TITLE: The City Policy for Site-Specific Seismic Fault Investigations

PURPOSE:

The purpose of this policy is to ensure that non-exempt developments initiate a site-specific fault-rupture investigation according to the California Building Code in effect and following procedures of the California Geological Survey (CGS; 2018a). The major purpose of the site-specific seismic fault investigation is to identify and to prohibit construction of structures intended for human occupancy across the traces of active faults, and thereby to mitigate the hazard of surface and near-surface fault rupture.

Prior to issuance of building permits, City regulations and practice require that applicants (typically owners/developers) for proposed developments conduct an appropriate site-specific fault-investigation, the ultimate intent of which is to ensure public health, safety and welfare. In January 2018, the CGS designated the Santa Monica and Hollywood faults as “Earthquake Fault Zones” (EFZ) likely underlain by active faults capable of surface ground rupture (CGS, 2018b). The Inglewood and West Pico EFZ currently “terminates” at the City limits, but nevertheless requires similar geological evaluation for those projects on reasonable trend (CGS, 2018b). The likely connection between the Santa Monica and the Hollywood EFZs is currently unknown and hence projects between them may similarly require geological evaluation. Accordingly, as a matter of public safety and policy, the City, as the decision-making (lead) agency, follows the authority given to the City Building Official by the 2019 California Building Code, including recommendations and guidelines established by the CGS (2018a), the pertinent provisions are outlined as follows:


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through F, states “For structures assigned to Seismic Design Category C, D, E, or F, a geotechnical investigation shall be conducted, and shall include an evaluation of all of the following potential geologic and seismic hazards:

i. Slope instability.
ii. Liquefaction.
iii. Total and differential settlement.
iv. Surface displacement due to faulting or seismically induced lateral spreading or lateral flow.

2. The Alquist-Priolo (AP) Act was enacted in 1972 following the February 1971 Sylmar earthquake (summarized in CGS, 2018a). The main intent of the AP is to prevent construction of habitable structures across an “active fault,” presently defined by the State as “a fault that has had surface displacement within Holocene time (about the last 11,700 years), hence constituting a potential hazard to structures that might be located across it.” [14 Cal. Code Regs. Section 3601(a)]. Any fault where surface or near-surface displacement cannot be documented as pre-Holocene is regarded as “active” until clearly demonstrated otherwise (CGS, 2018a).

3. The State Geologist (CGS) is mandated to establish earthquake fault zones (EFZ) across known or reasonably inferred active faults. A project affected by the AP (PRC Section 2621.6) generally includes any structure for human occupancy. Consistent with policies of nearby agencies, the following exceptions are identified dependent on review and formal acceptance by the Building Official:

A) Single-family, wood-frame or steel-frame dwellings to be built on parcels of land for which geologic reports have been approved by the lead agency [City of Beverly Hills];

B) A single-family wood-frame or steel-frame dwelling not exceeding *two stories when that dwelling is not part of a development of four or more dwellings;

*Note: For purposes of this policy, including State and local requirements, developments where a site-specific fault-rupture investigation is required shall count basement floors/levels as a “Story” according to the California Building Code.

C) **An alteration or addition to any structure if the value of the alteration and or addition does not exceed 50 percent of the replacement value of the existing structure, not including land value.

**Note: Exception C is in consideration of A and or B above.

4. The City may impose investigation requirements more restrictive than those required by State regulations particularly in light of evolving changes to professional standards-of-practice. The City may therefore require that applicants for developments of four or
more “units,” whether in or out of an EFZ, conduct appropriate, site-specific fault investigations with documentation subject to peer review by a technically qualified geologist retained by the City.

PROCESSES AND PROCEDURES:

The owner/developer is responsible to conduct the required fault-activity investigations. The documentation (usually draft and final reports) is then submitted to the City for review and potential approval. The City does not employ a staff geologist; thus, all fault investigation reports are evaluated by an external, State-licensed, technically qualified reviewer who specializes in fault assessments. This reviewer is retained by the City to assess the scope and technical documentation provided by the consultants-of-record, including their professional opinions and conclusions, as to the possible presence and relative impact of active faults within the proposed development. The reviewer also determines whether or not the particular site-specific investigation meets the current geologic standard-of-practice for evaluating potential surface-fault rupture.

When all fault issues have been adequately addressed, the City’s reviewer briefly summarizes the investigation scope and conclusions, and whether or not these conform to current building codes and geologic standards-of-practice. Ultimately, if warranted, the reviewer then provides the City with a formal “Recommendation for Acceptance.” Under current practice, and as common in other lead agencies, the local Building Official relies on the geological review to make an informed decision about acceptance. In the interest of public health and safety and as provided in the 2019 California Building Code (see above), other geologic and geotechnical concerns may also have to be addressed; e.g., potential ground deformation owing to seismically induced liquefaction. Specific investigation principles are provided in “Guidelines for Evaluating Potential Surface-Fault Rupture Within the City of Beverly Hills, California” available on the City website. The documentation for these seismic and other pertinent geological issues is then reviewed by the City’s in-house staff or by a contracted specialist as needed. As authorized by the A-P Act, the City imposes and collects fees for: (1) Technical Reviewer professional services; (2) overhead (currently 15 percent) based on Reviewer services; (3) in-house engineering evaluations; and (4) permits for drilling, excavation, City provided staff services e.g. Inspectors, Police Officers, Traffic Control Officers, or other activities impacting City rights-of-way. When all code-mandated investigations have been completed and accepted, and when all required fees have been received, the City Building Official may then issue the appropriate permit(s).
REFERENCES:


California Public Resources Code – PRC, Division 2. Geology, Mines and Mining [2001 – 2815], Chapter 7.5. Earthquake Fault Zoning [2621 – 2630], [available online]

City of Beverly Hills, 2018, Guidelines for Evaluating Potential Surface-Fault Rupture Within the City of Beverly Hills, California, 3 p. [available online]

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