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CHAPTER 961
Regulations

961.01 GENERAL PROVISIONS.

Purpose. Part Nine, Title Six of the Codified Ordinances, establishes standards to achieve a level of management and conservation practices which will control wind or water erosion of the soil and minimize the degradation of water resources by soil sediment in conjunction with land grading, excavating, filling, or other soil-disturbing activities on land used or being developed for non-farm commercial, industrial, residential, or other non-farm purposes, and establish criteria for determination of the acceptability of such management and conservation practices. These standards are designed to implement applicable water quality management and non-point source management plans prepared under Section 208 and Section 319 of the Federal Water Pollution Control Act, 86 Stat 816, 33 U.S.C.A. 1288, as amended. Such standards and criteria shall be used by the City Engineer to review projects required to control sediment pollution pursuant to any applicable statutory or administrative authority including but not limited to division (K) of Section 1511.02 of the Revised Code and Section 319 of the Water Quality Act of 1987.
(Ord. 95-50. Passed 2-14-95.)

961.02 DEFINITIONS.

As used in Part Nine, Title Six of the Codified Ordinances:

(a) "Accelerated water erosion" means the wearing away of the land surface by water, occurring at a much more rapid rate than geologic or normal erosion, primarily as a result of the influence of the activities of humans.

(b) "Channel" means a natural stream that conveys water; a ditch or channel excavated for the flow of water.

(c) "City Engineer" means the City Engineer of The City of Springfield, Ohio.

(d) "Concentrated stormwater runoff" means surface runoff which converges and flows primarily through water conveyance features such as swales, gullies, waterways, channels or storm sewers and which exceeds the maximum specified flow rates of filters or perimeter controls intended to control sheet flow.

(e) "Conservation" means the wise use and management of natural resources.

(f) "Control Plan" means a written description, necessary calculations and detailed construction plans, acceptable to the City Engineer, to control stormwater and erosion caused by accelerated runoff from a development or for controlling sediment pollution from accelerated erosion on a development.

(g) "Cut and fill slopes" means a portion of land surface or area from which soil material is excavated and/or filled forming a slope or embankment.

(h) "Denuded area" means a portion of land surface on which the vegetation or other soil stabilization features have been removed, destroyed or covered and which may result in or contribute to erosion and sedimentation.

(i) "Developer" means any person commencing proceedings under this ordinance to effect the development of land for himself or for another. The owner of a property is included within the term "developer" in every circumstance.

(j) "Development area" means any tract, lot or parcel of land or combination of tracts, lots or parcels of land which are in one ownership, or are contiguous and in diverse ownership where earth disturbing activity is to be performed.

(k) "Ditch" means an excavation either dug or natural for the purpose of drainage or irrigation with intermittent flow.

(l) "Drainageway" means an area of concentrated water flow other than a river, stream, ditch, or grassed waterway.

(m) "Dumping" means grading, pushing, piling, throwing, unloading, or placing of soil.

(n) "Earth-disturbing activity" means any grading, excavating, filling, or other alteration of the earth's surface where natural or man-made ground cover is destroyed and which may result in or contribute to erosion and sediment pollution.

(o) "Earth material" means soil, sediment, rock, sand, gravel, and organic material or residue associated with or attached to the soil.

(p) "Floodplain Erosion" means abrading and wearing away of the nearly level land situated on either side of a channel due to overflow flooding.

(q) "Erosion" means the process by which the land surface is worn away by the action of water, wind, ice or gravity. Erosion includes accelerated erosion, floodplain erosion, gully erosion, natural erosion, normal erosion, rill erosion, and sheet erosion.

(r) "Erosion and sediment control practices" means conservation measures used to control sediment pollution and includes structural practices, vegetative practices and management techniques.

(s) "Frequency storm" means a rainfall event of a magnitude with a specified

average recurrence interval and is calculated with soil conservation service type II twenty-four-hour curves or depth-duration frequency curves.

(t) "Grading" means earth-disturbing activity such as excavation, stripping, cutting, filling, stockpiling, or any combination thereof.

(u) "Grassed Waterway" means a broad and shallow natural course or constructed channel with erosion resistant grasses or similar herbaceous cover which is used to conduct surface water drainage runoff at non-erosive velocities.

(v) "Grubbing" means removing, clearing or scalping material such as roots, stumps or sod.

