

Chapter 14.21

EXCAVATION, GRADING AND RETAINING WALLS

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14.21.010 Purpose.

The purpose of this chapter is to protect the public health, safety, and welfare by regulating grading on private property and to establish guidelines which relate to the aesthetic impacts of cuts and fills upon adjacent properties. In preparing a property for development, care should be taken to preserve existing land forms to the maximum extent possible consistent with the need to establish appropriate street grades, drainage patterns, and building sites. (Ord. O-88-40 § 1 (part), 1988).

14.21.020 Scope.

This chapter sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction. (Ord. O-88-40 § 1 (part), 1988).

14.21.030 Permits required.

A. No person shall do any grading without first having obtained a grading permit from the Director of the Department of Planning, Permits and Public Works except for the following:

1. An excavation below finished grade for basements and footings of a building, retaining wall or other structure authorized by a valid building permit. This shall not except any fill made with the material from such excavation nor exempt any excavation having an unsupported height greater than two feet after the completion of such structure;
2. Cemetery graves;

3. Refuse disposal sites controlled by other regulations;
4. Excavations for wells or tunnels or utilities;
5. Mining, quarrying, excavating, processing, stockpiling of rock, sand, gravel, aggregate or clay where established and provided for by law, providing such operations do not affect the lateral support or increase the stresses in or pressure upon any adjacent or contiguous property;
6. Exploratory excavations under the direction of soils engineers or engineering geologists;
7. An excavation which is (a) less than two feet in depth, or (b) which does not create a cut slope greater than two feet in height and steeper than three horizontal to one vertical;
8. A fill less than one foot in depth and placed on natural terrain with a slope flatter than five horizontal to one vertical;
9. A fill less than three feet in depth, which does not exceed fifty cubic yards on any one lot and does not obstruct a drainage course, and which is not intended to support structures;
10. Street right-of-way construction.

B. No person shall do any grading without first having obtained a grading permit from the Director of the Department of Planning, Permits and Public Works. No grading permit will be issued until such time as the Director of the Department of Planning, Permits and Public Works has approved a grading plan which is accompanied by a final site plan for an impending development. Additionally, the Director has the authority to require, prior to issuance of a grading permit, a haul route to be approved by the Director for transporting any excess dirt material. Further, the Director may require that he approve any site within Lakewood where the excess material is to be dumped. A grading plan shall be valid for a period not to exceed six months from the date of approval. An exception to the site plan requirement may be authorized by the Director of the Department of Planning, Permits and Public Works based upon the following circumstances:

1. The proposed grading is in direct response to a drainage problem; or
2. It is clear that the proposed grading is appropriate for the property, and that no adverse impact on adjacent properties will result; or
3. The proposed grading is done to achieve a subgrade or an anticipated street right-of-way and/or drainage structures or outfalls; or
4. The proposed grading is overlot grading of a large single-family or PD zoned area, being done prior to approval of a final plat and final site plan, and only in instances where it is clear that such grading will not impact surrounding areas.

In instances where a grading permit is issued prior to approval of a site plan, no building permit will be issued until a site plan (or plot plan in the case of a single-family home or duplex) and final grading plan have been approved by the Director.

A grading permit shall be required for an entire filing or each site, and may cover both excavations and fills.

Existing excavations or embankments in place prior to the adoption of this ordinance will be exempt from the standards outlined herein. This exception is granted only if the grading was done in accordance with Chapter 70 of the Uniform Building Code in effect at the time of grading of the excavation or embankment, and if a grading permit has been issued, and the work performed according to an approved grading plan. (Ord. O-94-40 §§ 8, 9, 1994; Ord. O-91-59 § 5 (part), 1991; Ord. O-88-40 § 1 (part), 1988).

14.21.040 Hazards.

Whenever the Director of the Department of Community Planning and Development determines that any existing excavation or embankment or fill on private property has become a hazard to public safety, or endangers property, or adversely affects the safety, use or stability of a public way or drainage channel, the owner of the property upon which the excavation or fill is located, or other person or agent in control of said property, upon receipt of notice in writing from the Director shall within the

period specified therein repair or eliminate such excavation or embankment so as to eliminate the hazard and be in conformance with the requirements of this code. Failure to comply with this chapter will result in the owner's failure to obtain a certificate of occupancy for the project, the city issuing a stop work order to halt the work, or any other actions as deemed necessary by the Director. (Ord. O-94-40 § 10, 1994; Ord. O-91-59 § 5 (part), 1991; Ord. O-88-40 § 1 (part), 1988).

