Escarpment Permit Application Guidelines

City of Dallas

Development Services
Engineering Division

May 2022

Section 1

General Information
and
Process Steps

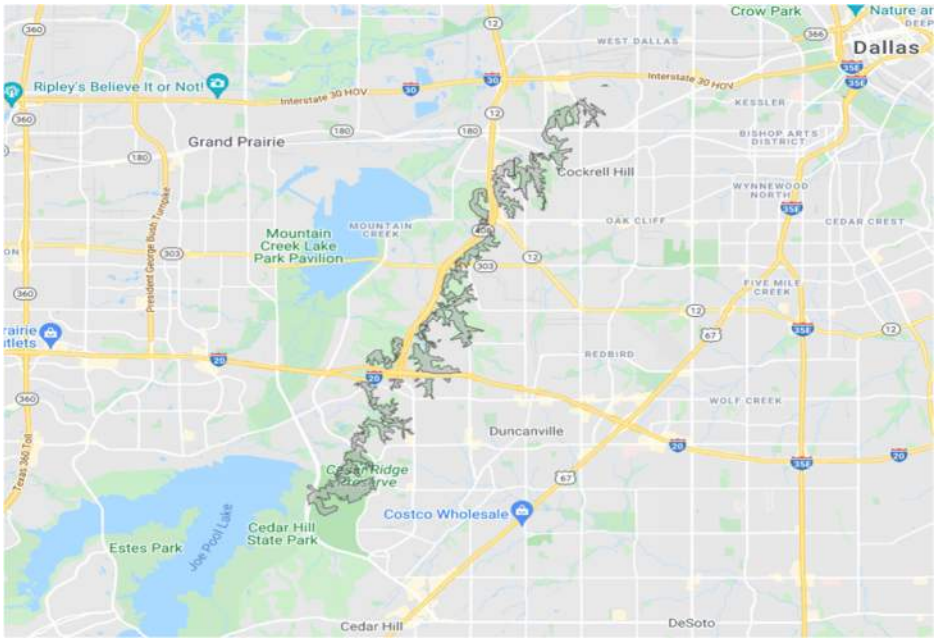
The City of Dallas Escarpment Zone

The City of Dallas Escarpment is a steep, wooded, environmentally fragile bluff located in Southwest Dallas. It is the projected contact line between two geological formations - the Austin Chalk and the Eagle Ford Shale. The Escarpment Zone is defined in the Dallas Development Code, Section 51A-5.201, as the corridor of real property between the following described vertical planes:

a) the greater of 125 feet above chalk and shale contact, or 35 feet beyond the crest (that point above the escarpment line where the slope becomes less than 4:1); and

b) the greater of 85 feet below the chalk and shale contact, or 10 feet beyond the toe (that point below the escarpment line where the slope becomes less than 5:1).

Development Services Escarpment Overlay
(This map is NOT TO SCALE)



This map is provided for informational and reference purposes only. It is not intended to be used for defining, describing, or accurately locating the Escarpment or GSA area. This map does not depict the full extent of the GSA areas which includes all of the creeks flowing through the Escarpment Zone. The City of Dallas makes no claims for the accuracy nor assumes liability for the delineations shown on the map. The responsibility for accurately locating and mapping the Escarpment or GSA area rests solely with the engineer of record with support from the geotechnical engineering and geologist for the project.

Escarpment Permit

No development is permitted in the Escarpment Zone with the exception of conditional modification to certain existing structures. Development or re-development may be permitted in the Geologically Similar Area (GSA) of the escarpment. The Escarpment Permit process ensures that any development in the GSA is sensitive to its impact on the fragile environmental conditions. It also seeks to prevent damage to development due to unstable slopes and soils with supporting geotechnical engineering studies such as a soils investigation and a slope stability analysis. If your proposed development is in the GSA of the escarpment, you must follow the Escarpment Permit process and you must have proper zoning to begin. Please note that certain addresses within certain planned developments, such as the Kessler Park Conservation District, must follow the Escarpment Permit process before a building permit is granted. **The general location of the escarpment is reflected on the map above. However, it is not to be used for defining, describing, or accurately locating the Escarpment or GSA area. A subsurface investigation including soil borings to sufficient depth must be conducted by a qualified professional in determining the precise location of the Escarpment Zone**.

It should always be remembered the Escarpment Permit **IS NOT** a permit to develop property within the Escarpment Zone! The Escarpment Permit **IS** a permit that begins the process of applying for the authorizations to develop or re-develop within the GSA.

Information Needed for the Permit Application Submittal

A complete permit application package will typically consist of the items summarized below. A pre-application conference with Development Services Engineering staff is key in determining what is needed to make a complete package for your particular development project. Some of the items listed may not be necessary while some items may require more detail than initially provided.

