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Site Address 24308 23rd Ave SE

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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

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No new data / data review

Missing Data / Illegible Data
Explanation _____

Comments: _____

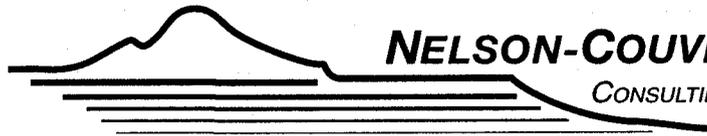
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**REVISED
GEOTECHNICAL ENGINEERING REPORT
WOODLAND MEADOWS NO. 2
SNOHOMISH COUNTY, WASHINGTON
FOR
SUNDQUIST HOMES, INC.**



NELSON-COUVRETTE & ASSOCIATES, INC.
CONSULTING GEOTECHNICAL ENGINEERS, GEOLOGISTS
AND ENVIRONMENTAL SCIENTISTS



NELSON-COUVRETTE & ASSOCIATES, INC.

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December 16, 1997

Sundquist Homes
c/o Lovell-Sauerland & Associates, Inc.
19400 - 33rd Avenue West, Suite 200
Lynnwood, Washington 98036

Revised Geotechnical Engineering Report
Woodland Meadows No. 2
Bothell, Washington
NCA File No. 212797

Gentlemen:

INTRODUCTION

This report presents the results of our geotechnical engineering investigation for your proposed Woodland Meadows No. 2 subdivision. The site is located at 24308 - 23rd Avenue SE in the Bothell area of Snohomish County, as shown on the Site Vicinity Map in Figure 1. You requested that we perform a geotechnical investigation as required by Bothell Municipal Code (BMC) Title 14. We have been provided a preliminary site plan, a preliminary grading plan and a topographic survey titled "Preliminary Plat for Woodland Meadows No. 2", "Preliminary Grading and Utility Plan for Woodland Meadows No. 2" and "Topography Survey for Woodland Meadows No. 2", prepared by Lovell-Sauerland & Associates, Inc., dated December 5, 1997, December 5, 1997 and October 20, 1995 respectively, for use in preparing this revised report.

PROJECT DESCRIPTION

The site is irregular in shape and consists of about 10.6 acres with an existing house and outbuildings. The house will remain, on Lot 14, and the outbuildings will be removed. The site generally slopes gently to steeply down to the west and south. Slopes range from near level to approximately 33 degrees across the site. The site is bordered on the south and north by residential developments, on the east by 23rd Avenue SE and two communications towers, and on the west by pasture fields. A gravel driveway provides access to the existing residence from 23rd Avenue SE.

The preliminary plan indicates the subdivision will consist of 29 residential lots with buried utilities and access roadways, as shown on the Site Plan in Figure 2. The property will be accessed from 23rd Avenue SE by a new road, 242nd Place SE. A cul-de-sac will extend off 242nd Place SE and be called 243rd Place SE. Steep slopes exist in the southern and western portions of the property. The preliminary plan shows lots on the steep slopes. The storm retention system is not a part of this study.

The grading plan indicates fills of up to 20 feet and cuts over 15 feet, mainly in the western site. We do not know if basements are planned for the site, but we anticipate they may be utilized on sloping lots. The depth and location of utility trenches are also not known at the present time.

SCOPE

The purpose of this study is to explore the subsurface conditions and to provide recommendations for project development relative to BMC Title 14. Specifically, our scope of work includes the following:

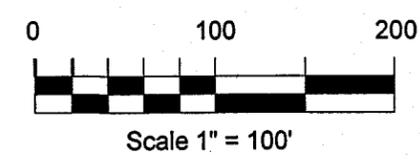
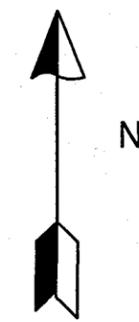
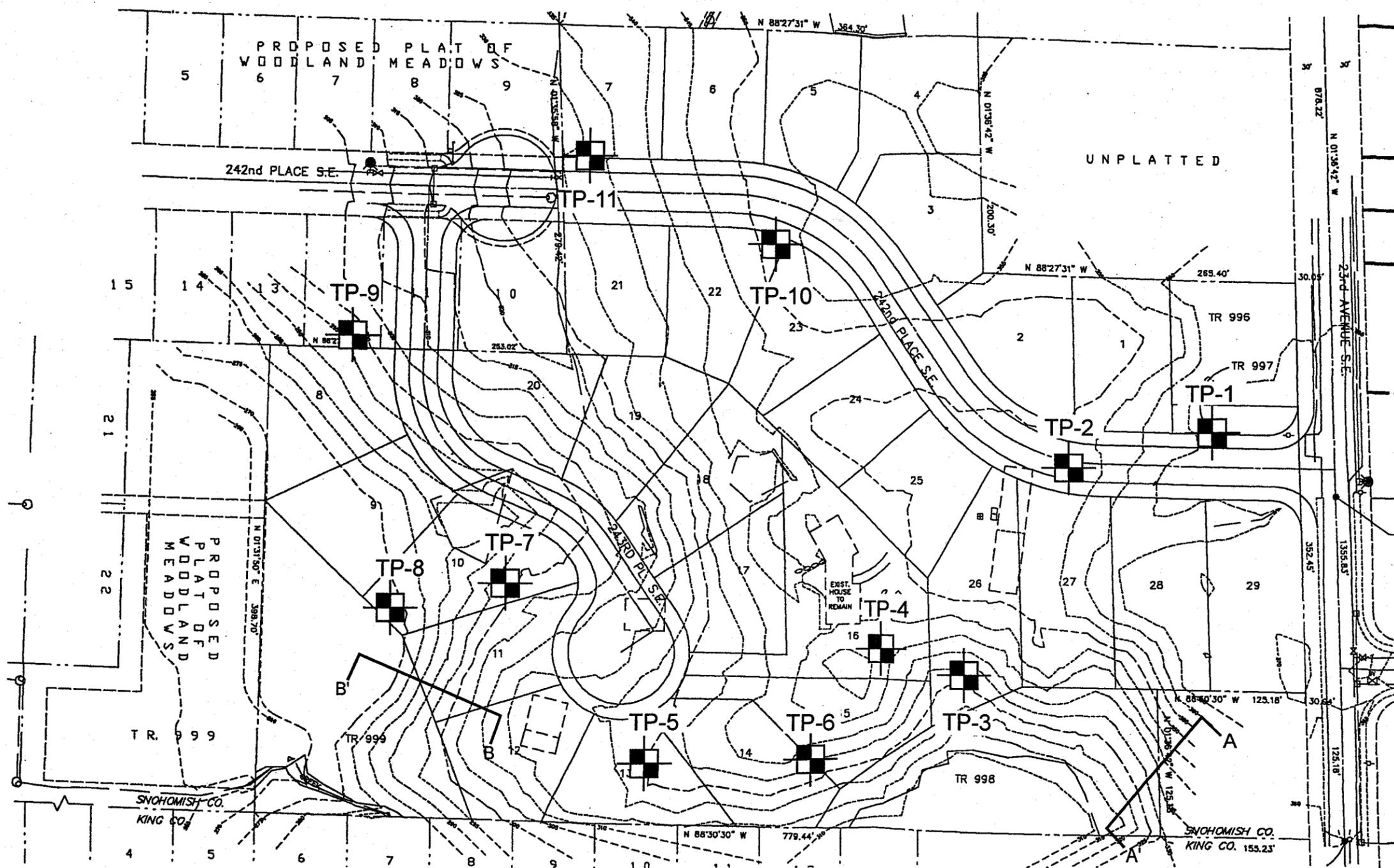
1. Review geologic maps published for the area.
2. Explore the subsurface conditions at the site with backhoe test pits.
3. Evaluate the slopes for general stability, soils and ground water conditions.
4. Provide recommendations for site preparation, grading and structural fill.
5. Provide recommendations for foundation design and appropriate building support options, including setbacks.
6. Provide general information for on-site drainage considerations.
7. Prepare a written report to document our findings and recommendations.