14.21.050 Definitions.

For the purposes of this chapter, the definitions listed hereunder shall be construed as specified in this section.

"Approval" means the proposed work or completed work conforms to this chapter in the opinion of the Director of the Department of Planning, Permits and Public Works.

"As-graded" is the extent of surface conditions on completion of grading, including the final quantities of cuts and fills that have occurred.

"Bedrock" is in-place solid rock.

"Bench" is a relatively level step excavated into earth material on which fill is to be placed.

"Borrow" is earth material acquired from an off-site location for use in grading on a site.

"Civil Engineer" is a professional engineer registered in the State of Colorado to practice in the field of civil works.

"Civil engineering" is the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials to the evaluation, design and construction of civil works for the beneficial uses of mankind.

"Compaction" is the densification of a fill by mechanical means.

"Director" is the Director of the Department of Planning, Permits and Public Works of the City of Lakewood, Colorado or his designee.

"Earth material" is any rock, natural soil or fill and/or any combination thereof.

"Engineering Geologist" is a geologist experienced and knowledgeable in engineering geology.

"Engineering geology" is the application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil work.

"Erosion" is the wearing away of the ground surface as a result of the movement of wind, water and/or ice.

"Excavation" is the mechanical removal of earth material.

"Existing grade" is the grade prior to grading.

"Fill" is a deposit of earth material placed by artificial means.

"Finish grade" is the final grade of the site which conforms to the approved plan.

Geotechnical Engineer. See Soils Engineer.

"Grade" is the vertical location of the ground surface.

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

"Key" is a designed compacted fill placed in a trench excavated in earth material beneath the toe of a proposed fill slope.

"Rough grade" is the stage at which the grade approximately conforms to the approved plan.

"Site" is any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.

"Slope" is an inclined ground surface the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

"Soil" is sediments or other unconsolidated accumulations of solid particles produced by the physical and chemical disintegration of rocks; may or may not contain organic matter.

"Soils Engineer" (geotechnical engineering) is an engineer experienced and knowledgeable in the practice of soils (geotechnical) engineering.

“Soils engineering” (geotechnical engineering) is the application of the principles of soils mechanics in the investigation, evaluation and design of civil works involving the use of earth materials and the inspection and/or testing of the construction thereof.

“Substantial for purposes of this chapter” means the cutting or filling of a site to accomplish a two foot or greater change from natural grade.

“Terrace” is a relatively level step constructed in the face of a graded slope surface for drainage and maintenance purposes. (Ord. O-91-59 § 5 (part), 1991; Ord. O-88-40 § 1 (part), 1988).

14.21.060 Grading permit requirements.

A. Plans and Specifications. When required by the Director, each application for a grading permit shall be accompanied by three sets of plans and specifications, and supporting data consisting of a soils engineering report and engineering geology report. These reports will be required on a case-by-case basis as determined by the Director. The plans and specifications shall be prepared and signed by a civil engineer where required by the Director.

B. Information on Plans and in Specifications. Plans shall be drawn to scale and upon approval will be required to be submitted as mylar reproducible for records. The plans shall be of a sufficient clarity to indicate the nature and extent of the work proposed and shall show in detail that the proposed grading will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations. Plans and specifications shall be drawn according to the Engineering Regulations, Construction Specifications and Design Standards of the City of Lakewood.

C. For grading plans submitted with a building permit application in the 1-R, 2-R and 3-R Zone Districts, the plans and specifications shall be drawn according to the requirements provided by the Plans and Permits Section of the Department of Planning, Permits and Public Works. The standards of Section 14.21.070 will apply to single-family and duplex building permit applications.

D. Soils Engineering Report. The soils engineering report required by subsection (A) of this section shall include:

1. Data regarding the nature, distribution and strength of existing soils;
2. Conclusions and recommendations for grading procedures;
3. Design criteria for corrective measures, including buttress fills, when necessary;
4. Opinions and recommendations covering adequacy of sites to be developed by the proposed grading, including the stability of slopes.

Recommendations included in the report and approved by the Director shall be incorporated in the grading plans or specifications.

E. Engineering Geology Report. The engineering geology report required by subsection (A) of this section shall include a description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading. Recommendations included in the report and approved by the Director shall be incorporated in the grading plans or specifications.

F. Issuance. The provisions of Section 303 of the Uniform Building Code are applicable to grading permits. The Director may require that grading operations and project design be modified if delays occur which incur weather-generated problems not considered at the time the permit was issued. (Ord. O-91-59 § 4 (part), 1991; Ord. O-88-40 § 1 (part), 1988).

