

ESCARPMENT ORD. 051623

Note: Per 51A - 8.611 (c)(A)
detention is required for
areas of the Escarpment / GSA. 5-24-05

ORDINANCE NO. **26000**

An ordinance amending CHAPTER 51, "DALLAS DEVELOPMENT CODE: ORDINANCE NO. 10962, AS AMENDED," and CHAPTER 51A, "DALLAS DEVELOPMENT CODE: ORDINANCE NO. 19455, AS AMENDED," of the Dallas City Code, by amending Divisions 51-5.200 and 51A-5.200 and Section 51A-8.707; amending the escarpment regulations; amending the platting requirements in the escarpment zone and the geographically similar area; providing a penalty not to exceed \$2,000; providing a saving clause; providing a severability clause; and providing an effective date.

WHEREAS, the city council, in accordance with the provisions of the Charter of the City of Dallas, the state law, and the applicable ordinances of the city, have given the required notices and have held the required public hearings regarding this amendment to the Dallas City Code; Now Therefore,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF DALLAS:

SECTION 1. That Division 51-5.200, "Escarpment Regulations," of Article V, "Flood Plain and Escarpment Zone Regulations," of CHAPTER 51, "DALLAS DEVELOPMENT CODE: ORDINANCE NO. 10962, AS AMENDED," of the Dallas City Code, is amended to read as follows:

"Division 51-5.200

Escarpment Regulations.

This division incorporates by reference the language of Division 51A-5.200, "Escarpment Regulations," of CHAPTER 51A of the Dallas City Code, as amended."

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SECTION 2. That Division 51A-5.200, "Escarpment Regulations," of Article V, "Flood Plain and Escarpment Zone Regulations," of CHAPTER 51A, "DALLAS DEVELOPMENT CODE: ORDINANCE NO. 19455, AS AMENDED," of the Dallas City Code, is amended to read as follows:

"Division 51A-5.200. Escarpment Regulations.

SEC. 51A-5.201. DEFINITIONS.

In this division, unless the context clearly indicates otherwise:

- (1) BEST MANAGEMENT PRACTICES means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. Best management practices also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- (2) CHALK ZONE means the lower chalk member of the Austin chalk formation overlying the Eagle Ford shale formation. The chalk zone consists primarily of a chalk limestone with minor seams of shale and bentonite clays.
- (3[2]) CREST means that line above the escarpment line where the slope becomes less than 4:1.
- [(3) —Reserved.]
- (4) ESCARPMENT AREA REVIEW COMMITTEE means the committee described in Section 51A-5.209 of this chapter.
- (5) ESCARPMENT FACE means that portion of the escarpment zone between the crest and the toe.
- (6) ESCARPMENT LINE means that line formed by the intersection of the plane of the stratigraphic contact between the Austin chalk and the Eagle Ford shale formations and the surface of the land.
- (7) ESCARPMENT ZONE means that corridor of real property south of Interstate Highway 30 between the following described vertical planes:
- (A) On the crest side of the escarpment line and measuring horizontally from that line, the vertical plane that is 125 feet from that line, or 35 feet beyond the crest, whichever is farther from that line.

(B) On the toe side of the escarpment line and measuring horizontally from that line, the vertical plane that is 85 feet from that line, or 10 feet beyond the toe, whichever is farther from that line.

(8) FACTOR OF SAFETY means a combination of factors which, when considered together, indicates whether the slope is stable at a slip surface location. The factor of safety (Fs) is determined using the equation:

$$Fs = \frac{\text{Shearing strength available along sliding surface } [C_r L + N \tan \phi_r]}{\text{Shearing stresses tending to produce failure along surface } [T]}$$

[when C_r is the residual cohesive strength, L is the length of the slip surface, N is the total normal force acting perpendicularly to the slip surface, $\tan \phi_r$ is tangent, or is the residual angle of the internal friction, and T is the total driving force tending to cause the slope failure.]

(9) GEOLOGICALLY SIMILAR AREAS means:

(A) areas adjacent to and similar to the escarpment zone by virtue of their slopes, soils, and geology; and

(B) the drainage basins containing the escarpment zone, excluding those portions of the basins which are:

(i) downstream from the areas described in Subparagraph (A) above; or

(ii) north of Interstate Highway 30.

(10) GRADING means excavation or filling or any combination thereof.

(11) REGISTERED PROFESSIONAL ENGINEER means a person who is duly licensed and registered to engage in the practice of engineering in the State of Texas in accordance with state law.

(12) SHALE ZONE means the Arcadia Park/Kamp Ranch members of the Eagle Ford shale formation which lie below the Austin chalk formation. The shale zone consists primarily of clays and shale with minor layers of limestone or sand.

