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INTRODUCTION

THIS REPORT SUMMARIZES THE PERFORMANCE AND RESULTS OF THE SOILS INVESTIGATION FOR THE BRIDGE ON STATE ROUTE 608 OVER BIG CREEK IN CONCORD TOWNSHIP, LAKE COUNTY, OHIO.

GEOLOGY OF THE SITE

THE PROJECT SITE IS UNDERLAIN BY GROUND MORAINE (GLACIAL TILL). THE TILL IS COMPRISED OF CLAY AND SILT WITH VARYING QUANTITIES OF SAND, GRAVEL, AND COBBLES. GROUND MORAINE IS CONSOLIDATED BY THE WEIGHT OF THE ICE SHEET TO A VERY STIFF CONSISTENCY. GEOLOGICAL REFERENCES INDICATE THAT THE SITE IS UNDERLAIN BY NEAR SURFACE SHALE OF MISSISSIPPIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF DRIVE SAMPLE AND CORE BORINGS MADE BY MEANS OF TRUCK-MOUNTED DRILLING EQUIPMENT UTILIZING HOLLOW STEM CONTINUOUS FLIGHT AUGERS.

INVESTIGATION FINDINGS AND OBSERVATIONS

THE BORINGS REVEAL THAT THE AREA OF THE EASTERN ABUTMENT IS COVERED BY SOFT TO VERY STIFF SILT AND CLAY (A-6a), LOOSE SANDY SILT (A-4a), AND MEDIUM DENSE GRAVEL (A-1-b). THE WESTERN ABUTMENT AND PIERS ARE UNDERLAIN BY MEDIUM DENASE TYO VERY DENSE GRAVEL (A-1-b) AND GRAVEL WITH SAND (A-2-4). VERY STIFF CLAY (A-7-6) AND MEDIUM DENSE SANDY SILT WERE ENCOUNTERED AT B-4, COMPLETED AT THE WESTERN ABUTMENT. THIN BEDDED GRAY SHALE WAS ENCOUNTERED IN ALL TEST BORINGS AT DEPTHS RANGING FROM ABOUT 2.5 TO 14 FEET, CORRESPONDING TO ELEVATIONS OF 880.0 TO 883.0 FEET. A GRADUAL TRANSITION FROM VERY WEATHERED, SOFT ROCK TO SLIGHTLY WEATHERED, MEDIUM HARD ROCK WAS OBSERVED IN THE TEST BORINGS.

GROUNDWATER WAS OBSERVED IN ALL BORINGS FROM THE SURFACE TO A DEPTH OF ABOUT 8.8 FEET.

LEGEND

SILTSTONE

		<u>LEGEND</u>			-
\(\rightarrow	AUGER BORING LOCATION - PLAN VIEW		}1	HORIZONTAL BAR ON BORING LOG INDICATES THE DEPTH THE SAMPLE WAS TAKEN	
\$	PRESS AND/OR DRIVE S BORING LOCATION - PI	SAMPLE AND/OR CORE LAN VIEW	X/Y/Z	FIGURES BESIDE THE BORING LOG IN THE PROFILE INDICATE THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST X=NO. BLOWS FOR FIRST 6"	-
TR	TOP OF ROCK		•	Y=NO. BLOWS FOR SECOND 6" Z=NO. BLOWS FOR THRID 6"	
-	CAPPED PILE		W	INDICATES FREE WATER ELEVATION	
_	FOOTING		Y	INDICATES STATIC WATER ELEVATION	
	•			·	
#	FOOTING ON PILE	•	R/w	INDICATES RIGHT OF WAY	
	;		•		
		SYMBOLS OF ROCK TYPES	_		
	COAL			WEATHERED SANDSTONE	
	WEATHERED MUDSTONE			SANDSTONE	
		•			
	MUDSTONE			LEACHED DOLOMITE	
<i>".,;</i> 2			(1713)		
	WEATHERED SHALE			DOLOMITE	
حن <i>ح</i>		•			

LEACHED LIMESTONE

BOULDERS & COBBLES

GENERAL INFORMATION DRIVE SAMPLE, CORE BORINGS

PENETRATION TEST.

DRIVE SAMPLE BORINGS ARE MADE BY MECHANICALLY-POWERED ROTARY

TYPE DRILLING MACHINE EMPLOYING A 2" O.D., 1-3/8" I.D.

SPLIT SPOON SAMPLING DEVICE, AT 2-1/2 OR 5 FOOT INTERVALS DRIVEN BY MEANS OF A 140 POUND DROP HAMMER WITH A FREEFALL

OF THIRTY (30) INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLING DEVICE TWELVE (12) INCHES AFTER AN

INITIAL 6.0" SEATING PENETRATION IS TERMED THE STANDARD

CORE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED

INFORMATION OBTAINED, INCLUDING DEPTH AND ELEVATION OF THE

SAMPLE, TYPE OF SAMPLE, BLOW COUNTS ON DRIVE SAMPLER IN SIX

(6) INCH INCREMENTS, SAMPLE NUMBER AND SAMPLE DESCRIPTIONS. THE SAMPLE DESCRIPTIONS WERE BASED ON LABORATORY TESTS ON REPRESENTATIVE SAMPLES INCLUDING GRADATION (ASTM D-422),

NOTE: GEOTECHNICAL ENGINEERING REPORT FOR THIS PROJECT WAS

BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

PREPARED BY APPLIED CONSTRUCTION TECHNOLOGIES, INC.

COPIES OF THIS INFORMATION MAY BE INSPECTED IN THE

TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT & SOILS SECTION OF THE BUREAU OF LOCATION & DESIGN OR IN THE

DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF

ROTARY TYPE DRILLING MACHINE, EMPLOYING A NX SIZED CORE BARREL EQUIPPED WITH AN INDUSTRIAL DIAMOND CUTTING HEAD.

THE BORING LOG SHEETS DISPLAY GRAPHIC PLOTS OF THE

PLASTICITY (ASTM D-4318), AND MOISTURE CONTENT

DETERMINATIONS (ASTM D-4959).

Particle Size Definitions

12" 3" 2.0mm 0.42mm 0.074mm 0.005mm

Soulders | Cobbles | Gravel | Coarse Sand | Fine Sand | Silt | Clay

No. 10 sieve No. 40 sieve No. 200 sieve

NOTE: ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED.
ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT.
COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF

TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT & SOILS SECTION OF THE BUREAU OF LOCATION & DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

Engineers · Architects · Planners

**Woughby · Manlor · Columbus · North Canton · Youagetorn

STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. LAK — 608 — 0075 OVER BIG CREEK

LAKE COUNTY STA. 21+60.80

APPLIED CONSTRUCTION TECHNOLOGIES, INC.
210 HAYES DRIVE · SUITE C · CLEVELAND, OHIO 4131 · (216) 459-TEST

DATE: 11-13-92 APPROVED BY EH DRAWN BY DB R.J.B. R.L.B. J.E.A. R.L.B. D.J.W. J.P.R.

INFORMATION SHOWN BY THIS SUBSURFACE INVESTIGATION WAS OBTAINED SOLELY FOR THE USE OF ESTABLISHING DESIGN CONTROL FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THIS PROJECT.