2-80

NEVADA
DEPARTMENT OF TRANSPORTATION

FOUNDATION REPORT

CLEARACRE LANE RETAINING WALL

"X" STA. 74+81 TO "X" STA. 78+50

WASHOE COUNTY

APRIL 1980

E.A. NO. 70970

PROJECT NO. SP-PE-79(4)

ENGINEERING GEOLOGY AND FOUNDATIONS SECTION

MATERIALS AND TESTING DIVISION

FOUNDATION REPORT

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Station "X" 74+80 to Station "X" 78+50

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INTRODUCTION

During March 1980, a foundation study was completed at the site of a proposed retaining wall along Clear Acre Lane near El Rancho Drive. The field study consisted of two six inch auger borings. Drive samples for visual inspection and density were taken using a 140-pound drop hammer and a Standard Penetration Sampler.

Field testing was conducted by personnel of the Engineering Geology and Foundations Section and under the supervision of a Geological Engineer.

GEOLOGY

The site is underlain by recent to Pleistocene alluvium consisting of loose to very dense silty sand, clayey silt and clayey sandy gravel.

Below the alluvium, the material consists of residual soils derived from weathered to extremely weathered and altered volcanics. The soils are classed as dense to very dense clayey sand and sandy clayey silt. In some areas, the volcanics exist as boulders or highly jointed Andesite.

Ground water was measured at elevation 4575 in Boring 1 on March 18, 1980.

FOUNDATION RECOMMENDATIONS

Spread footings with design loads up to and including 2.0 TSF may be used for wall support. Footings should be founded at elevation 4600 from 56 feet right of Station 74+88 to 57 feet right of Station 75+76, at elevation 4598 from 57 feet right of Station 75+76 to 58 feet right of Station 76+72, at elevation 4597 from 58 feet right of Station 76+72 to 58 feet right of Station 77+68 and at elevation 4596, from 58 feet right of Station 77+68 to 58 feet right of Station 78+50. Footings may be founded at or below the elevations shown above.

All of the above footing elevations are intended to allow 3 feet of cover over the bottom of the footings to protect them from frost action.

CONCLUSIONS

1. Spread footings designed for loads up to and including 2.0 TSF are recommended for structure support.
2. Footings shall be stepped and founded at elevations shown below.

   Station 74+88 to Station 75+76 - Elevation 4600

   Station 75+76 to Station 76+72 - Elevation 4598

   Station 76+72 to Station 77+68 - Elevation 4597

   Station 77+68 to Station 78+50 - Elevation 4596

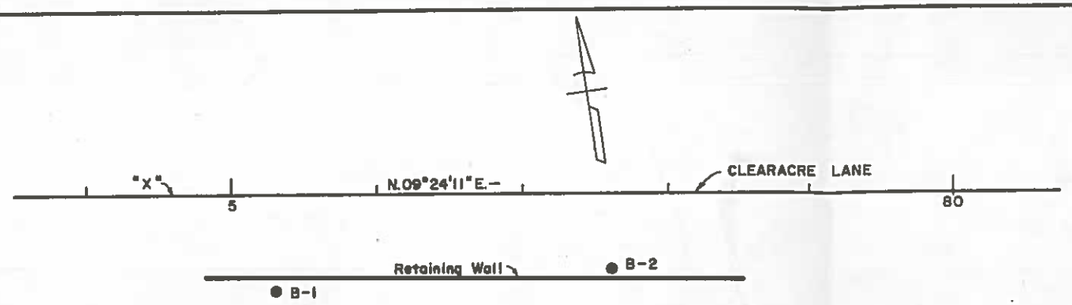
Respectfully submitted,

David G. Cochran

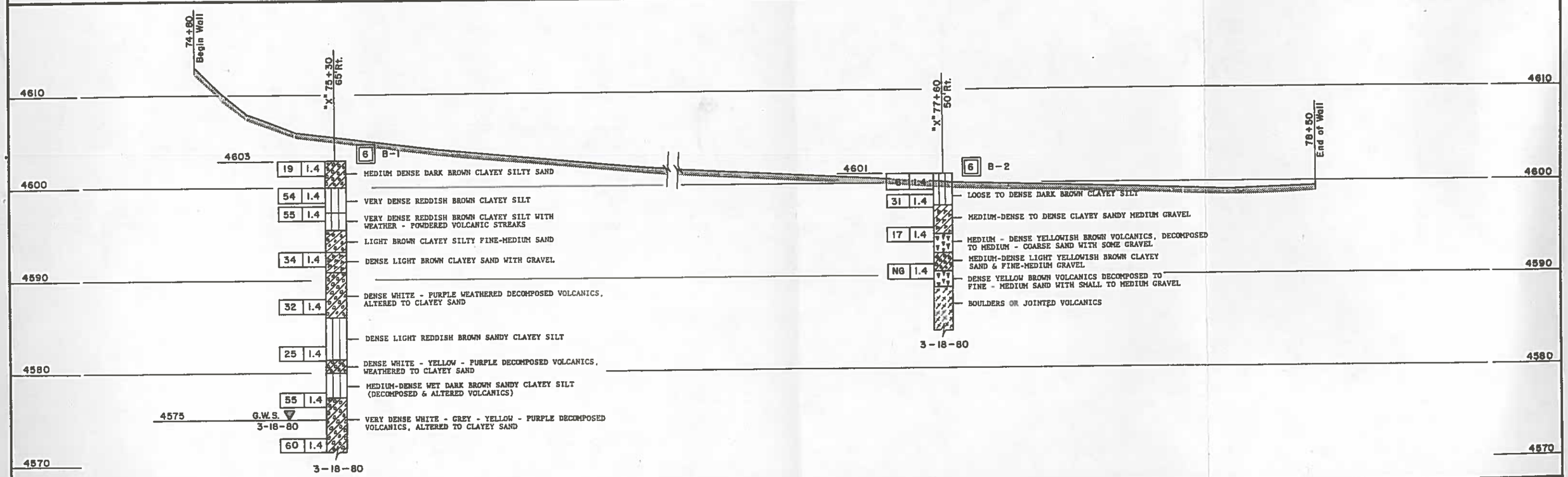
David G. Cochran
Engineering Geologist III

