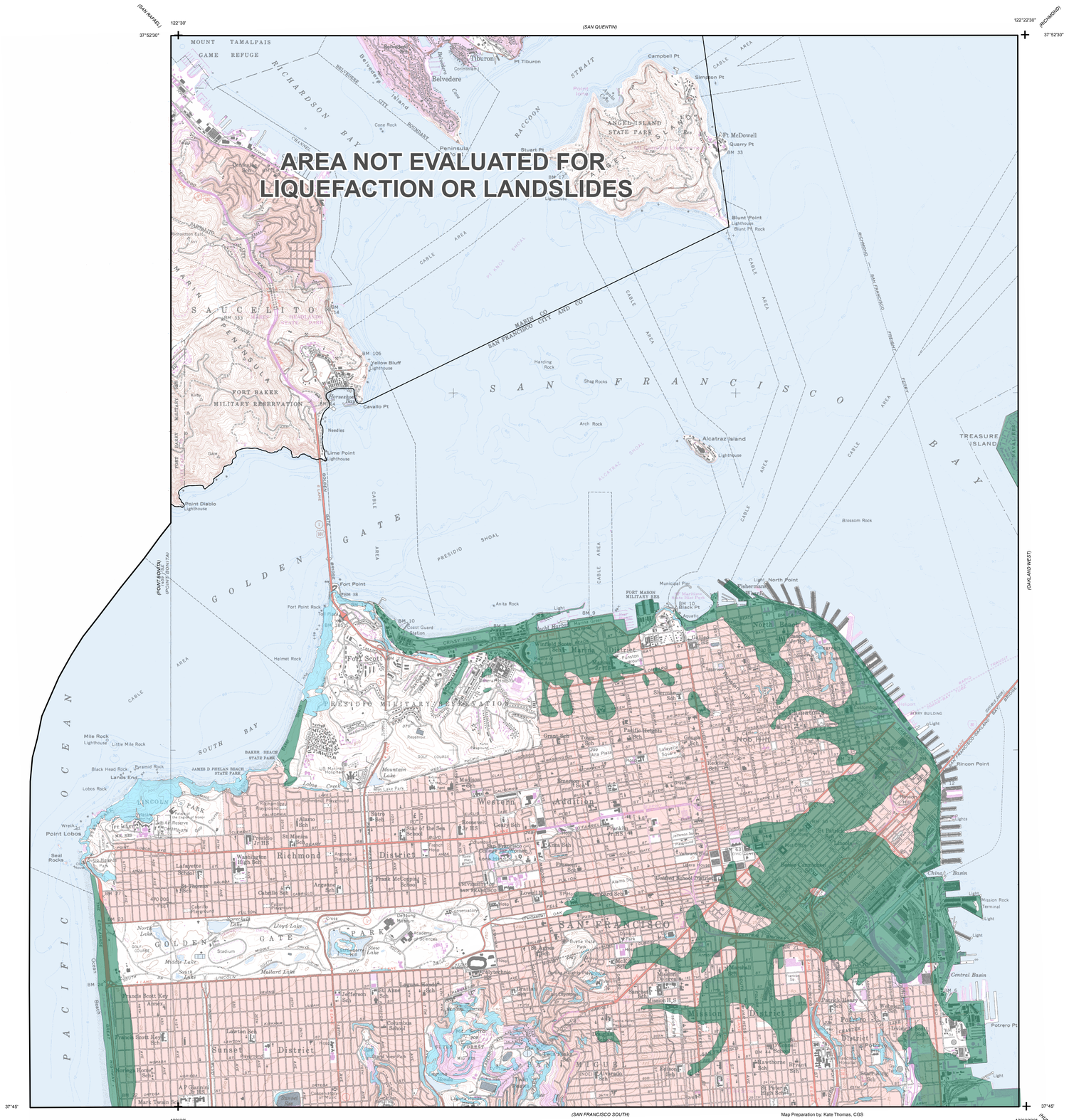


Map Preparation by: Kate Thomas, CGS

Earthquake Zones of Required Investigation San Francisco North Quadrangle

California Geological Survey

This Map Shows Seismic Hazard Zones
Alquist-Priolo Earthquake Fault Zones Have Not Been Prepared
For The San Francisco North Quadrangle

This map shows the location of Seismic Hazard Zones, referred to here as Earthquake Zones of Required Investigation. The Geographic Information System (GIS) digital files of these regulatory zones released by the California Geological Survey (CGS) are the "Official Maps." GIS files are available at the CGS website http://maps.conservation.ca.gov/cgs/informationwarehouse/. These zones will assist cities and counties in fulfilling their responsibilities for protecting the public from the effects of earthquake-triggered ground failure as required by the Seismic Hazards Mapping Act (Public Resources Code Sections 2690-2699.6) and the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Sections 2621-2630). For information regarding the general approach and recommended methods for preparing these zones, see CGS Special Publication 118, *Recommended Criteria for Delineating Seismic Hazard Zones in California,* and Special Publication 42, *Earthquake Fault Zones, a Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California*, Appendix C.

