SUBJECT

FAULT-RUPTURE HAZARD INVESTIGATION AND REPORT STANDARDS

APPROVED, Barbara Johnston, Building Official

The Alquist-Priolo Earthquake Fault Zoning Act is intended to provide policies and criteria to assist cities, counties, and state agencies in the exercise of their responsibility to prohibit the location of developments and structures for human occupancy across the trace of active faults. The Act allows cities and counties to establish additional policies and criteria so long as they are not less restrictive. These include setting specific investigation and report standards.

Generally, fault rupture hazard investigations and associated reports must adhere to the guidelines outlined in California Geological Survey (CGS) Note 49 entitled "Guidelines for Evaluating the Hazard of Surface Fault Rupture", with Appendix C of CGS Special Publication 42 entitled "Fault-Rupture Hazard Zones in California" and with Chapter 82.15 of the County Development Code.

The policies and criteria outlined in this standard procedure are intended to clarify County requirements and augment the State guidelines.

1. Trenches and/or other exposures in Quaternary age alluvium must provide adequate subsurface coverage for that portion of the project proposed within the Alquist-Priolo Earthquake Fault Zone or, when approved by the County Geologist, for individual building envelopes within the Alquist-Priolo Earthquake Fault Zone.

2. In determining the amount of subsurface coverage provided by widely spaced trenches and/or other exposures in Holocene age alluvium, a 5 degree "factor of safety" that is based on the overall trend of the principal faulting will be considered appropriate. Subsurface data (trench coverage or fault location) should not be extrapolated more than 600 feet without additional surface or subsurface information. *En echelon* or other complex faulting may require closer spacing of trenches.

3. The County Geologist shall be notified at least two working days prior to the start of trenching and shall be provided a trench schedule and a site map showing the approximate location of the proposed trenches. In most cases, the County Geologist must inspect the trenches once they are completed, cleaned and logged. Failure to notify the County Geologist may result in the need to re-excavate trenches.

4. A grading permit is currently not required for the excavation and backfilling of fault trenches when conducted under the supervision of a California Professional Geologist. However, exemption from a grading permit does not grant authorization for any work that may be regulated by other agencies. It is the responsibility of the applicant to determine the need for any additional biological, air quality or water quality, studies, permits or monitoring that may be necessary to excavate trenches on a particular site.

5. Appropriate erosion and sediment control measures are expected during and/or following a site investigation when the excavation and backfilling could result in erosion or migration of sediments off site.

6. Trenches excavated in Holocene age alluvium must be a minimum depth of 10 feet. Deeper trenching may be appropriate depending upon the recency of the deposit. In pre-Holocene materials, trenches must be excavated to a reasonable depth to adequately expose faulting.

7. A trench log must be completed on each trench. The log must be a reasonable graphic representation of the subsurface conditions encountered within the trench, show the topographic profile and be at an undistorted scale no smaller than 1 inch equals 5 feet. Trench logs must show distances along the trench, depth and direction and/or identify which trench wall was logged. The strike and dip of faulting, fracturing, bedding and any other prominent features must be clearly shown.

8. The determined or estimated age of faulted and unfaulted materials exposed within the trenches must be discussed within the report.

9. In accordance with Section 82.15.040 of the County Development Code, a minimum 50 foot setback from active faulting is required for non-critical structures. Greater setbacks may be appropriate from poorly defined faulting or complex faulting such as low angle and thrust faulting. Lesser setbacks may be considered from well defined active faulting exposed in pre-Holocene age materials. The Development Code requires a minimum setback of 150 feet for critical facilities such as police and fire stations, schools, hospitals, nursing homes and emergency communication facilities.

10. If there is a potential for active faulting to occur within 50 feet beyond the end of a trench, a 50 foot setback from the end of the trench will be considered appropriate.

11. An active fault is a fault that has produced surface ground rupture during Holocene time (within approximately the last 11,000 years). A potentially active fault is a Quaternary age fault with unknown Holocene activity. For purposes of the Alquist-Priolo Earthquake Fault Zone Act, if it can be demonstrated that surface ground rupture has not occurred along a fault during all of the Holocene, the fault should be designated as “not active”. However, determining fault activity is often difficult and may require multiple lines of evidence including soil profiling, geomorphology and age dating techniques. Building setbacks will be required from faults where Holocene activity remains unknown.

12. Principal faulting exposed within the trenches must be accurately located and staked in the field. Fault laths must be surveyed or tied to a recoverable monument. Trench locations must be tied to a recoverable point. Building setback lines must be tied to a surveyed point.

14. Fault location and building setbacks must be shown on a plat within the report and on the Composite Development Plan as well as any other required development or grading plans. The direction, length and setback distance of each segment of the recommended building setbacks must be specified on the plat within the report as well as discussed within the text.

15. Conclusions based solely on geophysical investigation methods are unacceptable. Geophysical methods alone never prove the absence of faulting nor do they determine the recency of activity.

16. Any portion of a site that lies within an Alquist-Priolo Earthquake Fault Zone which was not covered by trenching or other approved means during the fault rupture hazard investigation, must remain restricted. No human occupancy structures or fault sensitive development can occur within that portion of the site unless a subsequent investigation demonstrates it is free of active faulting.