

Source: Snohomish County PDS

File No. (ID#1) 98101933

(ID#2) _____

Site Address 148th St. S.E. + 41st Ave S.E.Date Copied 6/27/01 By Chris

- Title page with the following information:**
- Company (Author) name*
 - Report date*
 - Project Name*
 - Company's job number*
 - Site address*
- Executive Summary / Introduction of the report
- Table of contents
- Project Location Map / Vicinity Map
- Site / Exploration Plans, Boring Location Plans**
- Cross-sections / Subsurface profiles
- Exploration Logs**
- Monitoring Well Logs
- Cone Penetrometer Logs
- Groundwater Elevation Tables / Data

- Includes data from Previous Reports
- No new data / data review
- Missing Data / Illegible Data
Explanation _____
- _____
- _____

Comments: _____

January 11, 1999
Project No. KE97279A

4067

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Centex Homes
2320 130th Avenue Northeast, Suite 200
Bellevue, Washington 98005

Attention: Mr. Steve Kunzweiler

Subject: Addendum Geotechnical Review
Kingsridge Development
148th Street SE
Snohomish County, Washington

References: Associated Earth Sciences, Inc.
Preliminary Geotechnical Engineering Report
G97279A, dated November 1997

Associated Earth Sciences, Inc.
Geotechnical Report Completion and
Pavement Thickness Recommendations
G97279A, dated October 1998

RECEIVED
JAN 12 1999
PLANNING & DEVELOPMENT
SERVICES - LAND USE DIV.

98 101933

Dear Mr. Kunzweiler:

As requested, Associated Earth Sciences, Inc. (AESI) has completed a geotechnical engineering review of the proposed Kingsridge Plat, to be developed adjacent to the new extension of 148th Street SE, in the Silver Firs area of Snohomish County. This review has been completed in accordance with the request for additional information by the Snohomish County Planning and Development Services Engineering Section, as stated in their memorandum of September 24, 1998, titled *Preliminary Plat and Rezone for Kingsridge*. This memorandum requested a geotechnical report be provided for the development of the critical area sections of the proposed 148th Street SE alignment, specifically, in accordance with Snohomish County Critical Areas Regulations pertaining to Erosion Hazard Areas 32.10.410 (1), and Landslide Hazard Areas 32.10.420 (1), (2), and (3). The memorandum also requested that a geotechnical report be provided concerning the general development of the adjacent Kingsridge Tracts 7, 8, 9, 10, 13, and 32.

AESI previously completed the above-referenced geotechnical engineering reports for the proposed 148th Street SE grading and development. Our investigation encountered relatively gentle topography underlain by glacial lodgement till soil, with competent bearing soils located at shallow depths. It has been our experience in this area that the subsurface conditions within the till soil is generally consistent. Therefore, it is our opinion that the subsurface information contained within the referenced reports will be suitable for development of the Kingsridge Plat,

**PRELIMINARY GEOTECHNICAL
ENGINEERING REPORT**

**148TH STREET SE EXTENSION
SILVER FIRS DEVELOPMENT**

SNOHOMISH COUNTY, WASHINGTON

PREPARED FOR

Centex Homes

PROJECT NO. G97279A

NOVEMBER 1997

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**PRELIMINARY GEOTECHNICAL ENGINEERING REPORT
148TH STREET SE EXTENSION
SILVER FIRS DEVELOPMENT
SNOHOMISH COUNTY, WASHINGTON**

November 13, 1997
Project No. G97279A

I. PROJECT AND SITE CONDITIONS

1.0 INTRODUCTION

This report presents the results of our preliminary geotechnical engineering study for the proposed 148th Street SE extension at the Silver Firs development as proposed by Centex Homes. Due to the limited site access at the time this report was prepared, no subsurface explorations were completed along the proposed roadway alignment. However, review of our files concerning subsurface conditions encountered on the adjacent Silver Firs development and published geologic literature were utilized to assess the general subsurface conditions which will likely be encountered during construction of the roadway. As such, the conclusions and recommendations presented in this report should be considered preliminary in nature, and prior to preparation of the final construction documents, we recommend that subsurface explorations be completed to confirm our assumptions regarding subsurface soil and groundwater conditions. The proposed roadway alignment is presented on the Site Plan, Figure 1. In the event that any changes in the nature, design or location of the roadway are planned, the preliminary conclusions and recommendations contained in this report should be reviewed and modified, or verified, as necessary.