The information can be described and itemized by the following three (3) categories:

Application

1. Completed application form
2. Name and address of applicant, owner, and key contact
3. Name and address of the engineer of record, supporting geotechnical engineer, and supporting plant biologist
4. Public improvement construction performance and maintenance bonds
5. Cost estimates and schedules for drainage infrastructure, erosion control, grading, and vegetation plans
6. Financial assurance of completion

Plans/Drawings/Diagrams

7. General Vicinity Map of proposed development
8. Clear delineation of the Escarpment Zone and GSA shown on plan and cross-section drawings
9. Site Plan with details of terrain and pre and post development drainage areas
10. Plan View and Cross-Section of proposed structures
11. Soil Erosion Control Plan
12. Grading Plan
13. Vegetation Plan (including tree survey)

Reports/Other

14. Supporting geotechnical engineer reports*
15. Supporting geologist report*
16. Supporting plant biologist report
17. Slope Stability Analysis test data and results with adequate cross-sections*
18. Executive report of findings, impacts, and recommendations**
19. Site pictures
20. Digital files

*The supporting borings shall be sufficiently deep for adequately delineating the stratigraphy of the soil and bedrock as well as for determining the geologic formations that define the zones.

**The Executive report must include a clear explanation of the delineation of the site using the supporting geotechnical engineer and geologist report information including the determination of the contact line.

Who May Be Involved

Development Services Engineering staff with support from the city arborist will review the Escarpment Permit application package to ensure all required and requested information needed to determine the potential impact from the proposed project has been included. Development Services Engineering staff will present the proposed development plans and the findings, conclusions, and recommendations for development to the Escarpment Area Review Committee (EARC). The EARC is advisory in nature and comprised of at least one representative from the Development Services Department engineering division, Public Works Department and or Dallas Water Utilities floodplain division, Park and Recreation Department, Planning and Urban Design Department, and the Chief City Arborist. The purpose of the EARC is to assist with interpretation of the escarpment regulations, and to establish an efficient forum for city input and review of proposed developments in the GSA.

How Long Will It Take

The permitting process averages a minimum of **6 weeks** from pre-application to permit approval. See the Process Steps below.

Process Steps

1. **Pre-application conference with the Department of Development Services engineering staff:** The meeting will cover the permit process and field investigations, analyses, plans, reports, and documentation required and requested to be submitted for the development.
2. **Permit application package submittal to engineering staff for a completeness review:** The engineering staff reviewer will work closely with the applicant to review submittals and provide comments until all required and requested information, including field investigations, analyses, plans, reports, and documentation is complete, satisfactory, and ready for review by the Escarpment Area Review Committee.
3. **Permit application package Project DOX submittal.** The complete permit application package and review fee is submitted to the city's electronic plan review system.
4. **Permit application package review by the Escarpment Area Review Committee (EARC):** The engineering staff reviewer will present the development plan and permit application package findings, conclusions, and recommendations to EARC. The reviewer answers questions and provides additional information and/or clarifications to the EARC as requested. The EARC provides their recommendation of approval or denial to the Director of Development Services.
5. **Issuance of an Approval or Denial letter:** The Director of Development Services issues a formal letter of approval or denial of the permit to develop. The letter will be sent to the applicant.

Next Steps (assumes escarpment permit approval)

The following are the next steps, in general, needed to continue and move your development project to the construction phase.

1. Submit a preliminary plat for approval
2. Following approval of the preliminary plat, submit engineering plans for approval
3. Submit easements to be obtained by separate instrument, if applicable. Engineering plan approval will be granted when all easements are obtained and recorded.
4. Execute private development contracts

Section 2

Permit Application
and
Document Submittals

A pre-application conference with city staff is required prior to applying for an escarpment permit. The purpose of the conference is to determine the information to be submitted with the permit application that will allow a complete evaluation of the proposed project. Information required to be submitted that is additional to the standard template and items in the standard template determined not needed shall be list in the section below. Contact the Development Services Engineering Division to arrange the pre-application meeting.

Engineering Division
Oak Cliff Municipal Center
320 E Jefferson, Room 200
214-948-4205
Hours: Monday – Friday 8:00 am to 4:30 pm

Following the pre-application meeting, the applicant must fill out and submit the sections below.

Pre-application Conference Additional Information Determined Required by Engineering Staff Reviewer

1. _____
2. _____
3. _____
4. _____
5. _____

Pre-application Conference Information Determined Not Required by Engineering Staff Reviewer

1. _____
2. _____
3. _____
4. _____
5. _____

Escarpment Permit Application and Fee

The application fee is **$1,000.00.** The application review will not begin until the application fee is paid. A copy of the fee receipt must be included with the initial submittal. Please make checks payable to the "City of Dallas" at the address on the top of the application form.

