



● McQUISTON ASSOCIATES

6212 Yucca St, Los Angeles, CA 90028-5223

(323) 464-6792 FAX same

consultants to technical management

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ITEM 2 PLUM 12/3/13

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**STATEMENT of J.H. McQUISTON on
SEISMIC SAFETY of BUILDINGS**

Honorable Chairman and Members of the Committee:

I am a graduate of Caltech and a State-licensed Engineer for over 50 years. I have seismology experience.

Los Angeles County is covered with seismic faults, many of which could generate seisms of Richter 7 or larger.

Caltech and the Southern California Earthquake Center have published articles on faults affecting public safety in Los Angeles, predicting massive damage, causing deaths, loss of rescue services, and **bankruptcy of Cities**.

1. It is vital for Los Angeles to require hazard notices to be mounted on buildings not certified to withstand seisms near known faults. Northern California is way ahead of Los Angeles in posting the notices.¹

2. Typically, a large fault doesn't rupture instantaneously for its whole length. The fault's breaks in sequence produce periodic-waves over time. Those waves excite buildings back-and-forth, as we all know.

If the natural-frequency (HEIGHT) of the building matches the periodic-wave frequency, the pendulum-sway will be magnified and continue swaying until the building members deform or rupture. The dead-weight of the building causes it to collapse. **Slender buildings are the least-capable of remaining safe.**

Enclosed is an illustration of a Los Angeles building, built to code, which may collapse from a seism originating in far-away Park field, CA. Imagine what could happen from a seism originating in Arcadia!

3. Buildings are shaken by the ground beneath them. If the ground is "fluidized", the heavy building sinks into it. If the ground is solid-rock, the base will move with the ground.

However, a **building's weight is over 100,000 pounds for a small stucco bungalow.** A small concrete facility will probably weigh over 500,000 pounds. Both want to stay at rest and not move with the land.

If the building is to "keep up with the ground", so it does not disintegrate, **the base must propel the rest.**

As a practicing engineer, **I know most buildings will not be able to do that. Soft stories are death-producing.** Massive "shear walls" are probably-nonexistent. **Buildings without massive, balanced shear walls on each floor will collapse.** And massive concrete walls add to the building's inertia.

Google Earth has data on the Internet for every building in Los Angeles. It is no trouble for City to locate suspect- buildings having large gaps in their periphery at any level.

California Public Resources Code requires a **property owner to prove his building is safe. The City merely has to notify the property owner to submit proof of safety. Proof will be in Building-permit calculations.**

If the **property owner can't or won't submit proof, up goes the notice on the building, which won't deny entry.**

Respectfully submitted,

J. H. McQuiston

¹ Calif Pub Resources Code §2621 et seq; §2624 (City may establish policies stricter); 2621 8 (City liability for not enforcing notice)