SITE CONDITIONS

Surface

The site consists of gently to moderately upland terraces that slope down to the west in the north-central and eastern site. These slopes range from near level to about 10 degrees (18 percent). The southern and western portions of the site slope down to the south and west, generally at between about 5 to 23 degrees (10 to 42 percent), with some small areas in excess of 33 degrees (65 percent). The total vertical relief on the site is on the order of about 100 feet. The western end of the site levels into a field below the steeper slopes. A small portion of the western end is not currently planned for development. An existing drainage area is located along the south property line. Slope failures were not observed on the site.

Site Plan



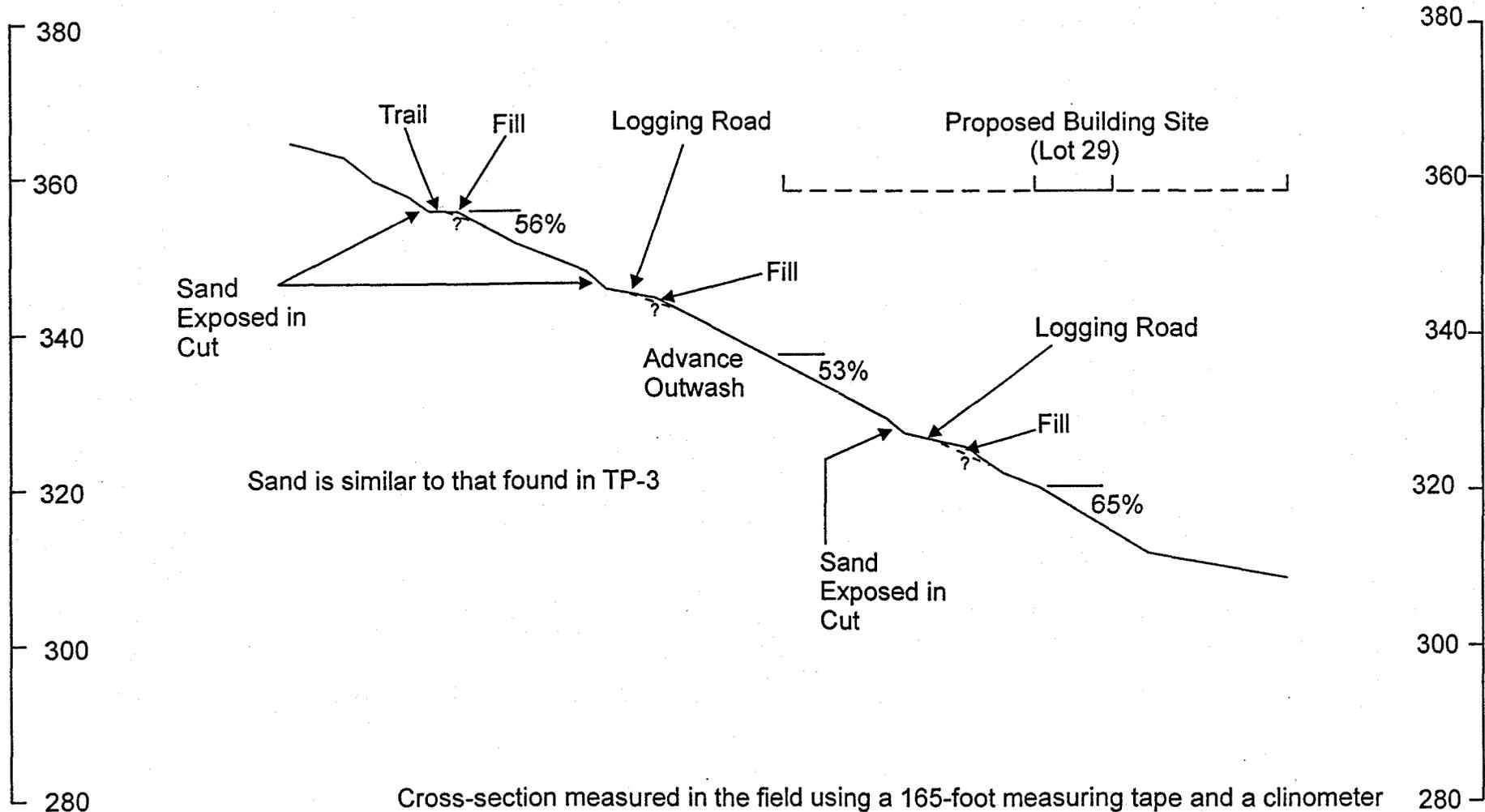
LEGEND


 TP-1
 NUMBER AND APPROXIMATE LOCATION OF TEST PIT

Reference: Site plan created from a drawing titled "Preliminary Plat for Woodland Meadows No. 2" prepared by Lovell-Sauerland and Associates, dated December 5, 1997.

NELSON-COUVRETTE & ASSOCIATES, INC. CONSULTING GEOTECHNICAL ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS	Woodland Meadows No. 2		FIGURE 2
	FILE NO. 212797	DATE December 1997	

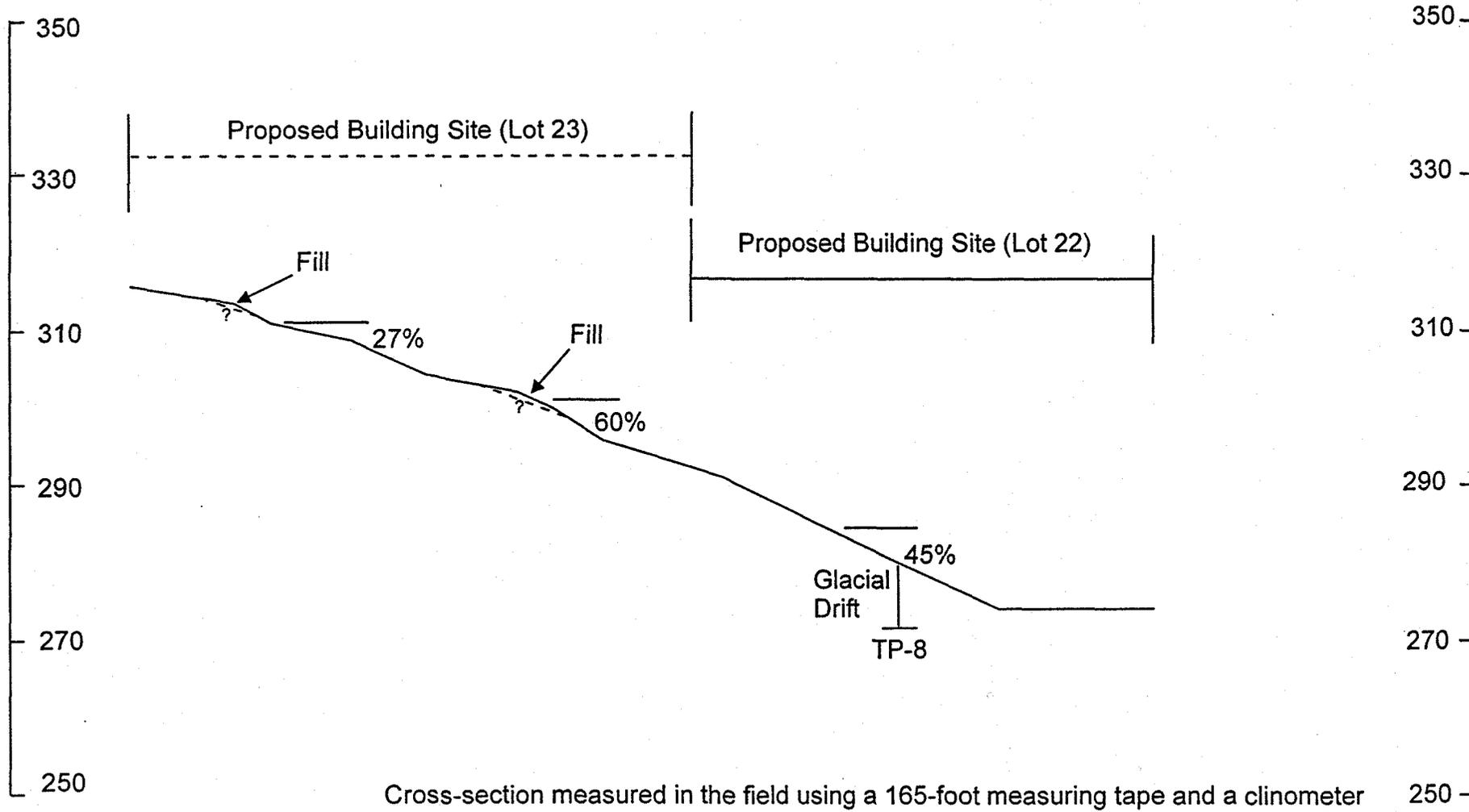
Cross-Section A-A'



