

## *ARTICLE II. HILLSIDE DEVELOPMENT*

### **49.70.200 Purposes.**

The purposes of this article are to:

- (1) Ensure that hillside development provides erosion and drainage control to protect adjoining parcels;
- (2) Protect waterways from sedimentation and pollution;
- (3) Minimize injury or damage to people or property from natural or artificial hazards in hillside development; and
- (4) Minimize any adverse aesthetic impact of hillside development.

(Serial No. 87-49, § 2, 1987)

### **49.70.210 Applicability and scope.**

- (a) This article applies to all development on hillsides in the City and Borough that involves the following:
  - (1) Removal of vegetative cover;
  - (2) Excavation of any slope in excess of 18 percent;
  - (3) Creation of a new slope in excess of 18 percent for a vertical distance of at least five feet; or
  - (4) Any hazard area identified on the landslide and avalanche area maps dated September 9, 1987, consisting of sheets 1—8, as the same may be amended from time to time by the assembly by ordinance or any other areas determined to be susceptible to geophysical hazards.
- (b) All hillside development endorsement applications shall be reviewed by the planning commission, except the following may be reviewed by the director:
  - (1) An excavation below finished grade for basements and footings of a building, a retaining wall or other structure authorized by a building permit, provided that this shall not exempt any fill made with the material from such excavation nor any excavation having an unsupported height greater than two feet after the completion of the associated structure.
  - (2) Graves.
  - (3) Mining, quarrying, excavating, processing, or stockpiling of rock, sand, gravel, aggregate or clay provided such operations do not affect the location or peak volume of runoff, the location or amount of standing water, or the lateral support for, the stresses in, or the pressure upon, any adjacent or contiguous property.
  - (4) Exploratory excavations less than 200 square feet in area and under the direction of a civil engineer with knowledge and experience in the application of geology in the design of civil work.
  - (5) An excavation which:
    - (A) Is less than two feet in depth and covers less than 200 square feet; or

- 
- (B) Does not create a cut slope greater than five feet in height or steeper than one and one-half horizontal to one vertical.
  - (6) A fill less than one foot in depth and intended to support structures which fill is placed on natural terrain with a slope flatter than five horizontal to one vertical, which does not exceed 20 cubic yards on any one lot and which does not obstruct a drainage course.
  - (7) A fill less than three feet in depth and not intended to support structures which fill is placed on natural terrain on a slope flatter than five horizontal to one vertical, which does not exceed 50 cubic yards on any one lot and which does not obstruct a drainage course.
  - (8) Minor development.

(Serial No. 87-49, § 2, 1987; Serial No. 2006-15, § 22, 6-5-2006; Serial No. 2015-03(c)(am), § 51, 8-31-2015 )

#### **49.70.220 Hillside development endorsement application.**

- (a) All development on hillsides shall be pursuant to a hillside development endorsement.
- (b) The developer shall apply for and obtain a hillside development endorsement prior to any site work other than land and engineering surveys and soils exploration.

(Serial No. 87-49, § 2, 1987; Serial No. 2015-03(c)(am), § 52, 8-31-2015 )

#### **49.70.230 Fees.**

The City and Borough shall charge the developer the gross hourly rate for professional review of the application and for inspection. The developer shall deposit one percent of the value of the site development, excluding that portion of the site determined by the engineer to be subject to a public transmission facility permit, in a specially designated reserve account, against which the City and Borough may bill its documented time and expenses. The developer shall promptly replenish this amount when requested, and no endorsement may be issued if there is any deficiency in the developer's reserve account. All unexpended funds in the reserve account shall be returned to the developer upon final approval of development or when the engineer is satisfied that the work under the hillside development endorsement has been completed and the requirements of this chapter have been met.