1.1 Purpose and Scope

The purpose of this study was to provide preliminary and generalized subsurface data to be utilized in the environmental impact phase and preliminary design and development phases of the subject project. Our study included the review of our files concerning soil conditions on the adjacent Silver Firs Development, completion of geologic studies, and a review of the Geologic Map of the Bothell Quadrangle and USCS maps of Snohomish County to interpret the type, thickness, distribution and physical properties of the subsurface sediments and shallow ground water conditions. Geologic hazard evaluations and geotechnical engineering studies were also conducted to address geologic hazard mitigation, the anticipated depth to bearing sediments, and drainage and erosion considerations. This report summarizes our literature review work and offers preliminary geologic hazard mitigation and geotechnical design recommendations based on our present understanding of the project.

EXPLORATION PIT LOG

Number **1**

0	Topsoil and grass.
	Medium dense, damp, reddish-brown, silty fine SAND, trace to little fine to coarse gravel.
5	Dense grading to very dense, damp, mottled gray grading to gray, fine to coarse gravelly, fine to medium SAND, some silt. (Till)
	BOH @ 6'. Note: No seepage, no caving.
10	
15	

Number **2**

0	Topsoil and grass.
	Firm, damp, brown, gray and dark brown, fine SAND, trace silt to silty, trace gravel to gravelly, trace organic. (Fill)
5	Very dense, damp, mottled gray grading to gray, fine gravelly, fine to coarse SAND, some silt. (Till)
	BOH @ 6'. Note: No seepage, no caving.
10	
15	

Subsurface conditions depicted represent our observation at the time and location of this exploratory hole, modified by geologic interpretation, engineering analysis, and judgment. They are not necessarily representative of other times and locations. We will not accept responsibility for the use or interpretation by others of information presented on this log.

Reviewed By

Associated Earth Sciences, Inc.
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Fax: 425-827-5424

Silver Firs
Snohomish County, Washington
Project No. KE97279A
October 1998

EXPLORATION PIT LOG

Number P-3

0	Topsoil and grass.
	Medium dense, moist, reddish-brown, silty fine SAND, trace fine gravel, thin organic stringers.
5	Dense grading to very dense, moist, mottled gray grading to gray, fine to medium SAND, some fine gravel, some silt. (Till)
10	BOH @ 6' Note: No seepage, no caving.
15	

Number P-4

0	Topsoil and grass.
	Medium dense grading to dense, moist, mottled gray, fine to medium SAND, some silt, some fine to coarse gravel. (Till)
5	
10	BOH @ 6' Note: No seepage, no caving.
15	

Subsurface conditions depicted represent our observation at the time and location of this exploratory hole, modified by geologic interpretation, engineering analysis, and judgment. They are not necessarily representative of other times and locations. We will not accept responsibility for the use or interpretation by others of information presented on this log.

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Silver Fir
Snohomish County, Washington
Project No. KE97279A
October 1998

EXPLORATION PIT LOG

Number **E 10**

0

Topsoil and roots.
Medium dense, damp, tan, silty fine SAND, some fine gravel.

5

Dense grading to very dense, mottled gray grading to gray, fine to medium SAND, some silt, some fine gravel. (Till)

10

BOH @ 7'.
Note: No seepage, no caving.

15

Number **E 11**

0

Topsoil and grass.
Medium dense, moist, reddish-brown, silty fine SAND, some fine to coarse gravel.

5

Dense grading to very dense, damp, mottled gray grading to gray, fine to medium SAND, little silt, some fine gravel. (Till)

10

BOH @ 7'.
Note: No seepage, no caving.

15

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October 1998

EXPLORATION PIT LOG

Number **E**

0

Topsoil, roots and clearing waste.

Medium dense, moist, brown, silty fine SAND, trace to some fine gravel.

5

Dense, moist, gray, fine SAND, little to trace silt, some fine gravel. (Till)

BOH @ 7'
Note: No seepage, no caving.