Scale
1"=20'
(horizontal and vertical)

 <p>NELSON-COUVRETTE & ASSOCIATES, INC. CONSULTING GEOTECHNICAL ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS</p>	Woodland Meadows No.2	FIGURE 3
	FILE NO. 212797	DATE June 1997

Cross-Section B-B'



Scale
1"=20'
(horizontal and vertical)

 <p>NELSON-COUVRETTE & ASSOCIATES, INC. CONSULTING GEOTECHNICAL ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS</p>	Woodland Meadows No. 2	FIGURE 4
	FILE NO. 212797	DATE June 1997

LOG OF EXPLORATION

DEPTH	USC	SOIL DESCRIPTION
TEST PIT ONE		
0.0 - 0.5	ML	DARK FINE SANDY SILT WITH TRACE GRAVEL AND ORGANICS (SOFT, MOIST) (<u>TOPSOIL</u>)
0.5 - 2.2	SM	LIGHT BROWN SILTY FINE TO MEDIUM SAND WITH GRAVEL (MEDIUM DENSE, MOIST) (<i>Qva</i>)
2.2 - 5.5	SP-SM	GRAY-BROWN FINE TO COARSE SAND WITH SILT, GRAVEL, AND COBBLES (MEDIUM DENSE TO DENSE, MOIST TO WET) (<i>Qva</i>)
5.5 - 9.0	SP-SM	GRAY FINE TO COARSE SAND WITH SILT, GRAVEL, AND COBBLES (DENSE TO VERY DENSE, MOIST TO WET) (<i>Qva</i>)
		SAMPLES WERE COLLECTED AT 2.0, 3.0 AND 6.0 FEET GROUND WATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 9.0 FEET ON 06-19-97
TEST PIT TWO		
0.0 - 0.7	SM	DARK BROWN SILTY FINE SAND WITH ORGANICS AND TRACE GRAVEL (LOOSE, MOIST) (<u>TOPSOIL</u>)
0.7 - 3.6	SM/SP	BROWN-GRAY SILTY FINE TO MEDIUM SAND TO FINE TO MEDIUM SAND WITH SILT AND GRAVEL AND ROOTS (MEDIUM DENSE, MOIST)
3.6 - 5.5	SM	GRAY-BROWN SILTY FINE TO MEDIUM SAND WITH GRAVEL (MEDIUM DENSE, MOIST TO WET) (<i>Qva</i>)
5.5 - 11.0	SP-SM	GRAY MEDIUM TO COARSE SAND WITH SILT AND TRACE GRAVEL (MEDIUM DENSE, MOIST TO WET) (<i>Qva</i>)
		SAMPLES WERE COLLECTED AT 4.0, 6.5 AND 9.5 FEET GROUND WATER SEEPAGE WAS ENCOUNTERED AT 10.0 FEET TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 11.0 FEET ON 06-19-97
TEST PIT THREE		
0.0 - 0.4	SM	DARK BROWN SILTY FINE SAND WITH ORGANICS (LOOSE, MOIST) (<u>TOPSOIL</u>)
0.4 - 1.4	SP-SM	REDDISH-BROWN FINE TO MEDIUM SAND WITH SILT, AND ROOTS (MEDIUM DENSE, MOIST)
1.4 - 10.0	SM	GRAY-BROWN SILTY FINE SAND WITH A SILT INTERBED AT 5.5 FEET (MEDIUM DENSE TO DENSE, MOIST) (<i>Qva</i>)
		SAMPLES WERE COLLECTED AT 1.0 FEET AND 5.5 FEET GROUND WATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 10.0 FEET ON 06-19-97