(Serial No. 87-49, § 2, 1987)

#### **49.70.240 Application.**

The application shall be accompanied by the following materials, which shall be signed and stamped by a civil engineer, architect, geologist or land surveyor licensed in the State of Alaska:

- (1) A vicinity map, at a clear and legible scale, showing roads, place and street names and natural waterbodies.
- (2) Site maps, showing the present condition of the site at a clear and legible scale compatible with the size of the development and including:
  - (A) Two-foot contours for flat terrain or five-foot contours for steep terrain and extending 50 feet in all directions beyond the development site; 12 percent line, 30 percent line;
  - (B) Water bodies, tidelands and drainage ways from the development site to accepting natural waterbody;

- 
- (C) Lot boundaries and easements for the site and adjacent lots; and
  - (D) Existing improvements on the site and adjacent lots, including structures, roads, driveways and utility lines.
- (3) The application shall include a finished proposed site plan at a clear and legible scale that includes the following information:
- (A) Finished grade at two-foot contours for flat terrain or five-foot contours for steep terrain and extending 50 feet in all directions beyond the development site; 12 percent line, 30 percent line.
  - (B) Water bodies, tidelands and drainage ways, and temporary and permanent drainage systems from the development site to the accepting natural waterbody.
  - (C) Lot boundaries, easements and setback lines.
  - (D) The location of improvements including structures, roads, driveways, utility lines, culverts, walls and cribbing.
  - (E) Clearing limits of existing vegetative cover.
  - (F) A cross section of the development site.
- (4) The application shall include detailed engineering drawings of roads, driveways, parking areas, structural improvements for foundations, off-site stormwater runoff systems; cross sections and road elevations.
- (5) A description of the source and type of any off-site fill, and the site for depositing excess fill.
- (6) A landscaping plan, including all trees to be retained in excavation areas, all plant species and locations; temporary slope protection measures; erosion and siltation control measures; seeding or sodding materials, a planting and maintenance program; and methods of stabilization and protection of bare slopes.
- (7) An engineering geologic report, including a summary of the relevant surface and bedrock geology of the site, a discussion of active geologic processes with conclusions and recommendations regarding the effect of geologic factors on the proposed development; data regarding the nature, distribution and relevant parameters of existing soils, recommendations for grading procedures; design criteria for corrective measures as necessary, and recommendations covering the suitability of the site for the proposed development.
- (8) A work schedule, by phase.
- (9) Such other different or more detailed submissions as may be required.
- (Serial No. 87-49, § 2, 1987; Serial No. 2015-03(c)(am), § 54, 8-31-2015 )

#### **49.70.250 Standards for approval.**

Hillside development shall meet the following minimum standards:

- (1) *Roads.* The City and Borough road standards shall apply to hillside development, except that:
  - (A) *Modification of standards.* The engineer or planning commission may modify road standards as identified in subsections (1)(B) and (C) of this section, if:
    - (i) The developer's traffic analysis and circulation, land ownership, and development patterns indicate future use of the roadway at less than collector street levels;

- 
- (ii) The modification would enable the development to meet, or more closely approximate, the criteria set forth in section 49.70.260; and either
  - (iii) The proposed road or access in question would result in a permanent cul-de-sac; or
  - (iv) A secondary access to the proposed development exists or will be developed as a part of the project.
- (B) *Road width.* The width of a section of residential roadway may be narrowed to 20 feet, with a single four-foot pedestrian way and underground storm drain system, if:
- (i) The section is not more than 200 feet in length, and is separated from other such sections by at least 100 feet of standard roadway;
  - (ii) No entrances, intersections or parking are allowed in the section;
  - (iii) Guard rails, if any, are designed to permit the passage of plowed snow;
  - (iv) There is at least a 200-foot line of sight along the centerline of the section;
  - (v) The section enables the development to meet, or more closely approximate, the criteria set forth in section 49.70.260;
  - (vi) Grouped off-street parking spaces are provided at the entry to the section; and
  - (vii) Adequate provision is made for storage of snow.
- (C) *Road grade.* The grade of a section of residential roadway may be increased to a maximum of 15 percent if:
- (i) The section is not more than 200 feet in length and separated from other such sections by at least 100 feet of roadway;
  - (ii) No entrances or intersections are allowed in the section;
  - (iii) Through intersections at the end of the section have approaches at least 50 feet long measured from the edge of the traveled way of the crossroad and are at a grade of eight percent or less; intersections requiring a full stop have approaches no less than 20 feet long at a grade of two percent or less, or no less than 50 feet long at a grade between two and six percent;
  - (iv) Any guard rails are designed to permit the passage of plowed snow;
  - (v) All sight distances conform to standards of the American Association of State Highway and Transportation Officials; and
  - (vi) The section enables the development to meet, or more closely approximate, the criteria set forth in section 49.70.260.
- (2) *Weather.* The engineer may prohibit a developer from earthmoving during periods of very wet soil conditions, in which case the permit shall be extended by a like period.
- (3) *Sediment.* The developer shall not allow any increase in sediment to flow off-site during or after construction if such would be likely to cause an adverse impact on a down slope lot or waterbody.
- (4) *Peak discharge.* The developer shall ensure that during and after construction of major development, the peak discharge of all streams and natural drainage ways at the down slope boundary shall be no greater than that occurring prior to excavation.