14.21.070 Qualitative grading requirements.

A. It shall be the responsibility of the owner/developer to assure that minimal impact on adjacent properties results from the grading proposal. If a substantial change in grade occurs within fifty feet of the property line, the Director shall have the authority to require a less steep slope, more extensive landscape buffering, additional setback or other appropriate measures in order to minimize impacts on adjacent properties.

B. The grading plan shall include contours extending a minimum of one hundred feet beyond the property lines of the subject site. This distance may be varied or waived by the Director on a case-by-case basis, depending on individual circumstances. Any buildings, trees (exceeding four inches in caliper) or other physical features, such as drainageways, lakes, etc., must be shown on the grading plan. Additionally, the first floor finished elevation of any buildings on the adjacent properties and any tree which may have its roots impacted by the proposed grading shall be shown.

C. Fill slopes between the subject site and buildings on an adjacent site should not exceed 3:1 grade if the height of the slope where the fill is occurring exceeds two feet. This gradient is established to assure that the slope is capable of supporting landscape material, can be reasonably maintained, and to mitigate potential impacts such as erosion, deposition and drainage flows on adjacent properties. Acceptable ground cover for such a slope must be reflected on the site plan submitted for such a slope and must be reflected on the site plan submitted with the grading plan. If the Director has waived the site plan requirement, the grading plan shall reflect appropriate ground cover treatment for erosion control.

D. The height of any proposed building will be considered in evaluating the impact on adjacent land use. The height and setback of buildings on adjacent properties will also be considered to determine if negative impacts with respect to appearance, visibility and drainage would result.

E. On-site drainage and the need to maintain flows away from the proposed buildings will be considered when reviewing proposed site grading.

F. Retention of existing land forms by designing buildings which are built into a hillside or which provide walk-out basements is encouraged even though this may result in some slopes which exceed the 3:1 standard outlined in subsection (C) of this section.

G. If a site plan is submitted after grading has occurred, changes to the approved grading may be required if the site plan indicates a need for such. (Ord. O-88-40 § 1 (part), 1988).

14.21.080 Appeal procedures.

A. The Planning Commission shall hear and decide appeals from any order, decision or determination made by the Director which relates to failure of the grading plan to meet engineering standards. The Planning Commission shall also hear and decide appeals from any order, decision, or determination made by the Director which relates to failure of the grading plan to meet aesthetic/qualitative standards, or failure to mitigate the impact on the subject site or on adjacent properties.

B. The applicant shall have fourteen days after receiving a written denial from the Director to appeal said denial. Any appeal from an order, decision, or determination of the Director shall require payment of a fee prior to Planning Commission's consideration of the appeal. The amount of this fee shall be established by City Council resolution. The decision of the Planning Commission shall be final and any appeal from that decision shall be to Jefferson County District Court. (Ord. O-88-40 § 1 (part), 1988).

14.21.090 Grading fees.

A. General. Fees shall be as determined by City Council resolution.

B. Plan Review Fees. When a plan or other data are required to be submitted, a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fee shall be as set forth by City Council resolution. Separate plan review fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. For excavation and fill on the same site, the fee shall be based on the volume of excavation or fill, whichever is greater.

C. Grading Permit Fees. A fee for each grading permit shall be paid to the Director as set forth by City Council resolution. Separate permits and fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. There shall be no separate charge for standard terrace drains and similar facilities. (Ord. O-88-40 § 1 (part), 1988).

14.21.100 Bonds.

The Director may require a surety bond, cash bond, or letter of credit in such form and amount as may be deemed necessary to assure that the work is completed in accordance with the approved plans and specifications. (Ord. O-88-40 § 1 (part), 1988).

14.21.110 Cuts.

A. General. Unless otherwise recommended in the approved soils engineering and/or engineering geology report, cuts shall conform to the provisions of this section. In the absence of an approved soils engineering report, these provisions may be waived for minor cuts not intended to support structures.

B. Slope. The slope or cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than three horizontal to one vertical except as in accordance with the provisions and criteria of Section 14.21.070 of this title. No approval for slopes steeper than 3:1 is permitted unless the owner furnishes a soils engineering or an engineering geology report, or both, stating that the site has been investigated and giving an opinion that a cut at a steeper slope will be stable and not create a hazard to public or private property. The provisions of Section 14.21.070 continue to apply.