Development Services Engineering 214.948.4205	**CITY OF DALLAS APPLICATION ESCARPMENT PERMIT**	City of Dallas 320 E. Jefferson, Room 200 Dallas, Texas 75203

Applicant/Owner Information

Project Type_____ Date_____/_____/_____

Applicant's Name _____ Telephone No. _____ Email_____

Address _____

* Key Contact Name _____ Telephone No. _____ Email_____

Address _____

City _____ State _____ Zip Code _____

Contact's Status: (check one) ❑ Owner ❑ Representative ❑ Other _____

Owner _____ Telephone No. _____ Email _____

Address _____

City _____ State _____ Zip Code _____

Ownership Status: (check one) ❑ Individual ❑ Trust ❑ Partnership ❑ Corporation

Property Information

Site Location _____ Site Size (ac.) _____

Site Street Address _____

Subdivision _____ Lot No. _____ Block No. _____

Present Zoning _____ Present Land Use _____

Supplemental Information

1. Engineer of Record Information

Name _____ Firm _____

Phone No. _____ Email _____ P.E. # _____ Firm Reg # _____

2. Supporting Geotechnical Engineer Information

Name _____ Firm _____

Phone No. _____ Email _____ P.E. # _____ Firm Reg # _____

3. Supporting Geologist Information

Name _____ Firm _____

Phone No. _____ Email _____ P.E. # _____N/A__ Firm Reg # _____N/A__

Supplemental Information (cont.)

4. Supporting Plant Biologist Information

Name _____ Firm _____

Phone No. _____ Email _____ P.E. # _____N/A__ Firm Reg # _____N/A__

5. Briefly describe the methods used to identify the exact limits of the Escarpment Zone and GSA shown on the site plan

Explain: _____

_____

_____

6. Have you submitted the slope stability analysis report required in section 51-5.205?	Yes ☐	No ☐

Explain: _____

_____

_____

7. Have you submitted a financial assurance of completion required in section 51-5.204(b)(9)?	Yes ☐	No ☐

If "Yes" attach instrument to application, if "No" explain: _____

_____

_____

8. Have you submitted performance and maintenance bonds required in section 51-5.204(b)(10)?	Yes ☐	No ☐

If "Yes" attach to application, if "No" explain: _____

_____

_____

9. Have you submitted the composite map created by the transparent overlay drawings and the Site Plan required in section 51-5.204(b)(11)?	Yes ☐	No ☐

If "No" explain: _____

_____

_____

10. Have you submitted the cost estimates and schedules for the erosion, grading, and vegetation plans required in section 51-5.204(b)(12)?	Yes ☐	No ☐

If "No" explain: _____

_____

_____

*Key Contact: This line must be filled out completely even if it is the same as the Applicant or the Owner. Do not abbreviate or use "same as applicant" or "same as owner".

Minimum Plan Sheet Submission Requirements

- All plans should be sized to print on 24” X 36” paper, landscape orientation, clear, legible, and to scale.
- Engineer scales as shown on the required sheet checklist. Do not use Architectural Scales.
- Plan orientation should generally face north to the top or left-hand side of sheet.
- See Table below for the general sheet order and required sheets for plan submission.

MINIMUM REQUIRED SHEETS & GENERAL ORDER FOR PLAN SUBMISSION (Additional sheets applicable to the proposed development may be required)	**Yes**	**No**
General Vicinity Map		
Site Plan w/Escarpment Zone and GSA delineation		
Site Plan w/Existing Conditions Topography		
Existing Drainage Area Map		
Proposed Drainage Area Map		
Storm Drainage Plan (supplemental to proposed DAM)		
Grading Plans		
Erosion Control Plans		
Erosion Control Plan Details		
Vegetation Plan including Tree Survey		
Vegetation Plan Details		
Overall Cross Sections at Proposed Structures Location		
Proposed Structure Plan View and Cross Sections		

Plan Review Assumptions, Requirements and Additional Instructions:

- The initial submittal must include a copy of a receipt showing payment has been made for the application fee.
- Two full-size 24"x36" hardcopy set of drawings, and a pdf of the drawings in email, electronic transfer, or thumb-drive is required with each submittal for each plan and/or map listed on page 4 in the **Information Needed for the Permit Application Submittal** section. The hardcopy set of drawings, exhibits, maps, and other documents provided shall be bound. Drawings, maps, and documents become property of the City, may be discarded, and shall not be returned.
- Documents shall be signed and sealed by the engineer as appropriate.
- Plan Sheet Checklists must be completed, signed, and submitted with the plan drawings.
- Allow 10 business days review time for all submittals.
- For resubmittal or final submittal - provide a written response to each comment indicating if and how it has been addressed. A Submittal Log must be kept and updated with each submittal (Section 4, Appendix A).