(w) "Gully Erosion" means the erosion process whereby water accumulates in narrow channels during and immediately after rainfall or snow or ice melt and actively removes the soil from this narrow area to considerable depths such that the channel would not be obliterated by normal smoothing or tillage operations.

(x) "Natural Erosion (Geologic Erosion)" means the wearing away of the earth's surface by water, ice, or other natural environmental conditions of climate, vegetation, etc., undisturbed by man.

(y) "Normal Erosion" means the gradual erosion of land used by man which does not greatly exceed natural erosion.

(z) "Outfall" means an area where water flows from a structure such as a conduit, storm sewer, improved channel or drain, and the area immediately beyond the structure which is impacted by the velocity of flow in the structure.

(aa) "Public Waters" means water within rivers, streams, ditches, and lakes, except private ponds and lakes wholly within single properties, or water leaving property on which surface water originates.

(bb) "Rill Erosion" means an erosion process in which numerous small channels only several inches deep are formed; occurs mainly on recently disturbed soils.

(cc) "Sediment" means solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by wind, water, gravity, or ice, and has come to rest on the earth's surface.

(dd) "Sediment Basin" means a barrier, dam, or other suitable detention facility built across an area of waterflow to settle and retain sediment carried by surface drainage runoff waters.

(ee) "Sediment control" means the limiting of sediment transport by controlling erosion, filtering sediment from water, or detaining sediment-laden water allowing sediment to settle out.

(ff) "Sediment pollution" means failure to use management or conservation practices to control wind or water erosion of the soil and to minimize the degradation of water resources by soil sediment in conjunction with land grading, excavating, filling, or other soil-disturbing activities on land used or being developed for non-farm commercial, industrial, residential, or other non-farm purposes.

(gg) "Sensitive Area" means an area of water or resource as delineated by the City Engineer prior to plan approval that requires special management because of its susceptibility to sediment pollution or because of its importance to the well-being of the surrounding communities, region, or the state and includes:

(1) Ponds, wetlands or small lakes with less than five acres of surface area;

(2) Small streams with gradients less than ten feet per mile with average annual flows of less than 3.5 feet per second containing sand or gravel bottoms; and

(hh) "Settling facility" means a runoff detention structure such as sediment basins or

sediment traps, which detain sediment-laden runoff allowing sediment to settle out.

(ii) "Sheet Erosion" means the removal of a fairly uniform layer of soil from the land surface by wind or runoff water.

(jj) "Sheet flow" means overland water runoff in a thin uniform layer.

(kk) "Site" means any lot or parcel of land or a series of lots or parcels of land adjoining or contiguous or joined together under one ownership where clearing, stripping, grading, or excavating is performed.

(ll) "Slip" means the rapid mass movement of soil and rock material downhill under the influence of gravity in which the movement of the soil mass occurs along an interior surface of sliding.

(mm) "Sloughing" means a slip or downward movement of an extended layer of soil resulting from the undermining action of water or the earth-disturbing activity of man.

(nn) "Soil" means unconsolidated, erodible earth or ground consisting of minerals and/or organics.

(oo) "Soil loss" means soil moved from a site by the forces of erosion and redeposited at another site on land or in a body of water.

(pp) "Soil stabilization" means vegetative or structural soil cover controlling erosion, and includes permanent and temporary seed, mulch, sod, pavement, etc.

(qq) "Stormwater control structure" means practices used to control accelerated stormwater runoff from development areas.

(rr) "Stormwater conveyance system" means all storm sewers, channels, streams, ponds, lakes, etc., used for conveying concentrated stormwater runoff or storing stormwater runoff.

(ss) "Storm Frequency" means the average period of time in years within such a storm of a given duration and intensity can be expected to be equaled or exceeded.

(tt) "Stream" means a body of water running or flowing on the earth's surface or channel in which such flow occurs. Flow may be seasonally intermittent.

(uu) "Subdivision" means:

(1) The division of any parcel of land shown as a unit or as contiguous units on the last preceding tax roll, into two or more parcels, sites, or lots, any one of which is less than five acres for the purpose, whether immediate or future, or transfer of ownership, provided, however, that the division or partition of land into parcels of more than five acres not involving any new streets or easements of access, and the sale or exchange of parcels between adjoining lot owners, where such sale or exchange does not create additional building sites, shall be exempted; or

(2) The improvement of one or more parcels of land for residential, commercial or industrial structures or groups of structures involving the division or allocation of land for the opening, widening or extension of any street or streets, except private streets serving industrial structures; the division or allocation of land as open spaces for common use by owners, occupants or lease holders or as easements for the extension and maintenance of public sewer, water, storm drainage or other public facilities.