(13) SLOPE[~~4:1~~] means the slope of the terrain. For example, a 5:1 slope means a slope with an angle described by five [~~four~~] feet horizontal to one foot vertical.

(14) STORM WATER POLLUTION PREVENTION PLAN means a plan required by either a construction general permit or an industrial general permit, which plan describes and ensures the implementation of practices to reduce pollutants in storm water discharges associated with construction or industrial activity at a site or facility.

(15) TOE means that line below the escarpment line where the slope becomes flatter [~~less~~] than 5:1 [~~4:1~~].

SEC. 51A-5.202.

DEVELOPMENT IN ESCARPMENT ZONE
PROHIBITED.

(a) A person commits an offense if, within the escarpment zone, he:

(1) removes or injures any tree or vegetation; or

(2) alters the physical condition of the land in any way. Examples of alterations to the physical condition of the land include, but are not limited to dumping, excavation, storage, and filling.

(b) It is a defense to prosecution under Subsection (a) that the act was:

(1) the construction of a public improvement authorized by the city and performed in accordance with the requirements of this division; or

(2) the modification of a single family or duplex structure existing on the date of passage of this ordinance, and the modification did not:

(A) change the use of the structure;

(B) cause the size of the structure to exceed by 50 percent or more the size of the structure as it existed on the date of passage of this ordinance; or

(C) cause the market value of the structure to exceed by 50 percent or more the market value of the structure as it existed on the date of passage of this ordinance.

(c) The construction of public improvements in the escarpment zone requires an escarpment permit. The performance standards for development in a geologically similar area apply to the construction of public improvements in the escarpment zone.

SEC. 51A-5.203.

PERMIT REQUIRED FOR DEVELOPMENT IN
GEOLOGICALLY SIMILAR AREAS.

(a) A person commits an offense if, in a geologically similar area and without first obtaining an escarpment permit from the city expressly authorizing the act, he:

(1) removes or injures any trees or vegetation; or

(2) alters the physical condition of the land in any way. Examples of alterations to the physical condition of the land include, but are not limited to dumping, excavation, storage, and filling.

(b) It is a defense to prosecution under Subsection (a) that the act was the modification of a single family or duplex structure existing on the date of passage of this ordinance, and the modification did not:

- (1) change the use of the structure;
- (2) cause the size of the structure to exceed by 50 percent or more the size of the structure as it existed on the date of passage of this ordinance; or
- (3) cause the market value of the structure to exceed by 50 percent or more the market value of the structure as it existed on the date of passage of this ordinance.

SEC. 51A-5.204. ESCARPMENT PERMIT APPLICATION AND REVIEW.

(a) An applicant for an escarpment permit shall request a preapplication conference with the escarpment area review committee. The purpose of the conference is to determine what information must be submitted with the permit application to allow a complete evaluation of the proposed project. After the conference, the committee shall advise the director of its findings and recommendations.

(b) After the preapplication conference, the applicant shall submit an application for an escarpment permit to the director. The application must be on a form approved by the director and be signed by the owner of the property. Except as otherwise provided in this division, the following items must be provided as part of the application:

- (1) The name and address of:
 - (A) the owner(s) of the property; and
 - (B) the person(s) who prepared the plans and drawings submitted.
- (2) A general vicinity map of the proposed development site.
- (3) A one inch = 100 feet scale site plan showing details of the terrain and area drainage. This site plan must be a contour map with two-foot contour intervals.
- (4) A one inch = 50 feet scale cross section and plan review of any proposed structures.
- (5) Results of the slope stability analysis required under Section 51A-5.205.
- (6) The soil erosion control plan required under Section 51A-5.206.