FED. RD. REG. NO.	STATE	PROJECT NO.	COUNTY	SHEET NO.
9	NEVADA		WASHOE	

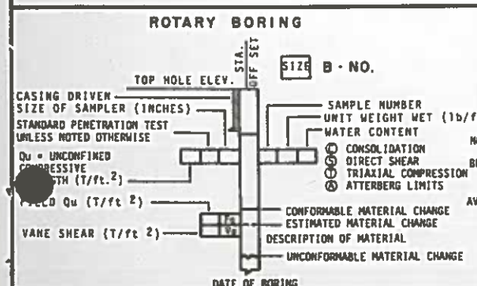
NOTE: FOUNDATION REPORT AVAILABLE FOR CONTRACTORS STUDY IN DISTRICT OFFICE AND MATERIALS & TESTING DIVISION ...



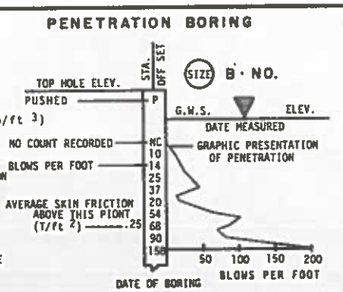
BORING PLAN



ROTARY BORING



PENETRATION BORING



PLAN OF ANY BORING
PENETROMETER (FLUSH-COUPLED)
2" CONE PENETROMETER
SAMPLE BORING (DRY)
ROTARY BORING (WET)
AUGER BORING (DRY)
JET BORING
DIAMOND CORE BORING
TEST PIT

BIT SIZE: (O.D.) : "AX"=1-13/16", "BX"=2-9/32", "NX"=2-29/32"
CASING SIZES: (O.D.) : "BX"=2-7/8", "NX"=3-1/2"

DWN.
CHK. WAC
DATE. 4-22-80

THE UNIFIED SOIL CLASSIFICATION SYSTEM

MAJ. DIV.		LETTER	GTH.	DESCRIPTION
COARSE GRAINED MATERIAL	GRAVEL AND GRAVELLY SOIL	GW		WELL-GRADED GRAVEL OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
		GP		POORLY-GRADED GRAVEL OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
		GM		SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURES.
		GC		CLAYEY GRAVEL, GRAVEL-SAND-CLAY MIXTURES.
	SAND AND SANDY SOIL	SW		WELL-GRADED SAND OR GRAVELLY SAND, LITTLE OR NO FINES.
		SP		POORLY-GRADED SAND OR GRAVELLY SAND, LITTLE OR NO FINES.
		SM		SILTY SAND, SAND-SILT MIXTURES.
		SC		CLAYEY SAND, SAND-CLAY MIXTURES.

MAJ. DIV.		LETTER	GTH.	DESCRIPTION
FINE GRAINED MATERIAL	SILTS AND CLAYS LL. <50	ML		INORGANIC SILT AND VERY FINE SAND, ROCK FLOUR, SILTY OR CLAYEY FINE SAND OR CLAYEY SILT WITH SLIGHT PLASTICITY.
		CL		INORGANIC CLAY OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAY, SANDY CLAY SILTY CLAY, LEAN CLAY
		OL		ORGANIC SILT AND ORGANIC SILTY-CLAY OF LOW PLASTICITY
	SILTS AND CLAYS LL.> 50	MH		INORGANIC SILT, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILT.
		CH		INORGANIC CLAY OF HIGH PLASTICITY, FAT CLAY.
		OH		ORGANIC CLAY OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILT.
		PT		PEAT AND OTHER HIGHLY ORGANIC SOILS.

STANDARD PENETRATION CLASSIFICATION

GRANULAR SOIL		CLAYEY SOIL	
BLOWS/ FT. *	DENSITY	BLOWS /FT. *	CONSISTENCY
0 - 4	VERY LOOSE	0 - 1	VERY SOFT
5 - 10	LOOSE	2 - 4	SOFT
11 - 24	MEDIUM DENSE	5 - 8	MEDIUM STIFF
25 - 50	DENSE	9 - 15	STIFF
OVER 50	VERY DENSE	16 - 30	VERY STIFF
		31 - 60	HARD
		OVER 60	VERY HARD

* STANDARD PENETRATION TEST(K) 140 lb. HAMMER, 30" FREE FALL ON 2" O.D. X 1 3/8" I.D. SAMPLER

STATE OF NEVADA D.O.T.
MATERIALS AND TESTING DIVISION
FOUNDATIONS AND ENGINEERING GEOLOGY SECTION

CLEARACRE LANE RETAINING WALL

DWG. NO. 1 OF 1

E.A. 70970