Document Submission Requirements

The following documents are required to be submitted with the permit application to be considered complete.

Documents Required with Permit Submittal (Check documents included)	Yes
Executive Report of Findings, Impacts, and Recommendations	
Soil Engineering Report	
Slope Stability Analysis	
Engineering Geology Report	
Supporting Plant Biologist Report	
Site Tree Survey	
Escarpment Zone & GSA Delineation Data and Analyses Geotechnical Engineer and Geologist Certification	
Escarpment Zone & GSA Delineation Engineer of Record Certification	
Public Improvement Construction Performance and Payment Bonds	
Cost Estimates and Schedules for Erosion Control, Grading, and Vegetation Plans	
Financial Assurance of Completion	
Digital Files Folder	
Digital Site Pictures Folder	

Acknowledgments

Signature of Applicant: By signing this application you acknowledge that you have completed the application and incorporated all Plan Review Assumptions and Requirements noted above.

Applicant Printed Name: _____	Owner Printed Name: _____
Signature: _____	Signature: _____

For Office Use Only		
Application Date:	Comments Date:	Final Approval Date:

Section 3

Report of Findings, Impacts, and Recommendations

Escarpment Permit Application
Report of Findings, Impacts, and Recommendations
for
[project name]
DALLAS, TEXAS

[project location]

[Design Firm Name]

[firm office location]
[firm registration #]

Engineer's Seal
Here

[IDENTIFYING FILE NO.]

[submittal date]
[revision no. 1 date]
[revision no. 2 date]

1.0 INTRODUCTION
- 1.1 Purpose
- 1.2 Proposed Development
- 1.3 Pre-Development Meeting

2.0 SITE DESCRIPTION
- 2.1 General Vicinity Map
- 2.2 Site Plan
- 2.3 Escarpment and GSA Plan with development overlay
- 2.4 Proposed Structures Plan with Cross-Sections
- 2.5 Cross-Section XX

3.0 ESCARPMENT STUDY
- 3.1 Geotechnical Engineering Report
  - 3.1.1 Executive Summary
  - 3.1.2 Introduction
    - 3.1.2.1 General
    - 3.1.2.2 Scope of Services
    - 3.1.2.3 Authorization
  - 3.1.3 Project Information
    - 3.1.3.1 Project location
    - 3.1.3.2 Current on-site conditions
    - 3.1.3.3 Aerial Photograph Review
    - 3.1.3.4 Historical use Summary
    - 3.1.3.5 Proposed Development
  - 3.1.4 Field Exploration
    - 3.1.4.1 Field Exploration Program
    - 3.1.4.2 Regional Geology
    - 3.1.4.3 Subsurface Characterization
    - 3.1.4.4 Groundwater Observations
  - 3.1.5 Laboratory Testing
  - 3.1.6 Slope Stability Analysis
    - 3.1.6.1 Escarpment Zone
    - 3.1.6.2 Global Stability Analyses
    - 3.1.6.3 Design Parameters used for Stability Analyses
    - 3.1.6.4 Results of Slope Stability Analyses
    - 3.1.6.5 Conclusion
  - 3.1.7 Closing
- 3.2 Soil Erosion Control Plan
- 3.3 Grading Plan
- 3.4 Drainage Plan
- 3.5 Vegetation Plan

