Reconnaissance Report on Calexico

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The reconnaissance team visited Calexico on April 7, 2010. The city is 32 miles north-northwest of the epicenter, and has a population of about 27,100 (Wikipedia). There are not many tall buildings in the city and the tallest ones are around three stories. According to the information provided by the city, nine buildings were red-tagged at the time of the visit. The team visited mainly the downtown area, and a bridge over an irrigation canal at mile post 22 along CA 98.

Map

Figure CA-1. Map of the visited area with information on the route of the reconnaissance team (in green) and the location of the structures discussed in this report.
Downtown Calexico

**Location:** Right East of S. Imperial Ave. and North of E 2\textsuperscript{nd} St.
**GPS Coordinates:** N32.66661, W115.49669

**Structural Systems:** Most of the buildings are one to two stories and were built in the 1920’s. Many are unreinforced masonry, and some seem to have steel frames encased in concrete. A newer three-story reinforced concrete masonry building was also seen.

**Observed damage:** Some structural damage was observed. Some unreinforced masonry buildings had cracked walls and leaning parapets. The three-story reinforced concrete masonry building seen during the visit had severe shear cracks in a pier next to the store-front window. The pier appeared to be fully grouted with a vertical reinforcing bar exposed by the spalling of the masonry around the shear cracks. The damage of the pier was most likely due to the weak first story introduced by the open store front. Nine buildings in the area had been red-tagged at the time of the visit, while a number of structures had many broken shop windows which were being replaced.

**Accessibility:** Downtown Calexico was briefly inspected on April 7, 2010 late in the afternoon close to the evening. At that time, the entire downtown area was still closed to the public.

**Selected Pictures**

![Figure CA-2. Downtown area closed to the public.](image-url)
Figure CA-3. Shear cracks in fully-grouted reinforced masonry pier caused by weak bottom story due to open store front.

Figure CA-4. Fine crack radiating from lower window corner in an URM wall.

Figure CA-5. RC column with damage near the bottom.

Figure CA-6. Damage of a steel column encasement.

Figure CA-7: Damaged two-story building; structural system appeared to be steel frame encased in concrete.

Figure CA-8. Reinforcing bars and a steel member exposed by concrete spalling near a beam-to-column joint for the same building.
Bridge on CA-98

Location: The bridge is located at milepost 22 along CA 98 over an irrigation canal.
GPS Coordinates: N32.67852, W115.67324

Structural system: According to the information provided by Caltrans, the bridge was constructed in 1955 and has a total length of 151 ft. The bridge deck is mildly skewed and has three spans supported on two intermediate bents and an abutment at each end. Each bent has 6 octagonal piles, and each abutment has 4 supporting piles.

Structural damage: Only the west abutment was visited due to the bank conditions and vegetation close to the east abutment. Cracks were observed in some of the piles. Some appeared to be caused by the earthquake, while others could be pre-existing. Some of the piles appeared to be slightly tilted, which according to Caltrans engineers was introduced in the original construction due to an alignment problem. In general, the damage caused by the earthquake was light with some mildly cracked columns and some crushing of non-structural unreinforced slurry wall beneath the abutment wall.

Accessibility: During the visit, in the morning of April 7th, the bridge was open to traffic.

Selected Pictures

Figure BR-1. View of the bridge.
Figure BR-2. Tilted exterior columns – a pre-existing condition.

Figure BR-3. Cracked exterior column.

Figure BR-4. Crushing of non-structural slurry wall beneath abutment wall.