(vv) "Unstable soil" means a portion of land surface or area which is prone to slipping, sloughing or landslides.

(ww) "Water resources" means all streams, lakes, ponds, wetlands, watercourses, waterways, drainage systems, and all other bodies or accumulations of surface

water, natural or artificial, which are situated wholly or partly within, or border upon, this state, or are within its jurisdiction, except those private waters which do not combine or effect a junction with natural surface waters.
(Ord. 95-50. Passed 2-14-95.)

961.03 SCOPE; PROHIBITION.

(a) Part Nine, Title Six, applies to non-agricultural, earth-disturbing activities performed on lands located within the City's corporate boundaries; provided, such lands are not subject to the jurisdiction of a state or federal governmental agency which regulates the matters governed by this Chapter.

(b) Part Nine, Title Six, does not apply to:

(1) Those areas managed jointly as a farming or silvicultural operation or regulated by Ohio agricultural sediment pollution abatement rules (1501:15-3-01 to 1501:15-3-09 of the Administrative Code).

(2) Strip mining operations regulated by Chapter 1513 of the Revised Code.

(3) Surface mining operations regulated by Chapter 1514 of the Revised Code.

(c) No person shall cause or allow earth-disturbing activities on a development area except in compliance with the standards and criteria set out in this Chapter.

(1) The developer shall develop and submit for review a control plan. Such a plan shall contain sufficient information, drawings and notes to describe how stormwater impact, soil erosion and off-site stormwater impact will be kept to a minimum, both during and after construction. No earth-disturbing activities shall commence prior to approval of the control plan by the City Engineer.

(2) The control plan shall be certified by a Professional Engineer, registered in the State of Ohio.
(Ord. 95-50. Passed 2-14-95.)

961.04 EXCEPTIONS.

(a) Any developer seeking approval to construct a single-family residence shall be exempted from having to prepare a control plan; provided, they comply with the subdivision lot grading plan approved by the City Engineer.
(Ord. 95-50. Passed 2-14-95.)

(b) When the total detention required on a development area is under 1,000 cubic feet, the City Engineer may, upon the request of the developer, waive the detention requirements of this chapter. The City Engineer will not grant a waiver if it is determined that stormwater drainage would be a threat to adjacent properties if no detention were to be provided or if it is determined that the public sewer system downstream of the development area is not adequate to handle the increased storm flow.
(Ord. 96-48. Passed 2-6-96.)

(c) Exemption under this section from the requirement to prepare and submit a control plan does not exempt such developer from complying with the other provisions of this ordinance. The City Engineer may require the developer to submit information necessary for the City Engineer to evaluate compliance with the requirements of this Chapter.
(Ord. 95-50. Passed 2-14-95.)

961.05 STANDARDS.

(a) In order to control sediment pollution of water resources the developer for the development area shall use conservation planning and practices to maintain the level of conservation established by the following standards:

(1) Timing of sediment-trapping practices. Sediment control practices shall be functional throughout earth-disturbing activity. Settling facilities, perimeter controls, and other practices intended to trap sediment shall be implemented as the first step of grading and within seven days from the start of grubbing. They shall continue to function until the upslope development area is restabilized.

(2) Stabilization of denuded areas. Denuded areas shall have soil stabilization applied within seven days if they are to remain dormant for more than forty-five days. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site, and shall also be applied within seven days to denuded areas which may not be at final grade, but will remain dormant (undisturbed) for longer than forty-five days.

(3) Settling facilities. Concentrated stormwater runoff from denuded areas shall pass through a sediment-settling facility. The facility's storage capacity shall be sixty-seven cubic yards per acre of drainage area.

(4) Sediment barriers. Sheet flow runoff from denuded areas shall be filtered or diverted to a settling facility. Sediment barriers such as sediment fence or diversions to settling facilities shall protect adjacent properties and water resources from sediment transported by sheet flow.