(Serial No. 87-49, § 2, 1987)

---

#### **49.70.260 Criteria.**

The commission or director shall consider the extent to which the development meets the following criteria:

- (1) *Soil erosion.* Soil disturbance and soil erosion shall be minimized and the effects thereof mitigated.
- (2) *Existing vegetation.* Depletion of existing vegetation shall be minimized.
- (3) *Contours.* The developer shall recontour the finished grade to natural-appearing contours which are at or below 30 percent or the natural angle of repose for the soil type, whichever is lower, and which will hold vegetation.
- (4) *Time of exposure and soil retention.* The developer shall minimize the period of time that soil is exposed and shall employ mats, silt blocks or other retention features to maximize soil retention.
- (5) *Replanting.* The developer shall mat, where necessary, and plant all exposed soil in grass or other soil-retaining vegetation and shall maintain the vegetation for one full growing season after planting.
- (6) *Drainage.* The developer shall minimize disturbance to the natural course of streams and drainage ways. Where disturbance is unavoidable, the developer shall provide a drainage system or structures which will minimize the possibility of sedimentation and soil erosion on-site and downstream and which will maintain or enhance the general stream characteristics, spawning quality, and other habitat features of the stream and its receiving waters. Where possible, development shall be designed so lot lines follow natural drainage ways.
- (7) *Foundations.* The developer shall ensure that buildings will be constructed on geologically safe terrain.
- (8) *Very steep slopes.* The developer shall minimize excavation on slopes over 30 percent.
- (9) *Soil retention features.* The developer shall minimize the use of constructed retention features. Where used, their visual impact shall be minimized through the use of natural aggregate or wood, variation of facade, replanted terraces, and the like.
- (10) *Wet weather periods.* The developer shall minimize exposure of soil during the periods of September 1—November 30 and March 1—May 1.

(Serial No. 87-49, § 2, 1987; Serial No. 2015-03(c)(am), § 54, 8-31-2015 )

#### **49.70.270 Conditions on approval.**

The commission or director may place conditions upon a hillside development endorsement as necessary or desirable to ensure that the spirit of this chapter will be implemented in the manner indicated in the application. Fulfillment of conditions shall be certified by the engineer. The conditions may consist of one or more of the following:

- (1) *Development schedule.* The commission or director may place a reasonable time limit on or require phasing of construction activity associated with the development or any portion thereof, in order to minimize construction-related disruption to traffic and neighbors or to ensure that the development is not used or occupied prior to substantial completion of required improvements.
- (2) *Dedications.* The commission or director may require conveyances of title or other legal or equitable interests to public entities, public utilities, a homeowner's association, or other common entities. The developer may be required to construct any public facilities, such as drainage retention areas, to City and Borough standards prior to dedication.

- 
- (3) *Construction guarantees.* The commission or director may require the posting of a bond or other surety or collateral providing for whole or partial releases, in order to ensure that all required improvements are constructed as specified in the approved plans.
  - (4) *Lot size.* If justified by site topography, the commission or director may require larger lot areas than prescribed by zoning requirements.

(Serial No. 87-49, § 2, 1987; Serial No. 2015-03(c)(am), § 55, 8-31-2015 )