

CLASSIFICATION TEST RESULTS

| BORING NUMBER | DEPTH FROM (FT) | DEPTH TO (FT) | % AGG | % CS | % FS | % SILT | % CLAY | LL | PI | ODT CLASS. |
|---------------|-----------------|---------------|-------------------------------------|------|------|--------|--------|----|----|------------|
| B-1 | 1.0 | 10.0 | SILTY CLAY, (CL) FILL | | | | | | | |
| B-2 | 1.0 | 10.0 | SILTY CLAY, (CL) | | | | | | | |
| B-3 | 1.2 | 12.0 | SILTY CLAY, (CL) | | | | | | | |
| B-4 | 1.0 | 13.0 | SILTY CLAY, (CL) | | | | | | | |
| B-5 | 1.0 | 11.5 | 0 | 2 | 2 | 51 | 45 | 39 | 15 | A-6A |
| B-6 | 1.0 | 8.0 | SILTY CLAY, (CL) | | | | | | | |
| | 8.0 | 11.0 | SILTY FINE SAND, (SM) | | | | | | | |
| B-7 | 1.0 | 5.0 | SILTY MEDIUM SAND, (SM) | | | | | | | |
| | 5.0 | 8.0 | SILTY CLAY, SANDY (CL) | | | | | | | |
| | 8.0 | 10.0 | SILTY MEDIUM TO COARSE SAND (SM) | | | | | | | |
| B-8 | 1.0 | 5.0 | SILTY CLAY, SANDY, (CL) | | | | | | | |
| | 5.0 | 10.0 | 13 | 23 | 41 | 16 | 7 | NP | NP | A-1-B |
| B-9 | 1.1 | 5.5 | SILTY CLAY, SANDY, (CL) | | | | | | | |
| | 5.5 | 11.0 | SILTY SAND, CLAYEY, (SM) | | | | | | | |
| B-10 | 1.1 | 10.0 | SILTY CLAY, (CL) | | | | | | | |
| B-11 | 0.0 | 5.0 | CINDERS, CLAY AND GRAVEL FILL | | | | | | | |
| | 5.0 | 11.6 | 0 | 0 | 5 | 48 | 47 | 32 | 12 | A-6A |
| B-12 | 0.0 | 5.0 | CINDERS, CLAY AND GRAVEL FILL | | | | | | | |
| | 5.0 | 7.5 | 1 | 4 | 17 | 44 | 34 | 28 | 10 | A-4A |
| | 7.5 | 10.0 | SILT, CLAYEY, (ML) | | | | | | | |
| | 10.0 | 11.6 | SILTY CLAY, (CL) | | | | | | | |
| B-13 | 0.0 | 5.0 | CINDERS, GRAVEL, SILT AND SAND FILL | | | | | | | |
| | 5.0 | 12.0 | 3 | 3 | 13 | 38 | 43 | 33 | 11 | A-6A |
| B-14 | 0.0 | 5.0 | CINDERS, SAND, SILT AND CLAY FILL | | | | | | | |
| | 5.0 | 15.0 | 3 | 3 | 16 | 40 | 38 | 26 | 10 | A-4A |
| B-15 | 0.0 | 5.0 | CINDERS, SAND AND GRAVEL FILL | | | | | | | |
| | 5.0 | 15.0 | SILTY CLAY, (CL) | | | | | | | |
| B-16 | 0.0 | 4.5 | CINDERS, SAND AND GRAVEL FILL | | | | | | | |
| | 4.5 | 15.0 | SILTY CLAY, (CL) | | | | | | | |
| B-17 | 0.0 | 8.0 | CINDERS, SLAG, SAND AND GRAVEL FILL | | | | | | | |
| | 8.0 | 10.0 | SILTY CLAY, (CL) | | | | | | | |
| B-18 | 0.0 | 12.0 | CINDERS, GRAVEL AND SAND FILL | | | | | | | |
| B-19 | 0.0 | 5.0 | CINDERS FILL | | | | | | | |
| | 5.0 | 10.0 | MEDIUM TO COARSE SAND | | | | | | | |
| B-20 | 0.0 | 5.5 | COAL, CINDERS AND CLAY FILL | | | | | | | |
| | 5.5 | 10.0 | 0 | 1 | 4 | 70 | 25 | 28 | 10 | A-4B |
| | 10.0 | 12.0 | 0 | 0 | 1 | 80 | 19 | NP | NP | A-4B |
| B-21 | 0.4 | 5.0 | SILTY SAND FILL (SM) | | | | | | | |
| | 5.0 | 10.0 | SILTY CLAY, (CL) | | | | | | | |
| | 10.0 | 12.0 | SILTY MEDIUM TO COARSE SAND, (SM) | | | | | | | |
| B-22 | 0.0 | 10.0 | SILTY CLAY, (CL) | | | | | | | |
| "A" | 0.0 | 13.0 | SILTY CLAY FILL, (CL) | | | | | | | |
| | 13.0 | 18.0 | SILT, CLAYEY, (ML) | | | | | | | |
| | 18.0 | 22.0 | SILTY CLAY, (CL) | | | | | | | |
| | 22.0 | 27.0 | CLAYEY SILT, (ML) | | | | | | | |
| | 27.0 | 30.0 | SILTY CLAY, (CL) | | | | | | | |
| "B" | 0.0 | 25.0 | SILTY CLAY, (CL) | | | | | | | |
| "C" | 0.0 | 30.0 | SILTY CLAY, (CL) | | | | | | | |