- (7) The grading plan required under Section 51A-5.207.
- (8) The vegetation plan required under Section 51A-5.208.
- (9) Financial assurance in the form of a letter of credit, a performance bond, or other instrument payable to the city of Dallas for all improvements related to the required soil erosion control, grading, and vegetation plans to insure that funds are available to the city to implement those plans if the developer fails to implement them.
- (10) A performance and maintenance bond for each private development [~~three-way~~] contract for the construction of public infrastructure improvements.
- (11) One inch = 100 feet scale transparent overlay drawings of the required soil erosion control, grading, and vegetation plans such that a composite map can be created by combining the overlay drawings and the site plan required under Subsection (b)(3).
- (12) Cost estimates and timetables for implementation and completion of work specified in the required soil erosion control, grading, and vegetation plans.
- (13) Any other information that the director determines to be necessary to allow for a complete evaluation of the proposed project.
- (c) If the director determines that one or more of the items listed in Subsection (b) is not necessary to allow for a complete review of the proposed project, he shall waive the requirement that the item or items be provided.
- (d) All plans, drawings, and specifications submitted as part of an application for an escarpment permit must comply with the requirements of this chapter and all applicable ordinances, rules, and regulations of the city of Dallas.
- (e) Upon submission by the applicant of a complete application for an escarpment permit, the director shall forward copies of all materials submitted to the escarpment area review committee for consideration. Upon review of all materials submitted, the committee shall furnish the director a written report containing its recommendations and comments concerning the proposed project. The director shall consider the committee's report before making a decision to grant or deny the escarpment permit.
- (f) If the application and other materials submitted show that the proposed project complies with the requirements of this chapter and all applicable ordinances, rules, and regulations of the city of Dallas, the director shall issue an escarpment permit and forward the application to the building official for further action. Otherwise, the director shall deny the escarpment permit.
- (g) The building official shall not issue a building permit for any project for which an escarpment permit is required unless the director has first issued an escarpment permit authorizing the work.

(h) The director may not authorize any disturbance of the land for development purposes until both the required soil erosion control and grading plans have been submitted and approved. After the approval of both of these plans, the director may issue a limited permit to authorize clearing and grubbing.

(i) A decision made by the director to grant or deny an escarpment permit may be appealed to the board of adjustment in the same manner that appeals are made from decisions of the building official.

(j) An inspector from the department of development services [~~and from the water utilities department~~] shall monitor all development for which an escarpment permit is required to ensure compliance with the approved plans, the requirements of this chapter, and all applicable ordinances, rules, and regulations of the city of Dallas.

SEC. 51A-5.205.

SLOPE STABILITY ANALYSIS.

(a) For all proposed development within a geologically similar area, field and laboratory tests must be performed on samples taken from representative locations within the development site to ascertain the existing geotechnical conditions.

(b) A slope stability analysis must be performed for each new structure to be erected within a geologically similar area. No structure may be erected where the slope stability factor of safety is less than 1.5.

(c) Except for items that are expressly waived by the director, the slope stability analysis data submitted must include the following:

- (1) A description of the boring location(s).
- (2) Drillers logs of borings delineating the stratigraphy of the soil and bedrock.
- (3) The locations and methods used to determine groundwater conditions and elevations.
- (4) A table of field and laboratory engineering tests including, but not limited to shear strength tests, atterberg limits, and shrink/swell tests.
- (5) Calculations for the slope stability analysis, including the criteria and parameters used, indicating the slope and location of slip surfaces and corresponding factors of safety.

(d) All analyses, designs, tests, and calculations for new development within a geologically similar area must be certified by a registered professional engineer. A registered professional engineer must also certify that structural foundations for all new development are designed to meet the requirements of the building code and all other applicable codes.

SEC. 51A-5.206.

SOIL EROSION CONTROL PLAN.

(a) A soil erosion control plan must be submitted for all proposed development within a geologically similar area. Except for items that are expressly waived by the director, the plan must:

- (1) show the type of soil cover as mapped by the Soil Conservation Service and confirmed by representative field tests and samples;
- (2) indicate the susceptibility to erosion of the mapped soils as confirmed by representative field tests and samples;
- (3) show the location of existing and proposed development;
- (4) include a timing schedule indicating starting and completion dates of the development activities sequence and the time of exposure of each area prior to completion of control measures;
- (5) contain a complete description of all measures to be taken to prevent or control erosion and sedimentation of soils during and after construction;
- (6) comply with best management practices standards for storm water pollution prevention plans [~~local soil conservation standards and specifications~~]; and
- (7) be certified by a registered professional engineer.

(b) Development within a geologically similar area must conform to the following performance standards:

- (1) Development must be fitted to the topography and soils to minimize cut and fill sections.
- (2) Grading is not permitted within the 100 year flood plain boundaries of watercourses unless it is:
 - (A) in conjunction with the construction of approved drainage facilities; or
 - (B) authorized by a city council approved fill permit. All grading must comply with Section 51A-5.207 of this division.
- (3) Indigenous vegetation must be retained and protected except in immediate areas of development so that a minimal amount of vegetation is removed or replaced. If vegetation is removed, it must be replaced with new vegetation of the same variety unless the director of parks and recreation approves an alternative variety as being less susceptible to disease or better suited for urban development.

(4) Development must be accomplished in a manner which assures that as small an area as possible is exposed to erosion at any one time. When land is exposed during development, the exposure must be kept to the shortest practical period of time not to exceed six months. In extraordinary cases, an extension of the six month time period may be granted in writing by the director. In such cases the director shall seek and consider the recommendation of the escarpment area review committee before making his decision.