C. Drainage and Terracing. Drainage and terracing shall be provided as required in Section 14.21.140. (Ord. O-88-40 § 1 (part), 1988).

14.21.120 Fills.

A. General. Unless otherwise recommended in the approved soils engineering report, fills shall conform to the provisions of this section. In the absence of an approved soils engineering report, these provisions may be waived for minor fills not intended to support structures.

B. Fill Location. Fill slopes shall not be constructed on natural slopes which have a slope steeper than three to one.

C. Preparation of Ground. The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil and other unsuitable materials, scarifying to provide a bond with the new fill and, where slopes are steeper than five to one and the height is greater than five feet by benching into sound bedrock or other competent material as determined by the soils engineer. The bench under the toe of a fill on a slope steeper than five to one shall be at least ten feet wide. The area beyond the toe of fill shall be sloped for sheet overflow or a paved drain shall be provided. When fill is to be placed over a cut, the bench under the toe of fill shall be at least ten feet wide but the cut shall be made before placing the fill and must be accepted by the soils engineer or engineering geologist or both as a suitable foundation for fill.

D. Fill Material. Detrimental amounts of organic material shall not be permitted in fills. Except as permitted by the Director, no rock or similar irreducible material with a maximum dimension greater than twelve inches shall be buried or placed in fills.

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Exception: The Director may permit placement of larger rock when the soils engineer properly devises a method of placement, continuously inspects its placement and approves the fill stability. The following conditions shall also apply:

1. Prior to issuance of the grading permit, potential rock disposal areas shall be delineated on the grading plan.
2. When required, rock sizes greater than twelve inches in maximum dimension shall be ten feet or more below grade, measured vertically.
3. Rocks shall be placed so as to assure filling of all voids with finer material.
- E. Compaction. All fills shall be compacted to a minimum of ninety percent of maximum density as determined by U.B.C. Standard No. 70-1. In place density shall be determined in accordance with U.B.C. Standard No. 70-2, 70-3, 70-4 or 70-5.
- F. Slope. The fill slopes shall be no steeper than three horizontal to one vertical.
- G. Drainage and Terracing. Drainage and terracing shall be provided. The area above fill slopes and the surfaces of terraces shall be graded and paved as required by Section 14.21.140. (Ord. O-88-40 § 1 (part), 1988).

14.21.130 Setbacks.

A. General. Cut and fill slopes shall be set back from site boundaries in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the site boundary.

B. Top of Cut Slope. The top of cut slopes shall be made not nearer to a site boundary line than ten feet, unless authorized pursuant to Section 14.21.070 of this title. The setback may need to be increased for any required interceptor drains, and as determined by the Director.

C. Toe of Fill Slope. The toe of fill slope shall be made not nearer to the site boundary line than ten feet, or three feet of setback for each one foot of fill, whichever is greater, unless otherwise allowed pursuant to Section 14.21.070. Where a fill slope is to be located near the site boundary and the adjacent off-site property is developed, special precautions shall be incorporated in the work as the Director deems necessary to protect the adjoining property from damage as a result of such grading. These precautions may include but are not limited to:

1. Additional setbacks;
2. Provision for retaining or slough walls;
3. Mechanical or chemical treatment of the fill slope surface to minimize erosion;
4. Provisions for the control of surface waters.

D. Modification of Slope Location. The Director may approve alternate setbacks. The Director may require an investigation and recommendation by a qualified engineer or engineer geologist to demonstrate that the intent of this section has been satisfied. (Ord. O-88-40 § 1 (part), 1988).

14.21.140 Drainage and terracing.

A. General. Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provisions of this section for cut or fill slopes steeper than three horizontal to one vertical.

B. Terrace. Terraces at least six feet in width shall be established at not more than thirty foot intervals on all cut or fill slopes to control surface drainage and debris except that where only one terrace is required, it shall be at mid-height. For cut or fill slopes greater than sixty feet and up to one hundred twenty feet in vertical height, one terrace at approximately mid-height shall be twelve feet in width. Terrace widths and spacing for cut and fill slopes greater than one hundred twenty feet in height shall be designed by the civil engineer and approved by the Director. Suitable access shall be provided to permit proper cleaning and maintenance.

Swales or ditches on terraces shall have a minimum gradient of five percent and must be paved with reinforced concrete not less than four inches in thickness or with an approved equal paving. They shall have a minimum depth at the deepest point of one foot and a minimum paved width of five feet.

A single run of swale or ditch shall not collect runoff from a tributary area exceeding thirteen thousand five hundred square feet (projected) without discharging into a down drain.