NOTE: "NP" DENOTES NON-PLASTIC MATERIAL

PHYSICAL & STRUCTURAL PROPERTIES DATA SUMMARY

| BORING NUMBER | DEPTH FROM (FT) | DEPTH TO (FT) | % WC | DRY DENSITY PCF | % OPT WC | DRY* DENSITY PCF | CBR | UNCONFINED STRENGTH PSF | UNIFIED CLASS. |
|---------------|-----------------|---------------|------|-----------------|----------|------------------|------|-------------------------|----------------|
| B-1 | 0.0 | 5.0 | ---- | ---- | 10.7 | 124.5 | 30** | ---- | ML-CL |
| | 5.5 | 7.0 | 12.1 | 124.9 | ---- | ---- | ---- | 9340 | CL |
| B-2 | 2.5 | 4.0 | 23.2 | ---- | ---- | ---- | ---- | ---- | CL |
| | 5.5 | 7.0 | 16.4 | ---- | ---- | ---- | ---- | ---- | CL |
| | 9.5 | 11.0 | 19.8 | ---- | ---- | ---- | ---- | ---- | CL |
| B-2*** | 0.0 | 5.0 | ---- | ---- | 17.6 | 109.5 | 2.9 | ---- | ML-CL |
| B-3*** | 0.0 | 5.0 | ---- | ---- | 17.6 | 109.5 | 2.9 | ---- | ML-CL |
| B-4*** | 0.0 | 5.0 | ---- | ---- | 17.6 | 109.5 | 2.9 | ---- | ML-CL |
| B-6 | 2.5 | 4.0 | 21.9 | ---- | ---- | ---- | ---- | ---- | CL |
| | 5.5 | 7.0 | 10.2 | ---- | ---- | ---- | ---- | ---- | CL |
| | 9.5 | 11.0 | 24.8 | ---- | ---- | ---- | ---- | ---- | SM |
| B-10 | 2.5 | 4.0 | 21.8 | ---- | ---- | ---- | ---- | ---- | CL |
| | 5.5 | 7.0 | 21.2 | ---- | ---- | ---- | ---- | ---- | CL |
| | 8.5 | 10.0 | 18.5 | ---- | ---- | ---- | ---- | ---- | CL |
| B-14 | 2.5 | 4.0 | 23.2 | ---- | ---- | ---- | ---- | ---- | FILL |
| | 5.5 | 7.0 | 13.2 | ---- | ---- | ---- | ---- | ---- | CL |
| | 8.5 | 10.0 | 13.5 | ---- | ---- | ---- | ---- | ---- | CL |
| | 10.5 | 12.0 | 13.0 | ---- | ---- | ---- | ---- | ---- | CL |
| | 13.5 | 15.0 | 12.0 | ---- | ---- | ---- | ---- | ---- | CL |
| B-15 | 0.0 | 5.0 | ---- | ---- | 13.0 | 111.5 | 34 | ---- | FILL |
| | 5.0 | 10.0 | ---- | ---- | 16.5 | 108.8 | 9.1 | ---- | CL |
| B-16 | 5.5 | 7.5 | 24.7 | 99.8 | ---- | ---- | ---- | 3770 | CL |
| B-17 | 2.5 | 4.0 | 80.2 | ---- | ---- | ---- | ---- | ---- | FILL |
| | 5.5 | 7.0 | 26.5 | ---- | ---- | ---- | ---- | ---- | FILL |