(5) Areas where construction activities have ceased for more than 21 days must be stabilized by the developer to minimize erosion through the use of temporary or permanent vegetation, mulching, sod, geotextiles, or similar measures. In cases where permanent measures are not installed, the developer must maintain the temporary measures until the site is either fully developed or permanent vegetation with a density of at least 70 percent of the native background vegetative cover for the area has been installed.

(6) Sediment basins or other installations approved by the director must be installed and maintained to remove sediment from runoff waters accumulating on land undergoing development. These installations should be returned to natural conditions upon the substantial completion of improvements or when the director determines that the installations are no longer needed. In any event, the owner shall cause these installations to be returned to natural conditions within 90 days after written notice to do so is given by the director.

(7) Runoff caused by changed soil and surface conditions during and after development, both above and below the escarpment zone, must be controlled on each development site within approved drainage facilities so that the runoff velocity leaving the site is maintained at or below predevelopment rates. Site-specific erosion control is required below the escarpment zone where the erosion control plan shows detrimental erosion caused by runoff velocities.

(8) When additional storm water runoff is being discharged onto the face of the escarpment, the property owner's engineer shall provide an analysis of whether the additional storm water runoff has a negative effect on the escarpment. If the additional storm water runoff has a negative effect, then detention is required.

(9) Stormwater drainage may not be discharged over the escarpment face at eroding velocities as those velocities are defined in the soil evaluation reports. In no event may the discharge exceed a velocity greater than three feet per second. Stormwater drainage discharge must comply with Section 51A-5.207 of this division.

(10) Temporary vegetation and mulching must be used to protect areas exposed during development. Permanent vegetation must be established on disturbed areas following development in accordance with the vegetation plan required under Section 51A-5.208 of this division.

(11[9]) Channel velocities may not exceed five feet per second, except that velocities higher than five feet per second may be maintained at up to predevelopment rates in the escarpment and chalk zones if the developer establishes to the satisfaction of the director that these velocities do not produce detrimental erosion. If damaging erosion is occurring, site-specific erosion control measures are required. Energy dissipators, if required, must be approved by the director to maintain channel velocities at acceptable levels.

SEC. 51A-5.207.

GRADING PLAN.

(a) A grading plan must be submitted for all proposed development within a geologically similar area. Except for items that are expressly waived by the director, the following items must be included as part of the plan:

(1) A soil engineering report. This report must include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures, design criteria for corrective measures when necessary, and opinions and recommendations covering adequacy of the site to be developed. The report must be signed by a registered professional engineer.

(2) An engineering geology report. This report must include an adequate 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 the site to be developed. The report must be signed by a registered professional engineer.

(3) Limiting dimensions, elevations or finish contours to be achieved by grading, and proposed drainage channels and related construction.

(4) Detailed plans for all surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices to be constructed with or as a part of the proposed work, together with a map showing the drainage area and the estimated runoff of the area.

(b) Development within a geologically similar area must conform to the following performance standards:

(1) Grading must be planned so as to have the least disturbance on the area's natural topography, watercourses, vegetation, and wildlife. This may preclude all development in certain areas. No cleared, graded, or otherwise disturbed land may be left without temporary protective stabilizing cover. (See Section 51A-5.206.)

(2) The maximum slopes permitted in geologically similar areas shall be determined by the director based on the results of the geotechnical investigations of the site materials and other factors analyzed in this division.

(3) Topsoil must be stockpiled and redistributed on areas where vegetation will be grown after the grading is completed. Methods to insure maintenance of these areas until vegetation is established must be detailed.

SEC. 51A-5.208.

VEGETATION PLAN.

(a) A vegetation plan must be submitted for all proposed development in a geologically similar area. Except for items that are expressly waived by the director, the plan must:

(1) show the location and type of landscape features and plant materials in the areas of proposed development; and

(2) specify all proposed vegetation removal and replacement.

(b) Development in a geologically similar area must conform to the following performance standards:

(1) Indigenous vegetation must be retained and protected except in immediate areas of development so that a minimal amount of vegetation is removed or replaced. If vegetation is removed, it must be replaced with new vegetation of the same variety unless the director of parks and recreation approves an alternative variety as being less susceptible to disease or better suited for urban development.

(2) Shrub borders must be maintained around woodlands where practicable.

(3) Landscaping must consist of ecologically suitable plant species.

SEC. 51A-5.209.

ESCARPMENT AREA REVIEW COMMITTEE.

