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CALIFORNIA GEOLOGICAL SURVEY ISSUES PRELIMINARY FAULT ZONE MAPS FOR SOUTHERN CALIFORNIA

Note: The maps can be viewed online at <http://www.conservation.ca.gov/cgs/Pages/Index.aspx>

SACRAMENTO – The California Geological Survey (CGS) today released five preliminary Alquist-Priolo Earthquake Fault Zone maps for public review. These maps, which identify areas where faults have ruptured the surface of the earth, may impact development plans. They cover portions of Los Angeles, San Bernardino, Orange and Riverside counties, and the cities of Brea, Coachella, Indio, and Yorba Linda.

“These maps establish zones within which extra precaution is required to ensure that new construction for human occupancy does not take place atop the surface trace of an active earthquake fault,” said State Geologist Dr. John Parrish, head of CGS. “While buildings can be engineered to withstand earthquake ground shaking, surface ground rupture because of fault movement directly underneath a building that impacts the integrity of the foundation is another matter.”

Of the various hazards associated with major earthquakes – including shaking, landslides and liquefaction -- building atop the surface trace of an active fault is the easiest to avoid. The Alquist-Priolo Act was passed into law following the destructive February 9, 1971 magnitude 6.6 San Fernando Earthquake, which caused extensive surface ruptures that damaged numerous buildings. Currently there are 554 official maps covering 36 counties and more than 100 communities.

“These are all revisions of existing maps, and all of them are for faults that are well known in the local communities,” said Tim McCrink, who heads the Alquist-Priolo program. “The original maps date to the late 1970s and they triggered site investigations as development occurred. We are incorporating that new data, which changes the zones to some degree. The Yorba Linda map is the only one in a significantly urbanized area, although there are development plans in the zones for Coachella and Indio.”

The Yorba Linda map covers an area where Los Angeles, Orange and San Bernardino counties meet, but the zone is only for the Orange County portion.

Preliminary maps have been forwarded to local lead agencies and will be available for public review. The review period, which includes a hearing in front of the State Mining and Geology Board, will last 90 days. CGS will publish final maps after it considers comments from the lead agencies, the public, and the State Mining and Geology Board.

Under the Alquist-Priolo Act, before a new project containing structures for human occupancy can be permitted within a zone, lead agencies must require a geologic investigation to demonstrate that proposed buildings will not be constructed across active faults. An evaluation and written report about a specific site must be prepared by a California-licensed geologist. Disclosure that property is within a zone must be made in real estate transactions; otherwise, the zones do not affect existing developments unless extensive additions or remodeling are proposed.

There have been 26 earthquakes associated with surface faulting in California since the first Alquist-Priolo zone maps were issued in 1974. Although most of the ground surface displacement associated with these events was relatively minor, there have been seven earthquakes with surface fault offsets greater than a foot. Earlier earthquake records suggest that earthquakes with ground surface displacement equal to or greater than three feet occur once every 15 to 20 years in California.

“It’s a fact of life that earthquakes will occur, and we cannot predict them or stop them,” McCrink said. “These zone maps are one thing that we can do to keep residents and property safer.”

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