LOG OF EXPLORATION

DEPTH	USC	SOIL DESCRIPTION
TEST PIT FOUR		
0.0 - 0.6		DARK BROWN WOOD BARK
0.6 - 1.5	ML	LIGHT BROWN SILT WITH SAND AND TRACE GRAVEL (MEDIUM STIFF, MOIST) (Qvd)
0.6 - 9.5	ML	GRAY-BROWN SILT WITH FINE TO MEDIUM SAND, GRAVEL AND IRON OXIDE STAINING (STIFF, MOIST) (Qvd)
		SAMPLE WAS COLLECTED AT 3.0 FEET GROUND WATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 9.5 FEET ON 06-19-97
TEST PIT FIVE		
0.0 - 0.3	SM	DARK BROWN SILTY SAND WITH ORGANICS AND GRAVEL (LOOSE, MOIST) (TOPSOIL)
0.3 - 3.3	SP-SM	GRAY SAND WITH SILT, GRAVEL AND A PLASTIC BAG (DENSE, MOIST) (FILL)
3.3 - 3.5	SM	DARK BROWN SILTY FINESAND WITH ORGANICS AND ROOTS (LOOSE, MOIST) (BURIED TOPSOIL)
3.5 - 9.0	SM	BROWN-GRAY SILTY FINE SAND WITH ORGANICS AND ROOTS IN THE TOP 1.0 FOOT (MEDIUM DENSE TO DENSE, MOIST TO WET) (Qva)
		SAMPLES WERE COLLECTED AT 2.0 AND 3.9 FEET GROUND WATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 9.0 FEET ON 06-19-97
TEST PIT SIX		
0.0 - 0.5		DARK BROWN WOOD BARK
0.5 - 3.0	SP-SM	BROWN MEDIUM SAND WITH SILT, ROOTS, ORGANICS AND GRAVEL (LOOSE, MOIST)
3.0 - 7.2	SM	GRAY-BROWN SILTY FINE TO MEDIUM SAND AND TRACE GRAVEL (MEDIUM DENSE, MOIST) (Qva)
7.2 - 9.5	SM	DARK GRAY SILTY MEDIUM SAND WITH LAYERS OF LIGHT BROWN SILTY MEDIUM SAND (MEDIUM DENSE, WET) (Qva)
		SAMPLES WERE COLLECTED AT 2.0, 4.0 AND 8.0 FEET GROUND WATER SEEPAGE WAS ENCOUNTERED AT 7.0 FEET TEST PIT CAVING WAS ENCOUNTERED AT 5.5 FEET TEST PIT WAS COMPLETED AT 9.5 FEET ON 06-19-97