C. Subsurface drainage. Cut and fill slopes shall be provided with subsurface drainage as necessary for stability.

D. Disposal. All drainage facilities shall be designed to carry waters to the nearest practicable drainage way approved by the Director and/or other appropriate jurisdiction as a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of nonerosive downdrains or other acceptable devices.

Building pads shall have a drainage gradient of two percent toward approved drainage facilities, unless waived by the Director.

Exception: The gradient from the building pad may be one percent if all of the following conditions exist throughout the permit area:

1. No proposed fills are greater than ten feet in maximum depth.
2. No proposed finish cut or fill slope faces have a vertical height in excess of ten feet.
3. No existing slope, which has a slope face steeper than ten horizontally to one vertically, has a vertical height in excess of ten feet.

E. Interceptor Drains. Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area above slopes towards the cut and has a drainage path greater than forty feet measured horizontally. Interceptor drains shall be paved with a minimum of three inches of concrete or gunite and reinforced. They shall have a minimum depth of twelve inches and a minimum paved width of thirty inches measured horizontally across the drain. The slope of drain shall be approved by the Director. (Ord. O-88-40 § 1 (part), 1988).

14.21.150 Retaining walls.

These regulations governing the installation of retaining walls are applicable to all zone districts. All retaining wall designs shall be reviewed and approved by the appropriate staff of the City of Lakewood to assure structural stability and ensure that their appearance is pleasing and compatible with the building on the site. Planning staff shall review the surface treatment of retaining walls to determine aesthetic appearance and compatibility with the on-site structures. Inspection of retaining walls in the public right-of-way or easements will be conducted by the engineering staff. Inspection of retaining walls on private property will be conducted by the Department of Planning, Permits and Public Works staff.

A. Any retaining wall exceeding thirty inches in height shall be designed and sealed by a Professional Engineer. The design must be reviewed and approved by the appropriate city staff.

B. If a series of adjacent walls are structurally interdependent and the sum of the height of the walls is greater than thirty inches, the structure will be reviewed as one wall.

C. Terracing through the use of successive retaining walls shall provide benches sufficient in width to allow for acceptable landscape material and maintenance of that material.

D. The materials, color, height, and forms of all retaining walls shall be reviewed for their compatibility with buildings, plant materials, land forms, and other on-site and off-site elements.

E. The retaining wall checklist contained in the current Engineering Regulations, Construction Specifications and Design Standards must be submitted with any request for retaining walls. (Ord. O-91-59 § 4 (part), 1991; Ord. O-88-40 § 1 (part), 1988).

14.21.160 Erosion control.

A. Slopes. The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable. If any erosion is occurring, the Director has the authority to immediately require any means necessary to alleviate the erosion, i.e., silt fencing, hay bales, water trucks, etc. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted, when substantiated by recommendations contained in the soils engineering or engineering geology reports. Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

B. The Director may require cash or letter of credit in such form and amount as may be deemed necessary to assure that the work is completed in accordance with approved plans and specifications for erosion control. If said collateral is drawn down by the City for whatever reason, the Director may require the owner and/or developer of the property to replenish the collateral as needed and repay any monies spent by the City in excess of established surety. The cost estimate and surety amount may be amended by the Director at any time.

C. It is the obligation of the owner or developer to ensure that erosion control measures shall be in place prior to commencement of grading, or stockpiling, and shall be maintained throughout construction. Additional measures may be required during construction and shall be installed at the direction of the Director. Should the owner and/or developer fail to maintain proper erosion control measures, the City or its designee may enter the property and provide necessary corrective measures and bill the owner and/or developer for the cost to the City, or the City may draw on the collateral for reimbursement of its costs. By signing a City of Lakewood application for grading and erosion permit, the owner and/or developer expressly grants authority to the City to enter upon the premises to provide necessary erosion control.

D. If the owner and/or developer violates any provision of this Chapter, including any provision of this section relating to erosion control, collateral, or payment to the City, or any other violation, the Director may issue a stop work order.

E. If the City performs or causes to be performed any work upon the property which the owner and/or developer has not performed, and if the owner and/or developer has not paid the costs to the City within thirty (30) days after billing, the City may certify the amount owed to the Treasurer of Jefferson County including additional administrative costs incurred by the City. Said amount shall become an assessment on and lien against the property of the owner and will be collected in the same manner as a real estate tax on the property. (Ord. O-98-12 § 1, 1998; Ord. O-88-40 § 1 (part), 1988).

