

## **Chapter 19.10. Hillside Development Ordinance.**

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#### **19.10.01. Purpose.**

1. The provisions of this Chapter are enacted in order to provide standards, guidelines, and criteria for minimizing flooding, erosion, and other environmental hazards that may result from development of hillsides in the City. In addition, these standards are intended to protect the natural scenic character of hillsides and especially sensitive hillsides that may not be suitable for development.
2. To achieve the intent of this Chapter, it is required that professionals, qualified in each of the disciplines addressed herein, be utilized to stimulate creative and appropriate designs in hillside areas.

#### **19.10.02. Scope and Application.**

1. It shall be unlawful to grade, fill, or excavate any land in any manner that presents an unreasonable risk of erosion, flooding, landslide, or any other unsafe condition.
2. The provisions of this Chapter shall apply to all areas that the City Engineer deems necessary.
3. The provisions of this Chapter are intended to supplement those set forth in the Subdivision Ordinance and other Chapters of the Land Development Code. In the event of conflict, the more restrictive provision shall apply.
4. Detailed reports and plans are required in the following sections of this Chapter which must be approved by the City Engineer before any construction will be permitted in designated hillside areas.
5. Development of individual residential lots located in an approved subdivision shall comply with conditions, standards, and requirements established through the subdivision approval process. Site specific plans, necessary to achieve the purpose of this Chapter, may also be required for residential lots that are not located in a recorded subdivision.

#### **19.10.03. Required Plans.**

1. The following reports and plans shall be prepared at the expense of the applicant and shall be submitted as part of the Preliminary Plat or Site Plan application. All reports and

plans submitted herein shall be prepared by persons or firms licensed or certified to practice their specialty in the State of Utah.

2. **Drainage and Erosion Control Plan.** A Drainage and Erosion Control Plan shall be prepared by a professional engineer licensed by the State of Utah. The plan shall be sufficient to determine the erosion control measures necessary to prevent soil loss during construction and after project completion. The plan shall include a storm water management plan, erosion control plan, and grading details that comply with applicable provisions of the Standard Technical Specifications and Drawings manual.
3. **Grading Plan.** A Grading Plan shall be prepared by a civil engineer, land surveyor, or landscape architect licensed by the State of Utah. The Grading Plan shall comply with applicable provisions of the City's Standard Technical Specifications and Drawings manual and shall also include the following information:
  - a. A Slope Classification Map and analysis for the development site. Two maps shall be prepared. The first shall represent the pre-development slope districts and the second shall represent post-development slope districts.
  - b. Topsoil stockpile areas shall be designated.
  - c. Access or haul road location, treatment, and maintenance requirements shall be designated on the grading plan. If temporary haul roads are proposed, the plan shall include a description of the method for controlling erosion and dust during the period of the road's operation and restoration of the area once hauling is completed.
  - d. The Plan shall include an analysis of the environmental effects of site development including effects on slope stability, soil erosion, water quality, fish and wildlife, and fire hazard.
4. **Revegetation Plan.** The Revegetation Plan shall include a slope stabilization and revegetation report which shall include all of the following for new developments:
  - a. Location of existing vegetation and identification of plant species existing on the development site;
  - b. The vegetation to be removed and the method of disposal. All areas of the development site cleared of natural vegetation in the course of construction shall be replanted with vegetation possessing erosion control characteristics at least equal to the natural vegetation which was removed.
  - c. A plant schedule listing the plant species or seed mixes, or both, to be used for revegetation. Revegetation species shall follow city standards.
  - d. New plantings shall be protected with mulch and fertilized in conjunction with a planting and watering schedule. Persons or firms having expertise in the practice of revegetation (e.g., licensed Landscape Architects) shall supervise the planning and installation of revegetation cover for the total development site.
  - e. Any slope with a slope greater than thirty percent shall have approved erosion control matting or fabric installed over seed area.
  - f. The Plan shall specify slope stabilization and erosion control measures that will be implemented while new vegetation is being established.
  - g. Topsoil will be installed as per City standards.