10

15

Number

0

5

10

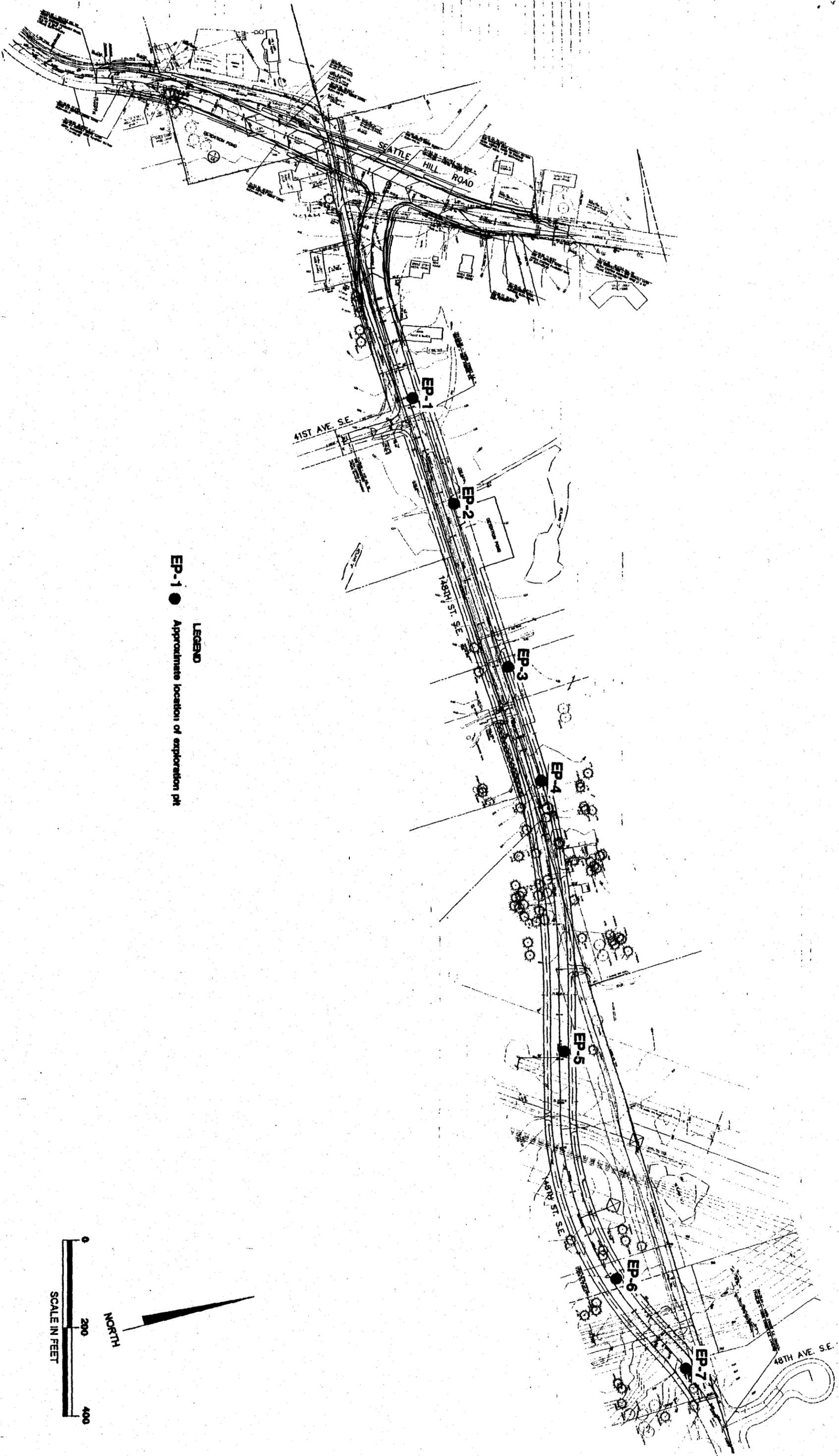
15

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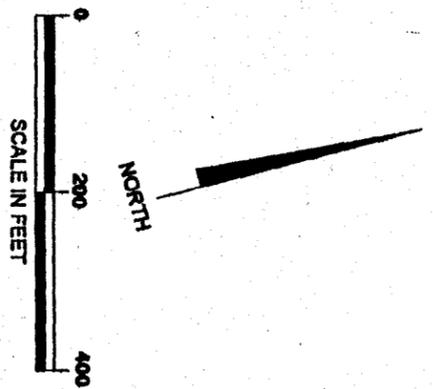
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Snohomish County, Washington
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LEGEND
 EP-1 ● Approximate location of exploration pit



SITE AND EXPLORATION PLAN
 SILVER FIRS
 SNOHOMISH COUNTY, WASHINGTON

REFERENCE: DAVID EVANS AND ASSOCIATES, INC., AUGUST 1998.

FIGURE 1
 DATE 10/98
 PROJ. NO. KE97279A