| | 8.5 | 10.0 | 16.0 | ---- | ---- | ---- | ---- | ---- | CL |
| B-19 | 2.5 | 4.0 | 23.8 | ---- | ---- | ---- | ---- | ---- | FILL |
| | 5.5 | 7.0 | 79.5 | ---- | ---- | ---- | ---- | ---- | FILL |
| | 8.5 | 10.0 | 50.6 | ---- | ---- | ---- | ---- | ---- | FILL |
| B-20 | 2.0 | 5.0 | ---- | ---- | 17.8 | 96.8 | 25.6 | ---- | FILL |
| | 5.5 | 7.5 | 20.1 | 108.8 | ---- | ---- | ---- | 5150 | CL |
| "A" | 18.5 | 20.5 | 17.0 | 112.1 | ---- | ---- | ---- | 4340 | CL |
| "B" | 2.5 | 4.0 | 18.6 | ---- | ---- | ---- | ---- | ---- | CL |
| | 5.5 | 7.5 | 17.8 | 115.5 | ---- | ---- | ---- | 9900 | CL |
| | 8.5 | 10.0 | 16.3 | ---- | ---- | ---- | ---- | ---- | CL |
| | 10.5 | 12.0 | 16.0 | ---- | ---- | ---- | ---- | ---- | CL |
| | 13.5 | 15.0 | 16.0 | ---- | ---- | ---- | ---- | ---- | CL |
| | 18.5 | 20.0 | 26.9 | ---- | ---- | ---- | ---- | ---- | CL |
| | 23.5 | 25.0 | 23.8 | ---- | ---- | ---- | ---- | ---- | CL |
| "C" | 7.0 | 9.0 | 18.1 | 108.9 | ---- | ---- | ---- | 10580 | CL |

NOTES: * MAXIMUM DRY DENSITY/ASTM TEST PROCEDURE D-698.

** SAMPLE TESTED IN MOIST CONDITION, I.E. PRIOR TO 96 HOURS SOAKING PERIOD.

*** REPRESENTS COMPOSITE BULK SAMPLE TAKEN FROM BORINGS B-2, B-3 AND B-4.

Soil Information - All available soil and bedrock information which can be conveniently shown on the soil profile and/or 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 and Soils Section of the Bureau of Roadway Design or in the Bridge Bureau at 25 South Front Street.

GENERAL INFORMATION

INTRODUCTION:

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF APPROXIMATELY 1.76 MILES OF EXISTING PAVED AND UNIMPROVED ROADWAYS, BEGINNING NORTH OF THE GRAND RIVER ALONG STATE ROUTE 535 AND EXTENDING NORTHWARD, MORE OR LESS PARALLEL TO THE BALTIMORE & OHIO COMPANY RAILWAY YARD TO THE INTERSECTION OF WATER STREET WITH SECOND STREET, AND INCLUDES THE SECTION OF SECOND STREET EXTENDING BETWEEN WATER STREET AND HIGH STREET IN FAIRPORT HARBOR, LAKE COUNTY, OHIO.