5. **Geology Report.** A Geology Report shall be prepared by a Geotechnical Engineer or Geologist licensed by the State of Utah. A geologic map shall accompany the report. Mapping shall reflect careful attention to the rock composition, structural elements, and surface and subsurface distribution of the earth materials exposed or inferred within both bedrock and surficial deposits. A clear distinction shall be made between observed and inferred features or relationships. The Geology Report shall contain all applicable information required by the City's Standard Technical Specifications and Drawings manual including, as a minimum, the following:
  - a. Identification of any zones of deformation with respect to active faults and other mass movements of soil and rock.
  - b. Identification of anomalies of the terrain or characteristics of the geological materials which would have any potential impact upon the use of the site.
  - c. Active or inactive landslide area.
  - d. Identification of areas containing ground water and shallow ground water must be mitigated.
  - e. Identification of all rock fall zones.
  - f. Written recommendations for construction of proposed structures or public improvements to minimize or avoid impacts of potential geologic hazards.
  
6. **Soil Characteristics Report.** A Soil Report shall be prepared by a Civil Engineer or Geologist specializing in soil mechanics and licensed by the State of Utah and shall be based upon adequate test borings and excavations. This report shall contain data regarding the nature, distribution, and strength of soils within the project area to a minimum depth of ten feet. The Soil Report shall contain all applicable information required by the City's Standard Technical Specifications and Drawings manual including, as a minimum, the following:
  - a. unified classification of all soils encountered on the site with an estimate of their susceptibility to erosion, liquid limit, shrink-swell potential, and general suitability for development;
  - b. a statement as to whether or not ground water was encountered in any of the test borings and at what elevation it was encountered and an estimate of the normal highest elevation of the season high ground water table; and
  - c. the soil investigation shall recommend corrective actions intended to prevent damage to proposed structures and public improvements that may result from development on steep slopes.
  
7. **Fire Protection Report.** At preliminary plat approval or site plan approval, a Fire Protection Report, or Fire Protection Plan in accordance with the Wildland-Urban Interface Code, shall be prepared to assess fire probability and potential hazards by a person or agency qualified by training and experience and approved by the City Fire Chief. Elements of the report shall include the following:
  - a. the width and approximate location of any easement required for access of fire protection equipment;
  - b. the width and approximate location of recommended fuel breaks on the development site;
  - c. approval from the Saratoga Springs City Fire Department of proposed fire protection measures; and

- d. a letter from the Saratoga Springs City Fire Department specifying recommended fire flows for the type and location of the development and the existing fire flow capability or the fire flow capability proposed to serve the project.

#### **19.10.04. Hillside Development Standards.**

1. **Clustering of building sites.** Clustering of development is recommended and may be required by the Planning Commission in order to achieve the objectives of this Chapter. Whether proposed by an applicant or required by the Planning Commission, minimum lot size requirements may be reduced upon findings by the City Council that:
  - a. the clustering proposal meets all other applicable requirements of this Chapter and other applicable development standards;
  - b. the clustering proposal, compared with a more traditional site development plan, provides better solutions for achieving the purposes of this Chapter by, among other things, providing more open space, preserving existing trees and vegetation coverage, and preserving sensitive environmental areas such as stream corridors, slide areas, wetlands and steep slopes;
  - c. the clustering proposal will have no adverse impact on adjacent properties or development, or, if such impacts would result, the applicant has agreed to implement appropriate mitigation measures such as landscaping, screening, and other design solutions to buffer and protect adjacent properties from the proposed clustered development; and
  - d. the architecture, height, building materials, building colors, and other design features of the development blend with the surrounding natural landscape and are compatible with adjacent properties or development.
2. **Prohibition of development on steep slopes.** No building or other structures, including clearing, excavation, and grading shall be allowed on sensitive lands, including slopes greater than thirty percent.
3. **Prohibition of development on designated ridge lines.**
  - a. No building or other structures shall intrude into any ridge line protection area that has been identified and designated by the City during the development review and approval process.
  - b. For the purposes of this Chapter, designated ridgeline protection areas shall consist of prominent ridge lines that are highly visible from public rights-of-way or trails, and shall include the crest of any designated hill or slope, plus the land located within 100 feet horizontally (map distance) on either side of the crest.
4. **Cutting to create benches.** Cutting and grading to create benches or pads for larger building sites shall be avoided to the maximum extent feasible.
5. **Limits on changing natural grade.** The original, natural grade of a lot shall not be raised or lowered more than four feet at any point for construction of any structure or improvement, except:

- a. the site's original grade may be raised or lowered six feet if a retaining wall is used to reduce the steepness of man-made slopes, provided that the retaining wall complies with Subsection 10. of this Section; or
  - b. the site's original grade may be raised or lowered more than six feet with terracing, as specified by Subsection 10. of this Section.
6. **Grading permit required.**
  - a. No grading, excavation, or tree or vegetation removal shall be permitted without a grading permit.
  - b. No blasting will be allowed in the City unless specific approval is given by the City Council after receiving positive recommendations from an independent certified blasting specialist and the Development Review Committee.
7. **Grading for accessory building pads.** Grading to create separate building pads for accessory buildings and structures other than garages, such as tennis courts, swimming pools, outbuildings, and similar facilities is prohibited on natural slopes over thirty percent.
8. **Grading for road construction.**
  - a. Topsoil on proposed road rights-of-way shall be removed prior to establishing finished grades and shall be stockpiled at the location identified on the approved grading plan and may be used in revegetation, to be redistributed on disturbed areas prior to revegetation.
  - b. Excess cut material resulting from road construction or utility installation shall be removed from the site.
  - c. Where permanent roads or roadbeds are to be used during construction and storm water inlets have already been installed, such inlets shall be protected to prevent sediment from entering the storm drainage system.
9. **Limits on graded or filled man-made slopes.**
  - a. The grade of man-made slopes shall not generally exceed twenty-five percent or a 4:1 slope.
  - b. In no case shall the grade of cut or fill slopes exceed fifty percent unless it is substantiated, on the basis of a site investigation and submittal of a soils engineering or geotechnical report prepared and certified by a qualified professional, that a cut at a steeper slope will be stable and will not create a hazard to public or private property.
  - c. All cut, filled, and graded slopes shall be re-contoured and landscaped, as per chapter 19.10.03, to blend into the natural grade of surrounding land.
  - d. All permanent fills shall be constructed and stabilized to prevent settlement, sliding, or erosion damage to streets, curbs, gutters, sidewalks, or buildings.
10. **Terracing and retaining walls.** Use of retaining walls is encouraged to reduce the steepness of man-made slopes and to provide planting pockets conducive to revegetation.
  - a. Retaining walls may be permitted to support steep slopes but shall not exceed six feet in height measured from finished grade.

- b. Terracing shall be limited to two tiers. The width of the terrace between any two four-foot vertical retaining walls shall be at least three feet. Retaining walls higher than four feet shall be separated from any other retaining wall by a minimum distance of five horizontal feet. Terraces created between retaining walls shall be permanently landscaped or re-vegetated.
  - c. Retaining walls greater than four feet in height are required to be designed by an engineer licensed by the State of Utah.
  - d. Prior to installing a retaining wall, a building permit must be obtained.
11. **Repair of disturbed areas.** All repair measures for disturbed areas shall be made no later than thirty days after the disturbance is made, except revegetation which shall take place at the earliest planting season thereafter.
12. **Stabilization and maintenance.**
- a. The developer:
    - i. is responsible for interim stabilization of all disturbed areas during construction to prevent off-site erosion;
    - ii. is responsible for final stabilization once construction is completed; and
    - iii. may be held responsible for slope failure at any time if it can be shown that such failure was the result of defective workmanship or failure to follow approved plans.
  - b. Owners of individual lots or common areas are responsible for stabilization and erosion control of sites during construction on the site and for ongoing maintenance.
13. **Preservation of existing vegetation.** Existing concentrations of significant trees and vegetation shall be preserved. For the purposes of this Chapter, “significant trees and vegetation” means large trees of six-inch caliper or greater, groves of five or more smaller trees, or clumps of shrubs covering an area of fifty square feet or more measured at the drip lines.
14. **Revegetation.** Any slope exposed or created in new development shall be landscaped or revegetated with native or adapted trees and other native or adapted plant material. New vegetation shall be equivalent to or exceed the density and erosion-control characteristics of the original vegetation cover in order to mitigate adverse environmental and visual effects. Use of fire-resistant plants for revegetation is strongly encouraged. (For a list of fire-resistant plants, contact the Wasatch-Cache National Forest, Salt Lake Ranger District, or the Utah Division of Forestry, Fire, and State Lands.)
15. **Building Envelope.** Building envelope will be represented on Subdivision Plats. No structures or buildings will be allowed outside of the building envelope.
16. **Wildfire hazards and tree and vegetation removal.** In areas determined by the Saratoga Springs Fire Chief to be highly susceptible to fire hazards, vegetation up to thirty feet from the perimeter of a structure shall be selectively pruned, thinned, and regularly maintained to help minimize the risk of property damage from wildfire and to provide space for fire-fighting equipment and personnel. When landscaping within this thirty-foot fire-break area, use of fire resistant plants is strongly encouraged.