(5) Storm sewer inlet protection. All storm sewer inlets which accept water runoff from the development area shall be protected so that sediment-laden water will not enter the storm sewer system without first being filtered or otherwise treated to remove sediment, unless the storm sewer system drains to a settling facility.

(6) Working in or crossing streams.

(a) Streams including bed and banks shall be restabilized immediately after in-channel work is completed, interrupted, or stopped. To the extent practicable, construction vehicles shall be kept out of streams. Where in-channel work is necessary, precautions shall be taken to stabilize the work area during construction to minimize erosion.

(b) If a live (wet) stream must be crossed by construction vehicles regularly during construction, a temporary stream crossing shall be provided.

(7) Construction access routes. Measures shall be taken to prevent soil transport onto surfaces where runoff is not checked by sediment controls, or onto public roads.

(8) Sloughing and dumping.

(a) No soil, rock, debris, or any other material shall be dumped or placed into a water resource or into such proximity that it may readily slough, slip, or erode into a water resource unless such dumping or placing is authorized by the City Engineer and, when applicable, the U.S. Army Corps of Engineers, for such purposes as, but not limited to, constructing bridges, culverts, and erosion control structures.

(b) Unstable soils prone to slipping or landsliding shall not be graded,

excavated, filled or have loads imposed upon them unless the work is done in accordance with a qualified Professional Engineer's recommendations to correct, eliminate, or adequately address the problems.

(9) Cut and fill slopes. Cut and fill slopes shall be designed and constructed in a manner which will minimize erosion. Consideration shall be given to the length and steepness of the slope, soil type, upslope drainage area, groundwater conditions, and slope stabilization.

(10) Stabilization of outfalls and channels. Outfalls and constructed or modified channels shall be designed and constructed to withstand the expected velocity of flow from a post- development, ten-year frequency storm without eroding.

(11) Establishment of permanent vegetation. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until ground cover is achieved which the City Engineer determines will provide adequate cover and is mature enough to control soil erosion satisfactorily and to survive adverse weather conditions.

(12) Disposition of temporary practices. All temporary erosion and sediment control practices shall be disposed of within thirty days after final site stabilization is achieved or after the temporary practices are no longer needed, unless otherwise authorized by the City Engineer. Trapped sediment shall be permanently stabilized to prevent further erosion.

(13) Maintenance. All temporary and permanent erosion and sediment control practices shall be designed and constructed to minimize maintenance requirements. They shall be maintained and repaired as needed to assure continued performance of their intended function. The developer for the continued maintenance of permanent erosion controls shall be identified to the satisfaction of the City.

(b) The City Engineer is empowered to adopt excavation and construction specifications and erosion and sediment control practice specifications, consistent with the accomplishing the purposes of this Chapter, which shall be used by Developers in complying with the requirements of this Chapter.

(c) These standards shall not operate to limit the power of the City Commission to enact ordinances to impose additional, more stringent requirements when necessary to accomplish the purposes of this Chapter. These standards shall not operate to limit the discretion of the City Engineer to waive requirements imposed by this Chapter; provided such waiver is consistent with accomplishing the purposes of this Chapter.

(Ord. 95-50. Passed 2-14-95.)

961.06 CONTROL PLANS.

In order to control sediment pollution of water resources, the developer for the development area shall develop a control plan for the development area.

(a) The control plan shall identify potential erosion and sediment pollution problems and describe measures to be taken to control those problems.

(b) The control plan must be submitted to and be approved by the City Engineer prior to any earth-disturbing activity on the development area.

(c) The following information shall be included in the control plan:

(1) A general project description including the nature and purpose of the earth-disturbing activity;

(2) A vicinity sketch locating the development area and all pertinent surrounding features, including water resources;
(3) The location of sensitive areas receiving runoff from the development area;
(4) The existing and proposed topography;
(5) The location and description of existing and proposed drainage patterns and facilities, including any allied drainage facilities beyond the development area;
(6) The limits of earth-disturbing activity;
(7) The types of soils within or affected by the development area and the location of all highly erodible or unstable soils;
(8) Erosion and sediment control practices to be employed on the development area:
  (A) Their location; and
  (B) Where applicable, their size, detail drawings, maintenance requirements, and design calculations.
(9) Stormwater provisions, including:
  (A) A general description of the stormwater management strategy proposed to meet the requirements of this Chapter;
  (B) The location and design calculations for all permanent stormwater conveyance, detention, and retention structures;
  (C) The person or entity responsible for continued maintenance of the stormwater control structure;
  (D) Maintenance requirements and schedules; and
  (E) Permanent access and access easements required to perform inspection and maintenance of stormwater control structures and stormwater conveyance systems.
(10) The schedule, phasing, and coordination of construction operations and erosion and sediment control practices.

