CHAPTER IV.
GEOLOGIC PROVISIONS*

ARTICLE 1.
GENERAL PROVISIONS AND DEFINITIONS

Part 1.
General Provisions

Sec. C12-600. Purpose.

This chapter is enacted for the purpose of establishing minimum requirements for the geologic evaluation of land based on proposed land uses. It further establishes procedures to enforce these requirements, including rules and regulations for the development of land which is on or adjacent to known potentially hazardous areas, or which has the potential to create or increase the risk of geologic hazard. The provisions of this chapter also are intended to ensure that the County fulfills its duties under state law regarding geologic hazards, including the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act. This chapter may be cited as the "Santa Clara County Geologic Ordinance."

(Ord. No. NS-1203.111, § 1, 3-19-02)


Part 2.
Definitions

Sec. C12-605. Applicable definitions.

In addition to the definitions covering this entire division, the following definitions are applicable to this chapter.

(Ord. No. NS-1203.111, § 1, 3-19-02)
Sec. C12-605.1. Alluvium.

"Alluvium" is the deposits of sand, gravel, clay or silt or a mixture thereof which are unconsolidated or semiconsolidated (see also surficial deposits).

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.2. Bedrock.

"Bedrock" is the solid, undisturbed rock in place either at the ground surface or beneath surficial deposits of loose rock or soil.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.3. Civil engineer.

"Civil engineer" is a professional engineer registered as a civil engineer by the State of California.

(Ord. No. NS-1203.111, § 1, 3-19-02)


"Construction observation letter" is a letter authored and signed by the project consulting engineering geologist and/or soils engineer indicating that he/she has observed the relevant portions of construction and found them to be in conformance with the recommendations presented in the approved geologic report.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.5. Consulting engineering geologist.

"Consulting engineering geologist" is an engineering geologist retained by a property owner or applicant for development of property to perform a geologic investigation of a property or site.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.6. County Geologist.

"County Geologist" is the engineering geologist designated by the Planning Director as the County Geologist of the Environmental Resources Agency.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.7. County geologic hazard zones.

"County geologic hazard zones" shall include fault rupture hazard zones, landslide hazard zones, compressible soils hazard zones, dike failure flooding hazard zones, and liquefaction hazard zones (which includes United States Geological Survey Open File Report 00-444) as adopted by the Board of Supervisors. This term shall also include any seismic hazard zones officially adopted by the State of California, unless the Board of Supervisors determines otherwise. Maps illustrating such zones are on file with the County Geologist and the County Planning Office.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.8. Earthquake.

"Earthquake" is a sudden shaking of the earth caused principally by the abrupt release of slowly accumulated strain through sudden displacement of bedrock.

(Ord. No. NS-1203.111, § 1, 3-19-02)
"Engineering geologist" is a registered geologist certified as an engineering geologist by the State of California.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.10. Engineering geology.
"Engineering geology" is the application of geological data and principles to engineering problems dealing with naturally occurring rock and soil for the purposes of assuring that geological factors are recognized and adequately interpreted in engineering practice.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.11. Excavation.
"Excavation" is any act which causes earth, sand, soil, gravel, rock or any other material to be cut into, dug, drilled, quarried, uncovered, removed, displaced, relocated or bulldozed, and shall include the conditions resulting therefrom.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.12. Existing grade.
"Existing grade" is the existing ground surface elevation prior to excavation or filling.

(Ord. No. NS-1203.111, § 1, 3-19-02)

"Fault" is a fracture in the earth's crust forming a boundary between rock or soil masses that have moved relative to each other.

(Ord. No. NS-1203.111, § 1, 3-19-02)

"Fault rupture" is the deformation of the ground surface that results from displacement along a fault. Fissures and cracks are common features indicating the occurrence of fault rupture.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.15. Fault trace.
"Fault trace" is the intersection of the fault plane with the ground surface. Most fault traces are less than 20 feet in width.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.16. Fault zone.
"Fault zone" is a corridor of variable width along one or more fault traces. Most fault zones range from one-quarter mile to one mile in width.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.17. Fill.
"Fill" is the placement of soil, rock or other materials by man, and shall include the conditions resulting therefrom.
Sec. C12-605.18. Finish grade.

"Finish grade" is the final surface elevation or grade of the work.