14.21.170 Grading inspection.

A. General. All grading operations for which a permit is required shall be subject to inspection by the Director, if on private property. Engineering Division personnel shall inspect grading within public right-of-way. When required by the Director, special inspection and testing of grading operations shall be performed in accordance with the provisions of Section 306 of the Uniform Building Code and subsection C of this section.

B. Grading Designation. All grading in excess of five thousand cubic yards shall be performed in accordance with the approved grading plan prepared by a civil engineer, and shall be designated as "engineered grading." Grading involving less than five thousand cubic yards shall be designated "regular grading" unless the permittee, with the approval of the Director, chooses to have the grading performed as "engineering grading."

C. **Engineering Grading Requirements.** For engineered grading, it shall be the responsibility of the civil engineer who prepares the approved grading plan to incorporate all recommendations from the soils engineering and engineering geology reports into the grading plan. He also shall be responsible for the professional inspection and approval of the grading. If required by the Director, a special inspection must be conducted to verify the engineering grading was properly administered. This responsibility shall include, but need not be limited to, inspection and approval as to the establishment or line, grade and drainage of the development area. The civil engineer shall act as the coordinating agent in the event the need arises for liaison between the other professionals, the contractor and the Director. The civil engineer shall also be responsible for the preparation of revised plans and the submission of as-graded grading plans upon completion of the work. The grading contractor shall submit in a form prescribed by the Director a statement of compliance to the as-built plan.

Soils engineering and engineering geology reports shall be required as specified in Section 14.21.060. During grading, all necessary reports, compaction data and soil engineering and engineering geology recommendations shall be submitted to the civil engineer and the Director by the soils engineer and the engineering geologist.

The soil engineer's area of responsibility shall include, but need not be limited to, the professional inspection and approval of the adequacy of natural ground for receiving fills and the stability of cut slopes with respect to geological matters and the need for subdrains or other groundwater drainage devices. He shall report his findings to the soils engineer and the civil engineer for engineering analysis.

The Director shall inspect the project at the various stages of the work to determine that adequate control is being exercised by the professional consultants.

D. **Regular Grading Requirements.** The Director may require inspection and testing by an approved testing agency.

The testing agency's responsibility shall include, but need not be limited to, approval concerning the inspection of cleared areas and benches to receive fill, and the compaction of fills.

When the Director has cause to believe that geologic factors may be involved, the grading operation will be required to conform to the "engineering grading" requirement.

E. **Notification of Non-Compliance.** If, in the course of fulfilling his responsibility under this chapter, the civil engineer, the soils engineer, the engineering geologist or the testing agency finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the person in charge of the grading work and to the Director. Recommendations for corrective measures, if necessary, shall be submitted by the civil engineer, soils engineer or the engineering geologist.

F. **Transfer of Responsibility for Approval.** If the civil engineer, the soils engineer, the engineering geologist or the testing agency of record is changed during the course of the work, the work shall be stopped until the replacement has agreed to accept the responsibility within the area of his technical competence for approval upon completion of the work. (Ord. O-88-40 § 1 (part), 1988).

14.21.180 Completion of work.

A. **Final Reports.** Upon completion of the rough grading work and at the final completion of the work, the Director may require the following reports and drawings and supplements thereto:

1. An as-graded grading plan prepared by the civil engineer including original ground surface elevations, as-graded ground surface elevations, lot drainage patterns and locations and elevations of all surface and subsurface drainage facilities. The engineer shall state that to the best of his knowledge the work was done in accordance with the final approved grading plan.

2. A soils-grading report prepared by the soils engineer, including locations and elevations of field density tests, summaries of field and laboratory test and other substantiating data and comments on any changes made during grading and their effect on the recommendations made in the soils engineering investigation report. He shall render a finding as to the adequacy of the site for the intended use.

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3. A geologic grading report prepared by the engineering geologist, including a final description of the geology of the site and any new information disclosed during the grading and the effect of same on recommendations incorporated in the approved grading plan. He shall render a finding as to the adequacy of the site for the intended use as affected by geologic factors.

B. Notification of Completion. The permittee or his agent shall notify the Director when the grading operation is ready for final inspection. Final approval shall not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion-control measures have been completed in accordance with the final approved grading plan and the required reports have been submitted. (Ord. O-88-40 § 1 (part), 1988).

14.21.190 Conflicting provisions.

If there is any conflict between the provisions of this chapter and the Uniform Building Code, the provisions of this chapter shall control. (Ord. O-88-40 § 1 (part), 1988).