Expansion Joint

Eastern to West, Natural slope has cracks near crest

A No obvious signs of Liquefaction

D Down line of site, no bridge elements are Totally unstable, appears twisted across span.
Trenton ST / Napa River Bridge

**South Side**
- Deck appears to have been shifted to NE 1½-2" from frame, work does not depict.
- Some narrowing cracks in wall and acrossunderside sidewalk.
- Large cast iron pipe may be misaligned.
- Guard rail displaced.

**North Side**
- Same, except abutments look like they moved NE instead of deck, again forward.
- Lateral spread, sand boils and soil collapse features around north bent in roadway (low side) fissure, open crack.
- Many of tens of feet long 6-8" ground settlement around bent 3-6".