"Geologic report" is a report prepared and signed by an engineering geologist which provides an adequate description of the geology of the site and surrounding area with recommendations regarding the interrelated effects of geological conditions and the development as proposed. A detailed definition is provided in this chapter.

Sec. C12-605.20. Geophysical traverse.

"Geophysical traverse" is an indirect method of determining the location of faults, or other subsurface discontinuities, through geophysical measurements involving seismic waves, gravity, magnetics, electrical resistivity or other techniques.


"Geotechnical engineer" is a registered civil engineer certified as a geotechnical engineer by the State of California.

Sec. C12-605.22. Grading.

"Grading" is any excavation or filling of land, or combination thereof.

Sec. C12-605.23. Landslide.

"Landslide" is a general term for the downslope movement of a mass of soil, surficial deposits or bedrock. Landslide movement is relatively rapid compared with soil or rock creep movement. The term is used more generally by some geologists to indicate the area of sliding or even the deposits resulting from landslide movement.


"Liquefaction" is a process by which certain water saturated soils turn to quicksand because of prolonged, strong ground shaking and increase of groundwater pore pressure.


"Seismic trench" is an excavation across a suspected fault trace.

"Plan review letter" is a letter authored and signed by the project consulting engineering geologist and/or soils engineer indicating that he/she has reviewed the plans for the proposed project and found them to be in conformance with the recommendations presented in the approved geologic report.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.27. Soil creep.

"Soil creep" is the gradual and steady downslope movement of shallow soil and loose rock material.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.28. Soils report.

"Soils report" is a report concerning soils engineering aspects of a site or project, and prepared by a civil engineer registered in the State of California and qualified in the field of geotechnical engineering.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.29. Soils engineer.

"Soils engineer" is a civil engineer registered in the State of California and qualified in the field of geotechnical engineering.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-605.30. Surficial deposits.

"Surficial deposits" are unconsolidated deposits which are formed at the earth's surface and generally transported by water, wind, ice or by human activity. They sometimes form in place through weathering of pre-existing materials. (See also "alluvium.")

(Ord. No. NS-1203.111, § 1, 3-19-02)

ARTICLE 2.
COUNTY GEOLOGIC HAZARD ZONES

Sec. C12-606. County geologic hazard zones and maps.

The official Santa Clara County geologic hazard zones and maps illustrating these zones are herein adopted and may be amended from time to time by resolution of the Board of Supervisors. Said official zones and maps illustrating such zones are on file with the County Geologist and the County Planning Office, and are a major basis for determination by the County Geologist as to whether a geologic report shall be required for proposed development.

(Ord. No. NS-1203.111, § 1, 3-19-02)

ARTICLE 3.
REVIEW PROCESS

Part 1.
General

Sec. C12-607. Review requirements.

A geologic investigation may be required for any proposed development within a geologic hazard zone or when the proposed development may create or increase the risk of geologic hazard. The County Planning Office and/or the County Geologist shall review land development applications, building permit applications and land use proposals using maps showing the official County geologic hazard zones, other maps and pertinent data,
including, but not limited to previous investigations of the subject property, to determine if a geologic investigation is required.

(Ord. No. NS-1203.111, § 1, 3-19-02)

### Part 2.

#### Types of Reports

**Sec. C12-608. General.**

The types of geologic reports that may be required are described in Sections C12-609 through C12-611.

(Ord. No. NS-1203.111, § 1, 3-19-02)

**Sec. C12-609. In-depth geologic report.**

An in-depth geologic report is a detailed report, based on a site-specific investigation and evaluation, containing a thorough description of the geology of the site and all other potentially affected areas, with recommendations relating to proposed or potential development. It may be required for proposed developments located in County geologic hazard zones.

(Ord. No. NS-1203.111, § 1, 3-19-02)

**Sec. C12-610. Feasibility geologic report.**

A feasibility geologic report is a report used to evaluate proposed subdivisions of land in order to identify potentially satisfactory building sites on each proposed parcel. The feasibility report is intended to provide general information about the geologic condition of the property and adjacent areas for guidance in decisions on land use and subdivision. An in-depth geologic report may be required by the County Geologist if the information in the feasibility geologic report or other geologic data indicates that further investigation is needed to properly evaluate the application.