For information regarding the scope and recommended methods to be used in conducting required site investigations refer to CGS Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, and CGS Special Publication 42. For a general description of the Seismic Hazards Mapping and Alquist-Priolo Earthquake Fault Zoning acts, the zonation programs, and related information, please refer to the website at www.conservation.ca.gov/cgs/.

MAP EXPLANATION

SEISMIC HAZARD ZONES

Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

ADDITIONAL INFORMATION

For additional information on the zones of required investigation presented on this map, the data and methodology used to prepare them, and additional references consulted, please refer to the following:

Seismic Hazard Zone Report for the City of County of San Francisco 7.5-minute Quadrangle, San Francisco County, California. California Geological Survey, Seismic Hazard Zone Report 043. http://gmw.conservation.ca.gov/SHP/EZRIM/Reports/SHZR/SHZR_043_City_And_County_of_San_Francisco.pdf

For more information on the Seismic Hazards Mapping Act please refer to: http://www.conservation.ca.gov/cgs/shzp/Pages/SHMPpgminfo.aspx

Click the link below to learn how to take greater advantage of the GeoPDF format of this map after downloading. http://gmw.conservation.ca.gov/SHP/EZRIM/Docs/TerragoUserGuide.pdf

SAN FRANCISCO NORTH QUADRANGLE

SEISMIC HAZARD ZONES

Delineated in compliance with Chapter 7.8, Division 2 of the California Public Resources Code *(Seismic Hazards Mapping Act)*

OFFICIAL MAP

Released: November 17, 2000

STATE GEOLOGIST

Study area defined by USGS quadrangle boundaries using NAD 27, represented by the visible map extent. Data are maintained and distributed in California Albers (meters), NAD 83 [EPSG:3310], as shown by tics and coordinates.
Shaded topographic relief derived from USGS 10 meter NED (2013).
Topographic base map from USGS 1956, photorevised 1968 and 1973.
Street data from US Census Bureau TIGER/Line, 2016.

Scale 1: 24000

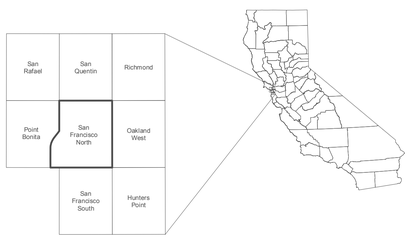
1 0.5 0 1 2 Miles
1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000 Feet
1 0.5 0 1 2 Kilometers
1000 500 0 1000 2000 Meters

Contour Interval 25 Feet

13 1/2°
TRUE NORTH
MAGNETIC NORTH
Approximate Declination, 2016

N

California Geological Survey
Geologic Information and Publications
801 K Street, MS 14-34
Sacramento, CA 95814-3532
www.conservation.ca.gov/cgs



IMPORTANT

PLEASE NOTE THE FOLLOWING FOR ZONES SHOWN ON THIS MAP

1) This map may not show all faults that have the potential for surface fault rupture, either within the Earthquake Fault Zones or outside their boundaries. Additionally, this map may not show all areas that have the potential for liquefaction, landsliding, strong earthquake ground shaking or other earthquake and geologic hazards. Also, a single earthquake capable of causing liquefaction or triggering landside failure will not uniformly affect the entire area zoned.

2) Boundaries of Earthquake Fault Zones, if included on this map, are based on interpreted Holocene-active fault traces.

3) The identification and location of these faults are based on the best available data. However, the quality of data used is varied. Traces have been depicted as accurately as possible at a map scale of 1:24,000.

4) Liquefaction zones may also contain areas susceptible to the effects of earthquake-induced landslides. This situation typically exists at or near the toes of existing landslides, downslope from rockfall or debris flow source areas, or adjacent to steep stream banks.

5) Landslide zones on this map were determined, in part, by adapting methods first developed by the U.S. Geological Survey (USGS). Landslide hazard maps prepared by the USGS typically use experimental approaches to assess earthquake-induced and other types of landslide hazards. Although aspects of these new methodologies may be incorporated in future CGS seismic hazard zone maps, USGS maps should not be used as substitutes for these Official SEISMIC HAZARD ZONES maps.

6) USGS base map standards provide that 90 percent of cultural features be located within 40 feet (horizontal accuracy) at the scale of this map. The identification and location of liquefaction and earthquake-induced landslide zones are based on available data. However, the quality of data used is varied. The zone boundaries depicted have been drawn as accurately as possible at this scale.

7) Information on this map is not sufficient to serve as a substitute for the geologic and geotechnical site investigations required under Chapters 7.5 and 7.8 of Division 2 of the California Public Resources Code.

8) Seismic Hazard Zones identified on this map may include developed land where delineated hazards have already been mitigated to city or county standards. Check with your local building/planning department for information regarding the location of such mitigated areas.

9) DISCLAIMER: The State of California and the Department of Conservation make no representations or warranties regarding the accuracy of the data from which these maps were derived. Neither the State nor the Department shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.