4.0 IMPACTS ON THE GSA

5.0 CONCLUSIONS AND RECOMMENDATIONS

6.0 APPENDICES

Section 4

Appendices

Appendix A

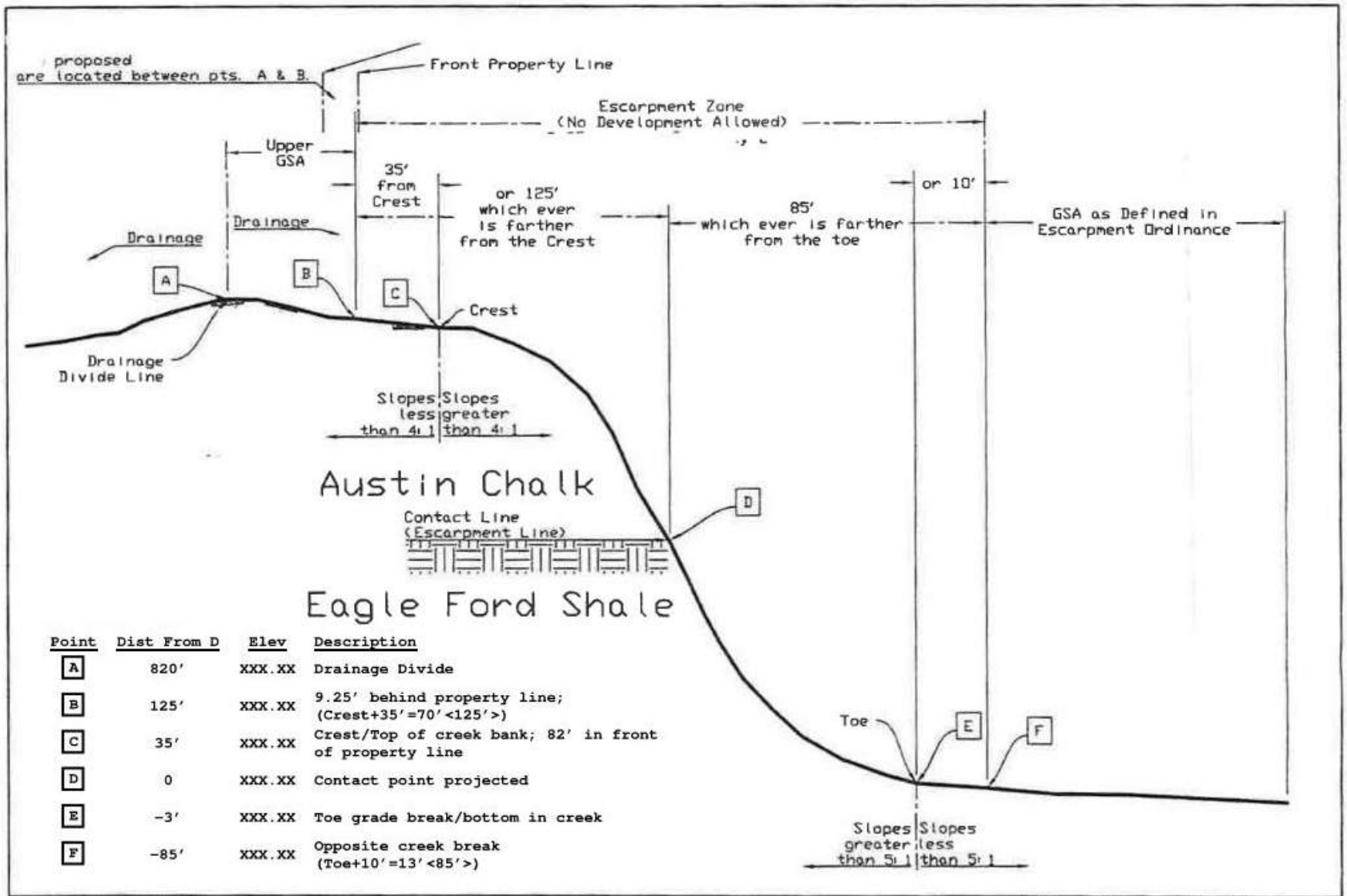
Escarpment Permit Submittal Log

Escarpment Permit Submittal Log		
No.	Date	Description
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		

Applicant to enter date and description. TO BE INCLUDED WITH EACH SUBMITTAL to Dev Services.

Appendix B

Escarpment and GSA Zone Limits Diagram



Point	Dist From D	Elev	Description
A	820'	XXX.XX	Drainage Divide
B	125'	XXX.XX	9.25' behind property line; (Crest+35'=70'<125'>)
C	35'	XXX.XX	Crest/Top of creek bank; 82' in front of property line
D	0	XXX.XX	Contact point projected
E	-3'	XXX.XX	Toe grade break/bottom in creek
F	-85'	XXX.XX	Opposite creek break (Toe+10'=13'<85'>)