**17. Streets and access.**

- a. The street standards and specifications of Saratoga Springs City shall apply to all developments, except where conditions related to proper development of hillside areas necessitate altering these standards as outlined herein.
- b. Streets shall not cross slopes over thirty percent unless deemed necessary by the Development Review Committee. Approval shall be based on the following findings:
  - i. no alternate location for access is feasible or available;
  - ii. no individual segment or increment of the street that will cross slopes between thirty percent and fifty percent exceeds 100 feet in length;
  - iii. the cumulative length of individual segments or increments that will cross slopes between thirty percent and fifty percent does not exceed ten percent of the total length of the street; and
  - iv. no significant adverse visual, environmental, or safety impacts will result from the crossing, either by virtue of the design and construction of the street as originally proposed or as a result of incorporation of remedial improvements provided by the developer to mitigate such impacts.
- c. Under no circumstances shall any street cross slopes greater than fifty percent.
- d. Streets shall not exceed a ten percent grade at any point.
- e. Private driveways and access roads shall not exceed a grade of fifteen percent unless specifically approved by the City Council, after receiving a favorable recommendation from the City Engineer and the Public Utilities Director.
- f. Street slopes and grades shall, to the maximum extent feasible, follow the natural terrain.
- g. Variance to street design standards developed to solve special hillside visual and functional problems may be requested pursuant to Chapter 19.01.
- h. The developer shall dedicate to the City a slope easement for any cut or fill slope over thirty percent created by construction of a street on hillsides which is not contained within the public right-of-way.
- i. Points of access shall be provided to all developed and undeveloped land for emergency firefighting equipment.
- j. Reasonable access to canyon trails and natural washes shall be provided through developments that are located adjacent to such canyons or washes. Parking areas may be required by the Planning Commission at trail heads.

**18. Drainage corridor protection.**

- a. Filling or dredging of major natural drainage channels is prohibited without the approval of the City Engineer.
- b. Pedestrian or vehicular crossings of drainage corridors. In those cases where either pedestrian or vehicular access over a water course, gully, stream bed, or storm water runoff channel is found to be necessary or desirable, a bridge or other approved structure as approved by the City Engineer shall be constructed for that purpose. Bridges or other structures crossing water courses, gullies, stream beds, or storm water runoff channels shall be designed to minimize impacts on these natural drainage corridors.

- c. Minimum setbacks. All buildings, accessory structures, leach fields, and parking lots shall be set back at least 100 feet from the top-of-bank of water courses, gullies, or stream beds.
- d. Preservation of vegetation. All existing vegetation within drainage corridors shall be preserved and, where necessary to provide adequate screening or to repair damaged riparian areas, supplemented with additional native or adapted planting.

**19. Responsibility for construction and maintenance of improvements.** The developer shall be fully responsible for making all improvements in accordance with approved plans. The property owner shall be responsible for maintaining all improvements made in accordance with the site development approval.

**19.10.05. Bonding Requirements.**

The developer or lot owner may be required to guarantee the completion of revegetation projects, the stabilization of grading sites, construction of storm water runoff facilities, and other requirements of this Chapter as part of its subdivision bonding as required by the Land Development Code.