LOG OF EXPLORATION

DEPTH	USC	SOIL DESCRIPTION
TEST PIT SEVEN		
0.0 - 1.0	ML	DARK BROWN SILT WITH MEDIUM SAND AND ORGANICS (SOFT, MOIST) (TOPSOIL)
1.0 - 1.3	SM	GRAY SILTY FINE TO COARSE SAND (MEDIUM DENSE, WET)
1.3 - 5.5	SM	GRAY SILTY FINE TO MEDIUM SAND WITH GRAVEL AND IRON STAINING (MEDIUM DENSE TO DENSE, WET) (Qvd)
5.5 - 8.5	SM	GRAY SILTY FINE TO MEDIUM SAND WITH GRAVEL AND IRON STAINING (DENSE TO VERY DENSE, MOIST TO WET) (Qvd)
		SAMPLES WERE COLLECTED AT 1.2, 2.0 AND 7.0 FEET GROUND WATER SEEPAGE WAS ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 8.5 FEET ON 06-19-97
TEST PIT EIGHT		
0.0 - 0.7	SM	DARK BROWN SILTY FINE SAND WITH GRAVEL (LOOSE, MOIST) (TOPSOIL)
0.7 - 4.5	SM	GRAY-BROWN SILTY FINE TO COARSE SAND WITH GRAVEL (DENSE, MOIST) (Qvd)
4.5 - 8.5	SP-SM	DARK GRAY FINE TO MEDIUM SAND WITH SILT AND MEDIUM SAND PARTINGS (DENSE, WET) (Qva)
		SAMPLES WERE COLLECTED AT 3.0 AND 8.5 FEET GROUND WATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 8.5 FEET ON 06-19-97
TEST PIT NINE		
0.0 - 1.0	SM	DARK BROWN SILTY FINE SAND WITH GRAVEL AND ORGANICS (TOPSOIL)
1.0 - 2.4	SP	GRAY-BROWN FINE TO COARSE SAND WITH GRAVEL AND TRACE SILT (DENSE, MOIST)
2.4 - 4.0	SP-SM	GRAY-BROWN FINE TO COARSE SAND WITH SILT, GRAVEL AND COAL FRAGMENTS (DENSE, MOIST) (Qvd)
4.0 - 5.0	ML	BLUE-GRAY SILT WITH SAND AND TRACE GRAVEL (MEDIUM STIFF TO STIFF, MOIST) (Qvd)
5.0 - 6.5	SM-ML	GRAY SILTY FINE TO MEDIUM SAND TO SANDY SILT WITH TRACE GRAVEL, AND IRON-OXIDE STAINING (MEDIUM DENSE, MOIST) (Qvd)
6.5 - 9.0	MH	BLUE-GRAY CLAYEY SILT TO SILTY CLAY (HARD, MOIST) (Qtb)
		SAMPLES WERE COLLECTED AT 3.0, 4.0 AND 6.5 FEET GROUND WATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 9.0 FEET ON 06-19-97

LOG OF EXPLORATION

DEPTH	USC	SOIL DESCRIPTION
TEST PIT TEN		
0.0 - 1.0	SM	LIGHT BROWN SILTY SAND WITH GRAVEL AND ROOTS (LOOSE, MOIST) <u>(TOPSOIL)</u>
1.0 - 7.0	SP	GRAY FINE TO MEDIUM SAND WITH TRACE GRAVEL AND TRACE SILT (MEDIUM DENSE TO DENSE, MOIST) (Qvd)
7.0 - 9.5	ML	GRAY SILT WITH FINE SAND AND GRAVEL (HARD, MOIST) (Qvd)
		SAMPLE WAS COLLECTED AT 2.0 FEET GROUND WATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 9.5 FEET ON 06-19-97
TEST PIT ELEVEN		
0.0 - 0.5	ML	DARK BROWN FINE SANDY SILT WITH ORGANICS (SOFT, MOIST) <u>(TOPSOIL)</u>
0.5 - 4.0	SM	GRAY SILTY FINE SAND WITH GRAVEL AND IRON STAINING (MEDIUM DENSE, MOIST) (Qvd)
4.0 - 6.0	SM	BLUE-GRAY SILTY FINE TO MEDIUM SAND WITH TRACE GRAVEL (MEDIUM DENSE, WET) (Qvd)
6.0 - 7.0	SM	BROWN SILTY FINE TO COARSE SAND WITH TRACE GRAVEL AND IRON-OXIDE STAINING (MEDIUM STIFF, MOIST) (Qvd)
7.0 - 9.5	MH	BLUE-GRAY CLAYEY SILT TO SILTY CLAY (HARD, MOIST) (Qtb)
		SAMPLES WERE COLLECTED AT 2.3, 5.9, 6.5, AND 8.0 FEET GROUND WATER SEEPAGE WAS ENCOUNTERED AT 6.0 FEET TEST PIT CAVING WAS ENCOUNTERED AT 6.0 FEET TEST PIT WAS COMPLETED AT 9.5 FEET ON 06-19-97