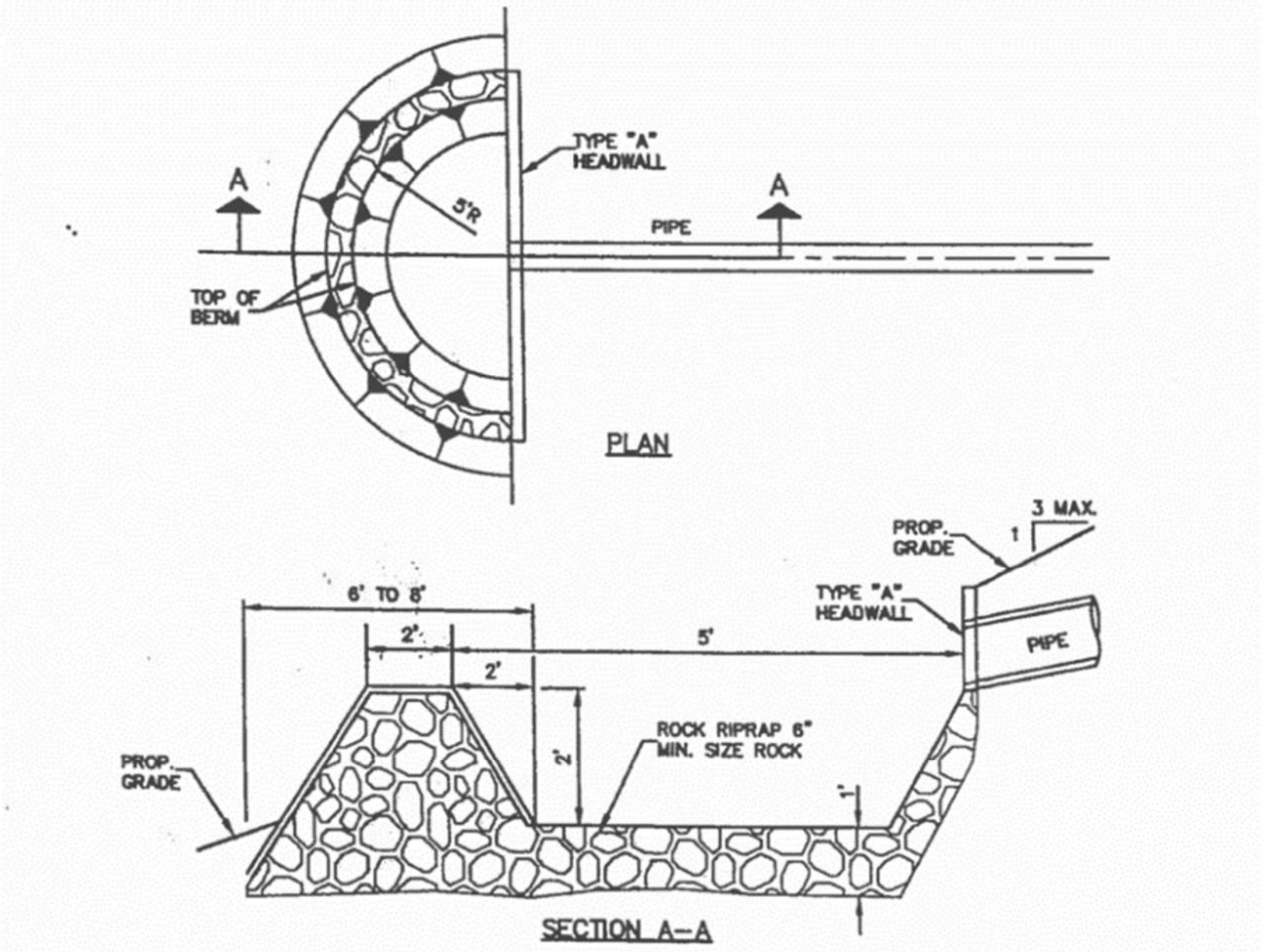
Not To Scale

Reference Chapter 51A-5.201

Escarpment Zone Limits

Appendix C

Proposed Structure Example Cross Section


A
A
TYPE "A"
HEADWALL
5'R
PIPE
TOP OF
BERM
PLAN
3 MAX.
1
PROP.
GRADE
TYPE "A"
HEADWALL
PIPE
6' TO 8'
2'
5'
2'
2'
ROCK RIPRAP 6"
MIN. SIZE ROCK
PROP.
GRADE
1'
SECTION A-A

Appendix D

Authorization to Bore Letter Template

RECORD ENGINEER LETTER HEAD
DATE

ADDRESS

To: Samuell Eskander, PE, CFM
Interim Assistant Director
Paving and Drainage Engineering
Development Services Department
320 E. Jefferson Blvd, Room 200
Dallas, Texas 75203

I, the record engineer, XXXXX, P.E., RPLS, firm Number F-???? certify that to follow the following condition when planning to get the Nos of Borings for escarpment investigation boring for the attached site:

1. No trees to be cut or harmed unless a tree removal is authorized by the city arborist prior to removal.
2. Only shrubs and grass may be cleared for the access to the boring location.
3. No grading and or disturbances to the ground will be performed.
4. The pathway to the boring will be restored after boring has been performed.
5. The boring activity will be done within the window specified by this letter (Month Day, 2022 thru Month Day, 2022)
6. A log of daily activity along with pictures will be retained by the record engineer and will be given to the City at City's request.
7. This letter will be posted at the entrance to site where the boring rigs will be entered to the site.