(Ord. 95-50. Passed 2-14-95.)

961.07 STREAM CHANNEL AND FLOOD PLAIN EROSION.

(a) In order to control pollution of public waters by soil sediment from accelerated stream channel erosion and flood plain erosion caused by accelerated stormwater runoff from development areas, the peak rates of runoff from an area after development may be no greater than the peak rates of runoff from the same area before development for all twenty-four-hour storms from one- to one-hundred-year frequency. Design and development to match the peak rate of runoff for the one-, two-, five-, ten-, twenty-five-, fifty-, and one-hundred-year storms will be considered adequate to meet this rule.

(b) (1) If the volume of runoff from an area after development will be greater than the volume of runoff from the same area before development, it shall be compensated by reducing the peak rate of runoff from the critical storm and all more-frequent storms occurring on the development area to the peak rate of runoff from a one-year frequency, twenty-four-hour storm occurring on the same area under predevelopment conditions. Storms of less-frequent occurrence (longer return periods) than the critical storm up to the one-hundred-year storm shall have peak runoff rates no greater than the peak runoff rates from equivalent size storms under predevelopment conditions.
(2) The critical storm for a specific development area is determined as

follows:

(A) Determine the total volume of runoff from a one-year frequency, twenty-four-hour storm, occurring on the development area before and after development.

(B) From the volumes in paragraph (b)(2)(A) of this section, determine the per cent of increase in volume of runoff due to development and, using this percentage, select the critical storm from the following table:

If the percentage increase in volume of runoff is:		The 24-hour "critical storm" for discharge limitation will be:
≥	<	
0	10	1 year
10	20	2 year
20	50	5 year
50	100	10 year
100	250	25 year
250	500	50 year
500	--	100 year

("≥" means greather than or equal to and "<" means less than)

(C) Methods for controlling increases in stormwater runoff peaks and volumes may include, but are not limited to:

(i) Grading and use of grade control structure to provide a level of control in flow paths and stream gradients.

(ii) Provisions for detention and retention (for example, permanent ponds and lakes with stormwater basins provided with proper drainage, multiple-use areas for stormwater detention and recreation, wildlife, or transportation, or subsurface storage areas).

(D) Hydrologic calculation methods shall be as follows:

(i) For developments under 5 acres: use either the rational method or "Urban Hydrology for Small Water Sheds" technical release 55, U.S. Department of Agriculture.

(ii) For developments over 5 acres: use "Urban Hydrology for Small Water Sheds" technical release 55, U.S. Department of Agriculture.

(iii) For developments over 200 acres: may use, with the concurrence of the City Engineer, "Project Formulation Hydrology" technical release 20, U.S. Department of Agriculture.

(Ord. 95-50. Passed 2-14-95.)

961.08 SHEET AND RILL EROSION.

To control pollution of surface waters by soil sediment and other pollutants, the developer shall:

(a) Construct and maintain basins sized in accordance with the United States Soil Conservation Service handbook, "Water Management and Sediment Control for Urbanizing Areas" (Washington, D.C., U.S. Government Printing Office, June 1978); or

(b) Apply and maintain a level of management and conservation or practices such

that the predicted average annual soil loss, accumulated monthly in accordance with the procedure in the United States Soil Conservation Service handbook, "Water Management and Sediment Control for Urbanizing Areas," is less than fifteen (15) tons per acre the first year commencing from the time of initial earth disturbance, ten (10) tons per acre the second year, and five (5) tons per acre for any other year of the development process. The management and conservation practices shall be designed, applied, and maintained so that the entire development area and any part thereof is protected from accelerated erosion in accordance with the stated criteria; or,

(c) Use other methods to control surface water pollution; this may include but is not limited to a combination of paragraphs (a) and (b) of this standard, provided those methods are acceptable to the City Engineer.

(Ord. 95-50. Passed 2-14-95.)