(a) In order to assist the director and the board of adjustment in the administration and interpretation of these escarpment regulations, and to establish an efficient forum for city input and review of proposed developments in geologically similar areas, an escarpment area review committee ("the committee") shall be established. The committee shall be advisory in nature and be comprised of at least one representative from the departments of development services, parks and recreation, and public works and transportation [~~water utilities~~]. Members of the committee shall be appointed by the directors of the departments they represent. At least two [~~one~~] representatives [~~from each listed city department~~] must be present to constitute a quorum.

(b) The committee shall have the following powers and duties:

(1) To thoroughly familiarize itself with the structures, land, areas, geology, hydrology, and indigenous plant life in the escarpment zone and in geologically similar areas.

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- (2) To thoroughly familiarize itself with the escarpment regulations.
- (3) To identify criteria to be used in evaluating proposed development in the escarpment zone and in geologically similar areas.
- (4) To identify guidelines to be used in determining whether a proposed development complies with the spirit and intent of the escarpment regulations.
- (5) To meet with each prospective developer of a project for which an escarpment permit is required and make recommendations to the director as to what information may be waived or what additional information is required to allow a complete evaluation of the proposed project.
- (6) To review applications for escarpment permits for compliance with the escarpment regulations, and to make recommendations to the director as to whether the applications should be approved or denied.
- (7) To give advice and provide staff assistance to the board of adjustment and the city plan commission in the exercise of their responsibilities.
- (8) To initiate amendments to the escarpment regulations when, in the opinion of the committee, the amendments are necessary to further the spirit and intent of the escarpment regulations.
- (c) The committee shall meet at least once each month, with additional meetings to be held upon the call of the director, or upon petition of a simple majority of the members of the committee.
- (d) The provisions of Chapter 8, "Boards and Commissions," of the Dallas City Code, as amended, do not apply to the committee.
- (e) Actions taken or recommendations made by the committee are not binding upon the director, the board of adjustment, the city plan commission, and the city council, and these persons and public bodies may decide a matter contrary to the recommendations of the committee.

SEC. 51A-5.210.PLATTING IN THE ESCARPMENT ZONE AND IN THE GEOLOGICALLY SIMILAR AREA.

When property in the escarpment zone or in the geologically similar area is platted:

- (1) the escarpment zone or the geologically similar area must be shown on the plat;

(2) the plat must provide any dedications necessary for maintenance, drainage, or compliance with this division; and

(3) the property owner is encouraged, but not required, to dedicate the escarpment zone or geologically similar area to the city as park."

SECTION 3. That Section 51A-8.707, "Platting in the Escarpment Zone and in the Geographically Similar Area," of Division 51A-8.700, "Administration," of Article VIII, "Plat Regulations," of CHAPTER 51A, "DALLAS DEVELOPMENT CODE: ORDINANCE NO. 19455, AS AMENDED," of the Dallas City Code, is amended to read as follows:

"SEC. 51A-8.707 PLATTING IN THE ESCARPMENT ZONE AND IN THE GEOGRAPHICALLY SIMILAR AREA."

(a) The commission shall refuse permission to plat property in the escarpment zone or in the geologically similar area, as defined in the escarpment regulations of this chapter, unless the director of development services has first issued an escarpment permit for the development proposed.

(b) When property in the escarpment zone or in the geologically similar area is platted:

(1) the escarpment zone or the geologically similar area must be shown on the plat; and

(2) the plat must provide any dedications necessary for maintenance, drainage, or compliance with Division 51A-5.200, "Escarpment Regulations,"; and

(3) the property owner is encouraged, but not required, to dedicate the escarpment zone or geologically similar area to the city as park."

SECTION 4. That a person violating a provision of this ordinance, upon conviction, is punishable by a fine not to exceed \$2,000.

SECTION 5. That CHAPTER 51A of the Dallas City Code shall remain in full force and effect, save and except as amended by this ordinance.

SECTION 6. That the terms and provisions of this ordinance are severable and are governed by Section 1-4 of CHAPTER 1 of the Dallas City Code, as amended.

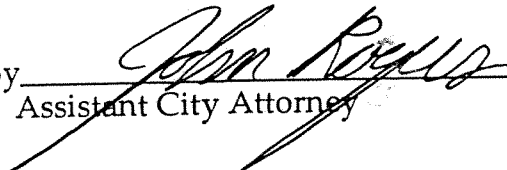
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SECTION 7. That this ordinance shall take effect immediately from and after its passage and publication in accordance with the provisions of the Charter of the City of Dallas, and it is accordingly so ordained.

APPROVED AS TO FORM:

THOMAS P. PERKINS, JR., Interim City Attorney

By 
Assistant City Attorney

MAY 25 2005

Passed _____