Record Engineer Name

Address
Signature
E-Mail
Mobil Phone No
Signature

Owner Name

Address
Signature
E-Mail
Mobil Phone No.
Signature

Copy: City Building Inspection
Zoning Inspector
Code Compliance
Phil Erwin – Chief Arborist
Hamid Darbandi-Fard/Changho Yi - Engineering Section

Appendix E

Kessler Park Conservation District PD

051587

5-25-05

ORDINANCE NO. 25984

An ordinance amending the zoning ordinances of the City of Dallas, as amended, by changing the zoning classification on the following described property, to wit:

An area bounded by Kessler Parkway on the north, Sylvan Avenue on the east, Stewart Drive on the south, and Plymouth Road on the west, and containing approximately 410 acres,

from an R-7.5(A) Single Family District and a portion of Conservation District No. 1, the King's Highway Conservation District to Conservation District No. 13 (the Kessler Park Conservation District); approving the conceptual plan for this conservation district; providing procedures and regulations for this conservation district; providing a penalty not to exceed $2,000; providing a saving clause; providing a severability clause; and providing an effective date.

WHEREAS, the city plan commission and the city council of the City of Dallas find that the property described in Section 1 of this ordinance is an area of cultural and architectural importance and significance to the citizens of the city; and

WHEREAS, the city plan commission and 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 the rezoning of the property hereinafter described; and

WHEREAS, the city council finds that it is in the public interest to establish this conservation district; Now, Therefore,

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

SECTION 1. Creation of the conservation district. That the zoning classification is changed from an R-7.5(A) Single Family District and a portion of Conservation District No. 1, the King's Highway Conservation District, to Conservation District No. 13 (the Kessler Park Conservation District) on the property described in Exhibit A, attached to and made a part of this ordinance.

SECTION 2. Approval of the conceptual plan. That the conceptual plan for the Kessler Park Conservation District, attached to and made a part of this ordinance as Exhibit B, is approved.

SECTION 3. Creation of Subareas. That Conservation District No. 13 (the Kessler Park Conservation District) is divided into three subareas. The subareas are described in Exhibit A. A map of the conservation district and the three subareas is contained in Exhibit B. In the event of a conflict between the description in Exhibit A and the depiction in Exhibit B, the description in Exhibit A controls.

SECTION 4. Purpose. That this conservation district is established to conserve the Kessler Park neighborhood and to protect and enhance its significant architectural and cultural attributes. The conservation district regulations ensure that new construction, renovation, and remodeling are done in a manner that is compatible with the conservation district. The conservation district regulations also address the landscaping within the district. The conservation district regulations are attached to this ordinance as Exhibit C.

SECTION 5. Zoning district maps. That the director of the department of development services shall correct Zoning District Map Nos. K-6 and L-6 in the offices of the city secretary, the building official, and the department of development services, to reflect the changes in zoning made by this ordinance.

SECTION 6. Penalty clause. That a person who violates a provision of this ordinance is guilty of a separate offense for each day or portion of a day during which the violation is committed, continued, or permitted, and each offense is punishable by a fine not to exceed $2,000.

SECTION 7. Saving clause. That the zoning ordinances of the City of Dallas, as amended, shall remain in full force and effect, save and except as amended by this ordinance.

SECTION 8. Severability clause. 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.