(Ord. No. NS-1203.111, § 1, 3-19-02)

**Sec. C12-611. Geologic letter report.**

A geologic letter report is a simplified geologic report prepared to evaluate single-family dwellings or minor grading, which does not include subsurface exploration or illustrations of the site. This geologic evaluation shall include potential effects of development on adjacent properties. An in-depth geologic report may be required if the County Geologist determines that the information in the geologic letter report or other geologic data indicates that further investigation is needed to properly evaluate the application.

(Ord. No. NS-1203.111, § 1, 3-19-02)

### Part 3.

#### Requirements for In-Depth and Feasibility Geologic Reports

**Sec. C12-612. General.**

The following minimum information shall be provided with all in-depth geologic reports and feasibility geologic reports. These minimum requirements are intended to establish uniform quality standards in all geologic reports submitted for review by the County Geologist.

a. Original signature and certification number. The original signature and certification number of the consulting engineering geologist who authored the report shall be affixed to the geologic reports.

b. Index map. The site location and the regional setting of the proposed development shall appear on the index map. A map showing the County geologic hazard zones in the vicinity of the site is recommended.

c. Area geologic map. A geologic map of the site vicinity at a scale of one inch equals 2,000 feet with the
parcel outlines and the source(s) of the geologic data. An explanation defining the geologic features mapped at and near the site shall also be included.

d. Site geologic map. A geologic map of the site at a scale of one inch equals 100 feet or larger showing geologic contacts, faults, landslides, borings, trenches, and any other field data points, parcel boundaries, proposed locations of improvements, limits of setbacks from hazardous areas, and recommended building envelopes. If geologic structure sections are included in the report, the lines of each section shall be indicated on the site geologic map.

e. Geologic structure sections. Actual or probable subsurface relations shall be shown without vertical exaggeration. Relations that are conjectural shall be clearly labeled as such.

f. Statement of conclusions and recommendations. A statement of conclusions and recommendations describing the geologic suitability of the site for the proposed development with recommendations for further work, if warranted, shall be included. A statement regarding methods of study and the approximate field time spent on the subject site is also required. A statement regarding the interrelated effects of existing or potential geologic hazards upon the proposed development and of the proposed development on geologic hazards and off-site properties shall be given. No geologic report shall be considered complete unless it considers appropriate locations for access roads, driveways, graded areas (cut or fill) and leach fields (unless the property is to be sewered).

g. List of references of geologic literature. A list of references used in evaluation of the site shall be submitted, including any aerial photographs used as a basis for recommendations and conclusions.

h. Additional information. Any additional information determined by the County Geologist to be necessary to evaluate the effects of the proposed land use may be required.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Part 4.
Requirements for Geologic Letter Reports


A geologic letter report shall include, but not be limited to, the items listed in Section C12-612(a), (b) and (f). A geologic sketch map and/or geologic structure section may be required if relationships are complex and difficult to describe in writing.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Part 5.
Time for Submittal, Review and Fees

Sec. C12-614. Time for processing.

The timing for submittal, review, and approval of investigations and reports with respect to the various land development projects shall be as described in this part.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-615. Residences, single building sites and mobile homes.

Where a geologic investigation is required for a residence, single building site or mobile home site, a report shall be prepared and submitted for review by the County Geologist. The report must be approved by the County Geologist prior to final action on the application. The decision of the County Geologist shall provide a basis for approval, or disapproval, of the application by the advisory agency, or other approval authority, and for guidance as to the location of proposed structures and improvements.

(Ord. No. NS-1203.111, § 1, 3-19-02)
Sec. C12-616. Subdivision.

Where a geologic investigation is required for a proposed subdivision, a report shall be prepared and submitted for review by the County Geologist. The report must be approved by the County Geologist. The County Geologist's approval of the report must be obtained as follows:

a. Prior to final approval of the tentative map; or

b. Prior to final approval and recordation of the final map, if the Board of Supervisors finds, based on the recommendation of the County Geologist, that existing geologic information justifies delay of the report beyond the tentative map stage.

The decision of the County Geologist shall provide a basis for approval, or disapproval, of the application by the Board of Supervisors and for a determination of the number of usable lots, lot design, circulation systems, and other conditions and mitigations.

(Ord. No. NS-1203.111, § 1, 3-19-02)


Where a geologic investigation is required for proposed grading, a report shall be prepared and submitted for review by the County Geologist. The County Geologist's approval of the report must be obtained prior to issuance of a grading permit.

