

HOSPITAL PERFORMANCE IN THE AUGUST 24, 2014 SOUTH NAPA EARTHQUAKE

In the South Napa Earthquake, six general acute care hospital facilities (comprised of 58 buildings) and 16 skilled nursing facilities were within 25 miles of the epicenter. The Queen of the Valley Medical Center (QVMC) was the closest to the fault trace (2.3 miles away from the fault line) also had the most damage. Few buildings lost limited functionality temporarily due to minor structural and/or non-structural damage. The facility was on emergency power immediately after the event due to loss of power. Three buildings at the QVMC were yellow tagged by the OSHPD engineers, and the rest of the buildings were green tagged.

Specifically, the QVMC suffered seismic joint damage, plaster cracks, dropped ceiling tiles, and content damage in several rooms in different buildings. The most extensive ceiling damage occurred in the North Acute care corridor building near the seismic joints at the third floor. A $\frac{3}{4}$ " diameter water line caused water leakage damage to few non-structural walls in the main hospital building (Figure 1).



Figure 1: Observed damage in Queen of the Valley Hospital

In the main hospital building, built in 1957, two elevators were out-of-service. In addition, the earthquake caused some damage in the precast floor slabs/beams (see cracks in Figure 2). In the South Nursing Wing building, the storefront bowed in and off the top track (Figure 3). The stucco exterior walls at the ICU rooms pulled down from upper deck at the top of wall approximately 1/2" causing disruption of services in these rooms. In the North Acute Care building, a humidifier above the corridor ceiling leaked causing water damage to the ceiling tiles underneath.



Figure 2: Precast beam and diaphragm connection damage at one location

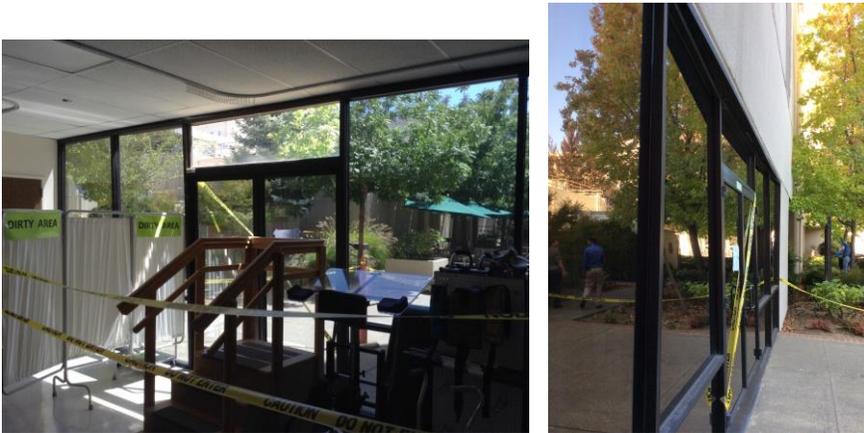


Figure 3: Storefront damage