



ESTES PARK
COLORADO

Estes Valley Geologic Hazards



Revision Date: October 2013

APPLICABILITY

All new development and subdivisions must comply with hazard mitigation if in a geologic hazard area.

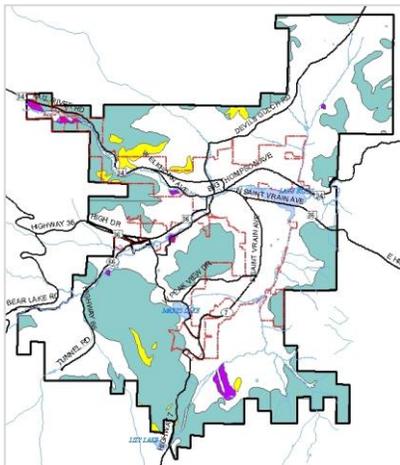


Rock slide above Aspen Lodge October 2013

GEOLOGIC HAZARD AREAS

Hazard areas include steep slopes, rockfall, and alluvial soils.

Hazard areas include areas which have not yet been so classified, but where a hazard exists and can be confirmed by the CGS or professional geologist.



In the event an Applicant questions the existence of a geologic hazard, the Applicant may submit evidence with respect thereto from a professional geologist having requisite technical expertise.

COLORADO GEOLOGIC SURVEY REVIEW.



Except for single-family residential development on a lot of record, new development and subdivisions within a Geologic Hazard Area is referred to the Colorado Geological Survey (CGS) for review and comment.

Fee. At the time of application submittal, the Applicant shall submit the required fees for CGS review.

MITIGATION PLAN REQUIRED

When new development or subdivision is proposed within a geologic hazard area, the Applicant must submit a mitigation plan prepared by a professional geologist.

Licensed professional engineers who are experienced in the engineering specialty (e.g., soils, slope stability) may submit mitigation plans for steep slope and alluvial soils hazards.

Lots approved for single-family residential development prior to February 1, 2000 do not need to submit a mitigation plan for rock fall hazards.

MITIGATION PLAN REQUIREMENTS

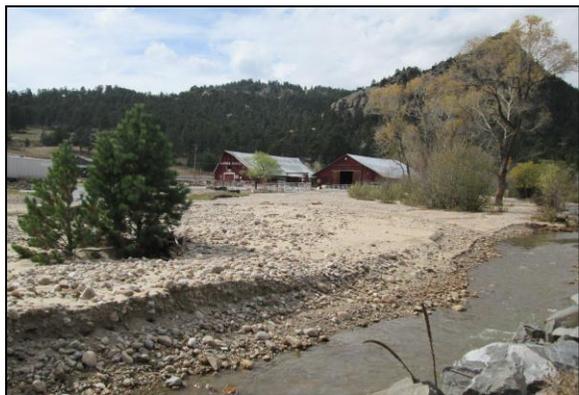
Mitigation plans must be prepared according to "Guidelines and Criteria for Identification and Land Use Controls of Geologic Hazard and Mineral Resource Areas," written by the Colorado Geological Survey, 1974 and include, at a minimum, the following:

- (1) An evaluation and predication of the impact of the hazard or hazards affecting the proposed development or subdivision and recommended mitigation methods;
- (2) Maps describing the extent and severity of the hazard at the particular site, and including a true north arrow, scale, ties to quarter-section corners and accurate dimensions for all lines, angles and curves used to describe property boundaries scale;

TOWN OF ESTES PARK PLANNING DIVISION

- (3) Topography;
- (4) A location map showing the general location of the development or subdivision and its relationship to surrounding topographic features;
- (5) A map showing the location, type and density of the proposed development or subdivision;

Alluvial Soils. In the case of an alluvial soils hazard, an on-site subsurface soils investigation and report is required.



Alluvial deposits, Elkhorn Lodge October 2013

Rock Fall Hazards. In the case of rock fall geologic hazards, the mitigation plan shall:

- (a) Address each possible method of mitigation, including: building outside of the run-out zone; stabilization of rocks; slowing or diverting moving rocks, and; physical barriers.
- (b) Include maps of the fallout zone, including the rock fall source area, the acceleration zone and the run-out zone. Computer modeling is the preferred method of determining hazard zones.
- (c) Include maps portraying the geologic conditions of a development area with particular attention given to the designated hazard condition or conditions and those geologic, hydrologic, soil and topographic features constituting the hazard.
- (d) If needed, geologic cross-sections can be utilized to portray the hazard conditions. These maps must show the topography with a contour interval of ten (10) feet or smaller if necessary. These maps must be on a scale sufficiently detailed to meet the purposes of this Section, but in no case can the scale be less than one (1) inch equals two hundred (200) feet.

REVIEW CRITERIA

In reviewing a development, the Decision-Making Body may deny development within a hazard area or may approve it on the condition that the development is designed and built in such a manner as to adequately mitigate the hazard.

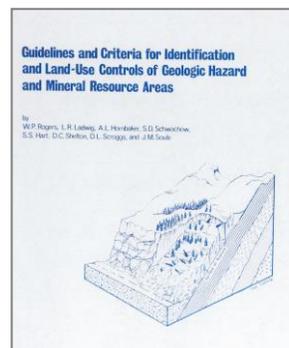
In reviewing new development and subdivisions, the Decision-Making Body must take into consideration the following:

- (1) The mitigation plan;
- (2) Geologic, topographic and other technical information;
- (3) Recommendations of a reviewing state agency having expertise with respect to the hazard in question and recommendations of others with similar expertise; and,
- (4) The relationship between the development and the hazard area and the potential impact of the development within the area on lands outside the development.

MITIGATION TECHNIQUES

Mitigation methods required by the Decision-Making Body may include, but are not limited to:

- (1) Compliance with "Guidelines and Criteria for Identification and Land Use Controls of Geologic Hazard and Mineral Resource Areas," written by the CGS;
- (2) To the maximum extent feasible, in rock fall hazard areas avoidance of the run-out zone shall be the method of mitigation;
- (3) Location of building envelopes;
- (4) Construction, location, density of structures and/or lots;
- (5) Construction of roads upon the land;
- (6) Alteration to the physical characteristics of the land



Note: This information was summarized from Estes Valley Development Code Section 7.7 *Geologic and Wildfire Hazard Areas*. Please visit www.estes.org for complete development code requirements.