The decision of the County Geologist shall provide a basis for approval, or disapproval, of the grading permit application and for guidance as to the design and control of the proposed grading and its effect on adjoining property. The County Geologist may require a plan review letter to be submitted prior to approval of the grading permit and/or a construction observation letter to be submitted prior to final inspection of the grading.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-618. Zone changes and use permits.

Where a geologic investigation is required for a proposed zone change or use permit, a report shall be prepared and submitted for review by the County Geologist. The County Geologist's approval of the report must be obtained prior to Planning Commission action or recommendation to the Board of Supervisors. The decision of the County Geologist shall provide a basis for approval or disapproval of the application and for conditions to be imposed on the zone change or use permit.

(Ord. No. NS-1203.111, § 1, 3-19-02)


Where a geologic investigation is required, a geologic report shall be prepared and submitted for review by the County Geologist. The County Geologist's approval of the report must be obtained prior to issuance of the building permit. The County Geologist may require a plan review letter to be submitted prior to approval of the building permit and/or a construction observation letter to be submitted prior to final inspection of the project.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-620. Review and approval of geologic reports.

Geologic reports submitted as required by this ordinance shall be reviewed by the County Geologist for completeness and adequacy in accordance with the standard of care used in the profession of engineering geology as practiced in the State of California. Guidelines issued by the California Division of Mines and Geology shall be considered in the review. In order for the County Geologist to find that geologic reports are complete and adequate, the reports must meet the minimum standards in this ordinance and present sufficient
data to support conclusions regarding the extent and magnitude of the geologic hazards and the potential risks related to the proposed development.

If the geologic report is incomplete or inadequate, the applicant shall be required to submit additional information prepared by the consulting engineering geologist to address identified inadequacies. When the geologic report and any other supplemental information are found to be complete and adequate, the County Geologist shall approve the report and recommend specific conditions and requirements to be incorporated into any permits or other development approvals.

(Ord. No. NS-1203.111, § 1, 3-19-02)

Sec. C12-621. Fees.

A geologic report submitted for review by the County Geologist shall be accompanied by a fee in an amount prescribed by resolution of the Board of Supervisors.

(Ord. No. NS-1203.111, § 1, 3-19-02)

ARTICLE 4.
ACKNOWLEDGMENT STATEMENT

Sec. C12-622. General.

Where geologic hazard investigations conducted in association with a proposed land use indicate that development could pose a higher-than-normal risk, development may proceed only after all property owners sign a statement acknowledging the specific geologic hazards and accepting the associated risks and responsibilities. The acknowledgment statement shall contain the following:

a. The names and signatures of all property owners, including holders of security interests.

b. The street address(es) and assessors parcel number of the subject property.

c. A map depicting the subject property signed and stamped by a licensed land surveyor or a registered engineer licensed to practice land surveying.

d. A legal description of the subject property signed and stamped by a licensed land surveyor or a registered engineer licensed to practice land surveying.

e. The title, date and author(s) of all geologic reports prepared or relied on for the proposed land use.

f. A detailed description of the higher-than-normal geologic risks associated with the proposed development.

g. The following statement: "The undersigned owners hereby acknowledge the geologic conditions identified in the referenced reports, agree to mitigate the hazards to the extent feasible, accept all risks associated with geologic hazards including any unidentified hazards, and agree to indemnify, defend, and hold harmless the County of Santa Clara and its officers, agents and employees from any claim, liability, loss, injury or damage arising out of, or in connection with, any development activity or geologic hazards related to this property. This acknowledgment runs with the land and is binding on the undersigned and all of their successors, heirs and assigns."

(Ord. No. NS-1203.111, § 1, 3-19-02)


An acknowledgment statement may be expunged if subsequent geologic information indicates the geologic hazards no longer exist or have been sufficiently mitigated, and, after reviewing the information, the County Geologist concurs with this conclusion.

(Ord. No. NS-1203.111, § 1, 3-19-02)
ARTICLE 5.
WRITTEN STATEMENT OF DISCLOSURE

Sec. C12-624. Seller disclosure to the buyer.

The seller of real property located partially or wholly within a County geologic hazard zone shall disclose in a written statement to the buyer that the property is located within such zone(s). State laws also require the disclosure of certain geologic hazards to potential buyers.

(Ord. No. NS-1203.111, § 1, 3-19-02)