



# POMPEII, CYPRESS STREET VIADUCT AND RIGHT OF WAY

...what we do is important



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## *Pompeii, Italy 79 A.D.*

It was August 23 in the year of 79 A.D., and life was thriving in the Roman empire resort town of Pompeii. Pompeii and its protected harbor was located south of Naples and southeast of Rome on the west coast of (now) Italy. The port of Pompeii was a busy commerce hub used by the Roman Empire for global trade and tourism. The area surrounding the port was rife with shops selling various wares and services catering to peasants, sea merchants and the wealthy Romans with vacation homes. It has been estimated that Pompeii had a population of nearly 20,000.

Nearby, Mount Vesuvius was a volcano thought to be dormant, as there wasn't notable volcanic activity for nearly 1,800 years. The very next day, August 24, 79 A.D., Mt. Vesuvius erupted, burying Pompeii and the surrounding cities and killing all in the



vicinity with super-heated toxic gases, pumice, ash and debris. The people of Pompeii were blissfully unaware of the impending eruption of Vesuvius, continuing with their busy lives in total ignorance of what was to come. In retrospect and now with centuries of information gathered, the signs of this impending disaster were readily available. Verified personal accounts reference earth tremors and columns of smoke rising above Mt. Vesuvius in the days and hours prior to the fatal eruption that killed an estimated 18,000 people in Pompeii. Earth tremors were a regular occurrence in Pompeii and dismissed as a harmless regular nuisance. If the Pompeians only knew then what we now know to be causal links between seismic activity (earth tremors) and the portend of extreme volcanic activity, these precursor earthquakes would have been the alarm that saved lives.

### Oakland, California - Cypress Street Viaduct - 1949 through October 1989

Oakland's Nimitz Freeway, or I-880, was designed in 1949, with construction completed in 1957. A portion of the Nimitz Freeway between the I-880 to the I-80 was called the Cypress Street Viaduct. The Cypress Street Viaduct was a stacked two-tier freeway with five lanes per deck. The City of Oakland and the Cypress Street Viaduct sat within the highly active California earthquake fault zone.

As constructed, the Cypress Street Viaduct met or exceeded all then-existing seismic safety design criteria. However, after 1957, advancements in construction, earthquake engineering technology and new seismic data suggested that the Cypress Street Viaduct might not be able to withstand a large-scale earthquake.

In 1971, a magnitude-6.6 earthquake hit southern California. Relatively new freeway bridge structures in the region were severely damaged by the earthquake event. Based on the new engineering data gathered following the 1971 event, the State of California initiated programs planning repairs and retrofitting of highways and bridges to avoid catastrophic failure during large earthquakes. But the Loma Prieta Earthquake happened before the upgrades could be made.

### Loma Prieta Earthquake

On October 17, 1989, at 5:04 p.m., the Loma Prieta earthquake, magnitude 7.1, rolled through the San Francisco Bay area and the City of Oakland. During the earthquake, most of the Cypress Street Viaduct's upper level collapsed directly onto the lower roadway below — during traffic rush hour. The upper deck tragically collapsed onto 80 cars on the deck below. One fact of fortune was that the San Francisco Giants baseball team was playing in the World Series, and as a result, significantly fewer cars were traveling on the Cypress Street Viaduct.

The collapse of the Cypress Street Viaduct and the partial collapse of the nearby Bay Bridge were two of the most devastating

earthquake aftereffects, requiring immediate action by all levels of assistance. Emergency crews worked nonstop to free people from the collapsed bridges while local residents helped extinguish fires and extricate trapped survivors from the rubble. A survivor was located and rescued approximately 90 hours after the initial earthquake. Damage caused by the earthquake was extensive, and rebuilding the region's damaged transportation infrastructure continued for many years following the disaster.

### Cypress Street Viaduct Reimagined

The reconstruction of the Cypress Street Viaduct was a high-priority, expedited project because the damaged freeway sections needed to be rebuilt, and heavy burdens were being placed on local streets to handle the redirected freeway traffic. As part of the environmental review process, the State of California selected a new route that realigned the freeway away from dense residential areas and through an industrial area and railroad yard. The \$1.1 billion project rebuilt the highway away from the previously impacted residential and commercial areas.

The new alignment required right of way agents from all parts of the state to assist with the expedited design, acquisition and relocation of displaced persons. My small part was to bring expertise in developing and writing a relocation plan as part of the Environmental Impact Report. I was part of the team that identified the impacts to private and public properties caused by the new proposed freeway route. We spent nine months in Oakland gathering property and business occupant information and helping to develop the final new freeway footprint.

### What We Do is Important

Planners, engineers and right of way agents all played essential roles in the expedited Cypress Street Viaduct redesign and reconstruction that included state of the art earthquake safety features. Right of way helped create a lasting legacy of Mandela Parkway in facilitating the transfer of excess property to local public entities and private parties spurring the area's revitalization. The Mandela Parkway is a four-lane boulevard with a wide, green belt median that reconnected the formerly bisected West Oakland community, reclaiming a more cohesive neighborhood for local residents and businesses.

Even in tragedy, there is always an opportunity for positive change, learning, improvement and hope for better. ☘



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