FIGURE 3-1**SUBSEQUENT ENVIRONMENTAL IMPACT STATEMENT /
SUBSEQUENT ENVIRONMENTAL IMPACT REPORT**

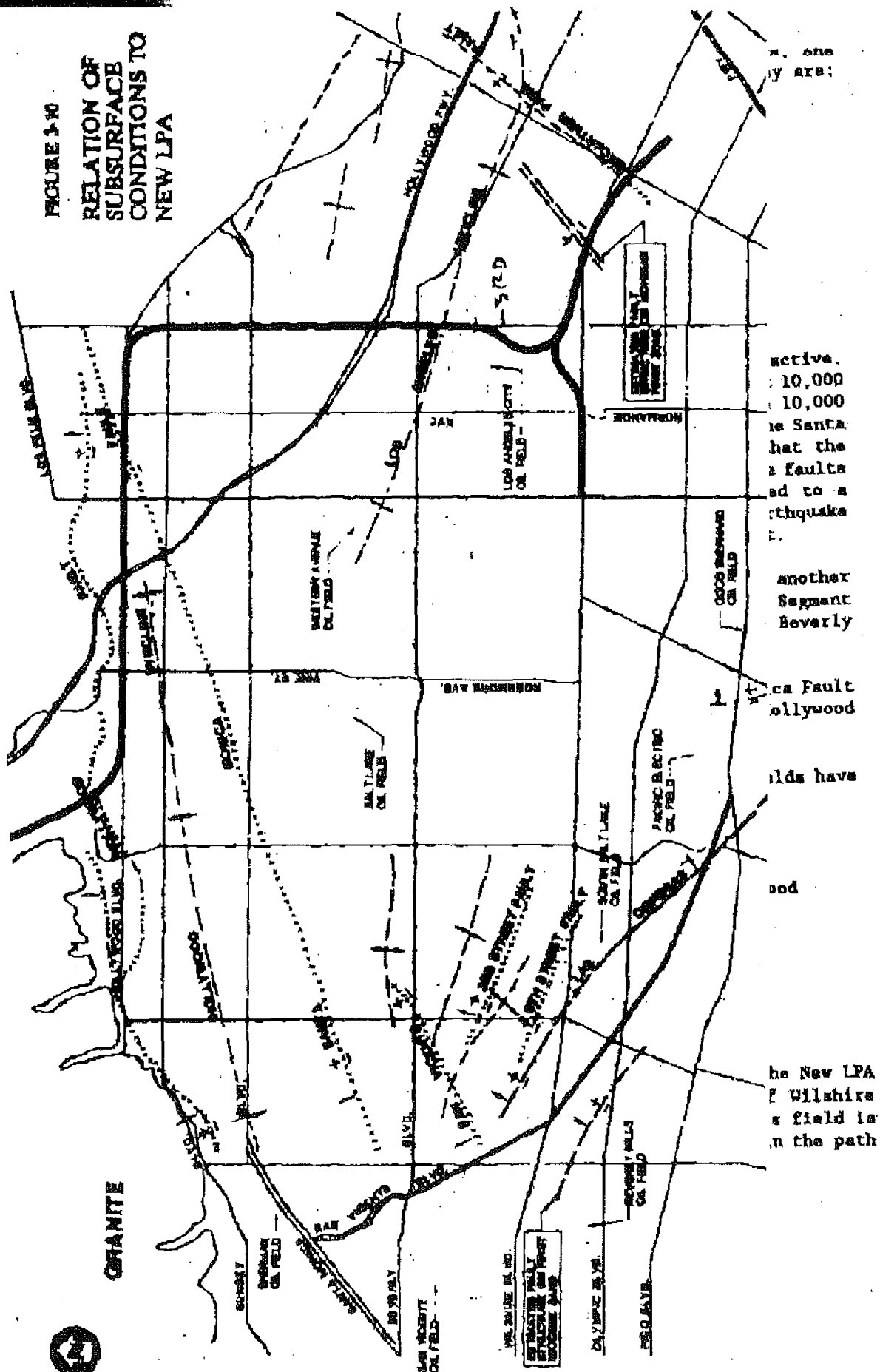
Los Angeles Rail Rapid Transit Project Metro Rail

U.S. DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT



FIGURE 10
RELATION OF
SUBSURFACE
CONDITIONS TO
NEW LPA



EXCERPTS FROM SEIS/SEIR

"5.11 SUBSURFACE CONDITIONS" (P. S-5-7)

* * *

"The potential for significant seismic effects on Metro Rail has been thoroughly examined. Eleven known faults have been identified in the study area. However, only two of the eleven, the Hollywood Fault and the Santa Monica Fault, are considered active or potentially active. "Active" faults are those that are believed to have moved within the last 10,000 years. "Potentially active" faults are believed to have moved between 10,000 and 2 million years ago. Geologists estimate that the probability of a Richter magnitude seven earthquake associated with these faults in the next 100 years is **5 percent**. The system has been designed to a **limiting peak horizontal acceleration** of **0.7 g** from a maximum credible earthquake of 7.0 on the Richter scale related to the Santa Monica Fault."

* * *

"CHAPTER 7: COMMENTS AND RESPONSES ON THE DRAFT SEIR * * *" (P. 7-2-41)

* * *

"SC12. COMMENT: On page 3-47 (of the May 1988 Addendum to the Draft SEIS/SEIR), the statement is made that the Hollywood fault is considered active. The State Geologist does not classify the Hollywood fault as active. (Robert S. Horrill, Los Angeles City Engineer)

"ANSWER: Notwithstanding the State Geologist's classification, consultants for the Metro Rail Project consider the Hollywood Fault to be active. See discussion in Chapter 3, Section 11."

NOTE: The State Geologist does classify the Santa Monica and Hollywood Faults as **active**.

The City Engineer was neither practicing "public safety" nor compliance with State law.