SECTION 9. Effective date. 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

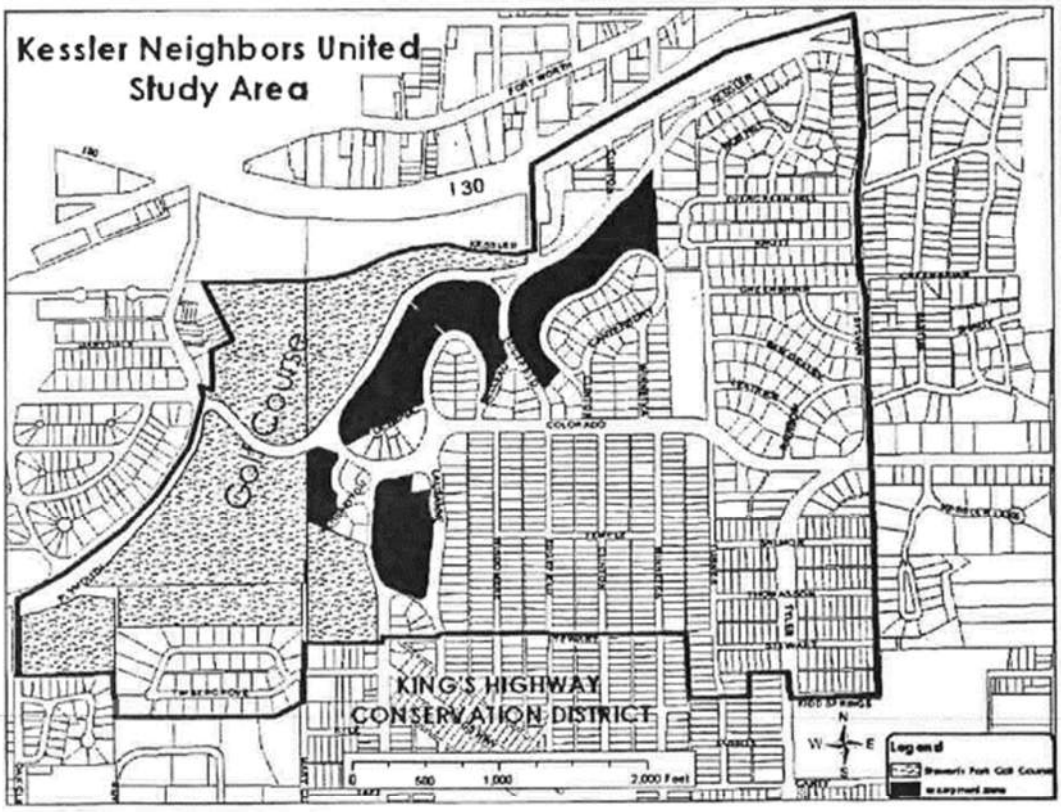
Passed MAY 2 5 2005

25984

051587

APPENDIX J

Map and Addresses of Escarpment properties in Sub-area 1



25984 051587

Escarpment Property Addresses

1504 Argonne
1520 Argonne
1105 E Canterbury
1113 N Canterbury
1117 N Canterbury
1125 N Canterbury
1133 N Canterbury
1139 N Canterbury
1153 N Canterbury
1161 N Canterbury
1169 N Canterbury
1317 W Canterbury
1323 W Canterbury
1325 W Canterbury
1329 W Canterbury
1333 W Canterbury
1704 Colorado
1306 N Edgefield
1312 N Edgefield
1323 N Edgefield
1327 N Edgefield
1335 N Edgefield
1906 Kessler Parkway
1910 Kessler Parkway
1914 Kessler Parkway
1924 Kessler Parkway
1934 Kessler Parkway
1940 Kessler Parkway
1948 Kessler Parkway
1954 Kessler Parkway
2010 Kessler Parkway
2016 Kessler Parkway
2022 Kessler Parkway
2040 Kessler Parkway
2100 Kessler Parkway
2114 Kessler Parkway
2126 Kessler Parkway
2142 Kessler Parkway
2202 Kessler Parkway
2210 Kessler Parkway
2218 Kessler Parkway
2226 Kessler Parkway
2230 Kessler Parkway
2302 Kessler Parkway
2310 Kessler Parkway
2316 Kessler Parkway
2322 Kessler Parkway
1101 Kensington
1113 Kensington
1123 Kensington
1133 Kensington
1009 Lausanne
1019 Lausanne
1029 Lausanne
1033 Lausanne
1109 Lausanne
1123 Lausanne
1203 Lausanne
1209 Lausanne
1217 Lausanne
1221 Lausanne
1225 Lausanne
1235 Lausanne
1241 Lausanne
1004 Montclair
1010 Montclair
1016 Montclair
1022 Montclair
1100 Montclair
1112 Montclair
1122 Montclair
1511 Olympia
1517 Olympia
1523 Olympia
1525 Olympia
1220 N Windomere
1228 N Windomere
1234 N Windomere
1340 N Windomere
1344 N Windomere

Appendix F
Escarpment Zone Regulations

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) CREST means that line above the escarpment line where the slope becomes less than 4:1.

(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:

$$Fs = \frac{\text{Shearing strength available along sliding surface}}{\text{Shearing stresses tending to produce failure along surface}}$$

(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 means the slope of the terrain. For example, a 5:1 slope means a slope with an angle described by five 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 than 5:1. (Ord. Nos. 19455; 25047; 26000)

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. (Ord. Nos. 19455; 26000)

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. (Ord. Nos. 19455; 26000)

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 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 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. (Ord. Nos. 19455; 25047; 26000; 28073)

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. (Ord. Nos. 19455; 26000)

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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; 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 one-percent annual chance 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 building official 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) 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. (Ord. Nos. 19455; 26000; 30893; 31314)

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. (Ord. Nos. 19455; 26000)

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 building official 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. (Ord. Nos. 19455; 26000; 30893)

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 sustainable development and construction, parks and recreation, planning and urban design, and public works. Members of the committee shall be appointed by the heads of the departments they represent. At least two representatives 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.

(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. (Ord. Nos. 19455; 25047; 26000; 28073; 28424; 29478; 29882; 30239; 30654)

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. (Ord. 26000)