961.09 CONCENTRATED WATER EROSION.

To control pollution of surface waters by soil sediment from accelerated erosion in drainageways and grassed waterways and in streams and ditches disturbed or modified in conjunction with the development process on a development area, the developer shall:

(a) Design, construct, and maintain concentrated water flow channels such that the velocity of flow does not exceed the permissible velocities listed below; or

TABLE OF PERMISSIBLE VELOCITIES FOR FLOWING WATER

Maximum Velocities for Grassed Waterways

Cover	Slope** Range** (percent)	Permissible Velocity* Erosion Resistant Soils (feet/second)	Easily Eroded Soils (feet/second)
Kentucky Bluegrass	0 - 5	7.0	5.0
Tall Fescue	5 - 10	6.0	4.0
Smooth brome	over 10	5.0	3.0
Grass mixtures**	0 - 5	5.0	4.0
Reed canary	5 - 10	6.0	3.0
Redtop***	***		
Red fescue	0 - 5	3.5	2.5

* Use velocities exceeding five feet per second only where good cover and proper maintenance can be obtained.

** Do not use on slopes steeper than ten percent except for vegetated side slopes in combination with a stone, concrete, or highly resistant vegetative center section.

*** Do not use on slopes steeper than five percent except for vegetated side slopes in combination with a stone, concrete, or highly resistant vegetative center section.

Drainage Field Ditches. Drainage field ditches are shallow-graded ditches with flat side slopes which do not interfere with tillage operations. Generally, the side slopes range from 8:1 to 15:1. The purpose of drainage field ditches is to collect water from depressional or nearly flat areas within a field and remove it to a stable outlet. Generally, erosive velocities will not be a problem because of the low gradient of fields in which drainage field ditches are used and because of the shallow side slopes. Maximum velocities shall be limited to 2.5

feet/second unless on-side studies show that higher velocities will not result in erosive conditions.

Maximum Velocities for Vegetated Stream Channels.

Drainage Areas Less Than One Square Mile: The maximum permissible design velocity shall be based on site conditions and shall be such as to result in stability of the ditch bottoms and side slopes. Maximum permissible velocities will be computed using bank-full stage or ten-year frequency stage, whichever is lower. The following table will be used as maximum velocity for all drainage main or lateral designs. Vegetation will be established immediately after construction.

Subsoil Texture	Maximum Velocity* (feet/second)
Sand and sandy loam (non-colloidal)	2.5
Silt loam (also high lime clay)	3.0
Sandy clay loam	3.5
Clay loam	4.0
Stiff clay, fine gravel, and graded loam to gravels	5.0
Graded silt to cobbles (colloidal)	5.5
Shale, hardpan, coarse gravel	6.0

* Channels that cannot be designed to meet the maximum velocity limitations must be stablized with materials other than vegetation. Such materials include crushed rock, concrete, gabions, etc.

Drainage Areas Greater Than One Square Mile: Channel velocities for newly constructed channels with drainage areas in excess of one square mile shall meet special stability requirements contained in U.S. Soil Conservation Service Technical Guide (Technical Release 25, Planning and Design of Open Channels).

(b) Design, construct, and maintain sediment basins sized in accordance with the United States Soil Conservation Service handbook, "Water Management and Sediment Control for Urbanizing Areas"; or

(c) Use other methods to control sediment pollution; this may include but is not limited to a combination of paragraphs (a) and (b) of this standard, provided those methods are acceptable to the City Engineer.

(Ord. 95-50. Passed 2-14-95.)

961.10 SLOUGHING, LANDSCAPING, AND DUMPING.

To control sediment pollution of surface waters caused by sloughing, landsliding, or dumping of earth material, or placing of earth material into such proximity that it may readily slough, slide, or erode into public waters by natural forces, no person shall:

(a) Dump or place earth material into public waters or into such proximity that it may readily slough, slide, or erode into public waters unless such dumping or placing is authorized by the City Engineer for such purposes as, but not limited to, constructing bridges, culverts, erosion control structures, and other in-stream or channel bank improvement works; or

(b) Grade, excavate, fill, or impose a load upon any soil or slope known to be prone to slipping or landsliding, thereby causing it to become unstable, unless qualified engineering assistance has been employed to explore the stability problems and make recommendations to correct, eliminate, or adequately address the problems. Grading, excavating, filling, or construction shall commence only after the City Engineer has reviewed and approved the exploratory work and recommendations and only in accordance with the approved recommendations.