GEOLOGY OF THE PROJECT:

THE INVESTIGATED SITE IS LOCATED IN THE LAKE PLAINS PHYSIOGRAPHIC PROVINCE, UNDERLAIN BY MODERATELY THIN GLACIAL DRIFT AND RIVER BED SEDIMENTS, OVERLYING SHALE BEDROCK OF THE DEVONIAN PERIOD.

EXPLORATION:

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK-MOUNTED DRILL RIG AND HOLLOW-STEM FLIGHT AUGERS, BETWEEN AUGUST 14 AND AUGUST 19, 1981.

INVESTIGATIONAL FINDINGS:

MATERIALS ENCOUNTERED UNDER THE APPROXIMATELY 50 PERCENT LENGTH OF THE PROJECT CONSISTED PREDOMINANTLY OF SILTY CLAYS (A-4 AND A-6), GENERALLY HAVING LOW MOISTURE CONTENTS IN THE LOWER PORTIONS OF THE PLASTIC RANGE, MAN-MADE FILL, CONSISTING OF MILL WASTE MATERIALS CONTAMINATED WITH SOILS, WERE ENCOUNTERED BETWEEN APPROXIMATE STATIONS 82 + 00, PLUS OR MINUS, AND 123 + 50, PLUS OR MINUS, SILTY SANDS (A-1-B) WERE EVIDENCED AT STATIONS 69 + 00 AND 124 + 50.

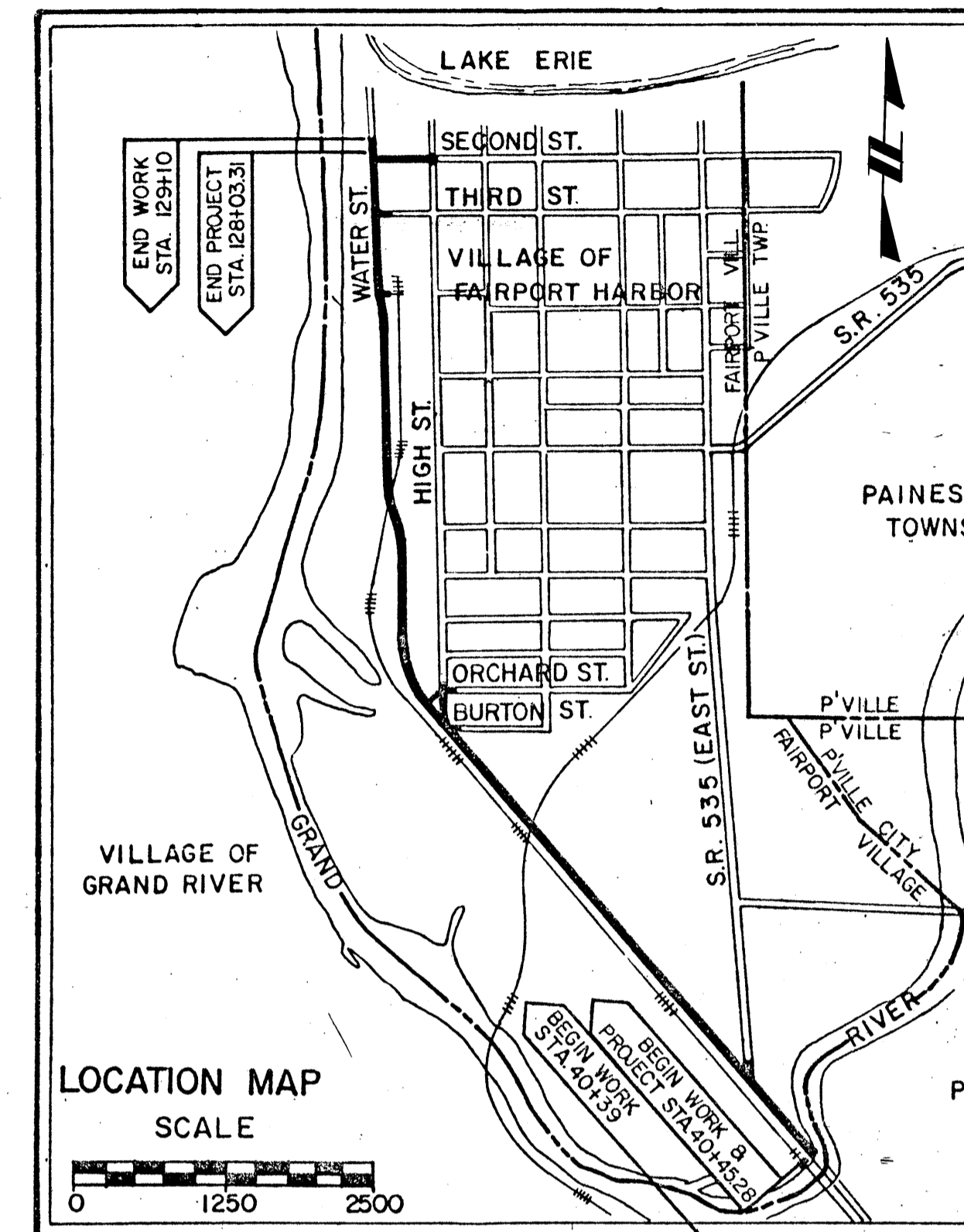
NOTE:

INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS 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 THE PROJECT.

SOIL PROFILE

LAKE COUNTY
LAK - 535 - 0.42
HIGH STREET/WATER STREET

HERRON CONSULTANTS, INC.
5555 CANAL ROAD
CLEVELAND, OHIO 44125



LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 104 SAMPLES TESTED

| DESCRIPTION | H.R.B. CLASS | OHIO CLASS | % AGG | % C. SAND | % F. SAND | % SILT | % CLAY | LIQUID LIMIT | PLASTICITY INDEX | WATER CONTENT | SAMPLES TESTED |
|---|---|------------|-----------------------|-----------|-----------|--------|--------|--------------|------------------|---------------|----------------|
| SAND W/GRAVEL & SILT | A-1-B(0) | A-1-B | 13 | 23 | 41 | 16 | 7 | NP | NP | 9 | 1 |
| SAND, SILTY | A-2-4(0) | A-2-4 | VISUAL CLASSIFICATION | | | | | NP | NP | 25 | 8 |
| SILT | A-4(8) | A-4B | 0 | 0 | 1 | 80 | 19 | NP | NP | 24 | 1 |
| | | | VISUAL CLASSIFICATION | | | | | | | | 3 |
| SILT AND CLAY | A-4(8) | A-4A | 1 | 3 | 12 | 42 | 36 | 27 | 10 | 19 | 3 |
| SILTY CLAY | A-6(9) | A-6A | 1 | 1 | 7 | 46 | 45 | 35 | 13 | 24 | 3 |
| | | | VISUAL CLASSIFICATION | | | | | | | | 69 |
| RANDOM FILL | | | VISUAL CLASSIFICATION | | | | | NP | NP | 51 | 16 |
| BERM MATERIAL | | | | | | | | | | | |
| AUGER BORING-PLAN VIEW | | | | | | | | | | | |
| AUGER BORING PLOTTED TO VERTICAL SCALE ONLY | | | | | | | | | | | |
| NOTES: FIGURES BESIDE BORINGS INDICATES WATER CONTENT IN PERCENT E.G. 15 | | | | | | | | | | | |
| VISUAL CLASSIFICATION PER ASTM D-2488. LETTERS IN PARENTHESIS E.G. (CL) REFER TO GROUP SYMBOLS OF THE UNIFIED SOIL CLASSIFICATION SYSTEM. | | | | | | | | | | | |
| ⊕ | INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT | | | | | | | | | | |
| -W | FREE WATER | | | | | | | | | | |
| ⊗ | NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST. X = NUMBER OF BLOWS FOR FIRST 6 INCHES. Y = NUMBER OF BLOWS FOR SECOND 6 INCHES. | | | | | | | | | | |
| NP | INDICATES NON-PLASTIC MATERIALS. | | | | | | | | | | |