

GENERAL INFORMATION

INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF 0.56 MILE OF RELOCATED CO. RD. 719 BEGINNING AT THE STREET-USR 22 (MAYSVILLE AVENUE) INTERSECTION, EXTENDING EASTWARD AND TERMINATING AT MOHAWA AVENUE. INCLUDED IN THIS REPORT IS A SOIL PROFILE OF PROPOSED CO. RD. 6 AND SR 555.

PROPOSED GRADES INDICATE THE FOLLOWING MAXIMUM PROPOSED CUTS AND FILL EMBANKMENTS:

	CUTS (MAX.)	FILL EMBANKMENTS (MAX.)
CO. RD. 719	40'	31'
CO. RD. 6	---	20'
SR 555	---	18'

GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE PROJECT IS LOCATED ON A BEDROCK OUTLIER OF SHALE AND SANDSTONE OF PENNSYLVANIAN AGE, AND THE FLOODPLAIN OF THE MUSKINGUM RIVER. ROCK OUTCROPPING WAS OBSERVED IN THE VICINITIES OF CO. RD. 719 STATIONS 530+50 AND 545+75.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK MOUNTED MECHANICAL SOIL AUGER AND ROTARY TYPE DRILL RIG, BETWEEN JULY 9 AND 23, 1975. INCLUDED IN THIS REPORT ARE LOGS OF BORINGS MADE FOR MUS-CO. RD. 6 PHASE III (DATED MAY 23, 1975) AND FOR THE STRUCTURE FOUNDATION INVESTIGATION ON THIS PROJECT. SUPPLEMENTAL BORINGS WERE MADE BETWEEN MAY 5 AND 12, 1976.

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SANDY SILTS (A-4A AND A-4B) AND SILT CLAYS (A-6A AND A-6B), WITH SANDY GRAVELS (A-1-B AND A-2-4), GENERALLY HAVING LOW MOISTURE CONTENTS AND MOISTURE CONTENTS IN THE LOWER PORTIONS OF THE PLASTIC RANGE, AS WELL AS SHALE AND SANDSTONE BEDROCK.

BEDROCK IS ANTICIPATED IN THE FOLLOWING EXCAVATION AREAS:

CO. RD. 719 STATIONS 534+50 TO 536+50 SANDSTONE AND SHALE ~~AND SHALE~~ AT GRADE AND IN THE LEFT DITCH, WITH SHALE IN THE LEFT BACKSLOPE.

~~STATIONS 536+00 TO 541+00 SHALE AT GRADE AND IN THE DITCHES, WITH SILTSTONE IN THE LOWER PORTIONS OF THE BACKSLOPES.~~

~~STATIONS 541+00 TO 547+00 SHALE AND SANDSTONE AT GRADE AND IN THE DITCHES, WITH SHALE AND CLAYSTONE IN THE BACKSLOPES, AND SOME COAL IN THE UPPER PORTIONS OF THE BACKSLOPES.~~

~~STATIONS 547+00 TO 550+00 SANDSTONE AT GRADE, IN THE DITCHES AND LOWER PORTIONS OF THE BACKSLOPES, WITH SHALE AND SOME LIMESTONE IN THE MIDDLE PORTIONS OF THE BACKSLOPES AND SANDSTONE IN THE UPPER PORTIONS OF THE BACKSLOPES.~~

~~WET AND OR ORGANIC MATERIALS WERE ENCOUNTERED AT CO. RD. 719 STATIONS 525+25, 527+00, 528+85, 551+23 AND 552+00 AND CO. RD. 6 STATIONS 9+00, 15+00 AND 21+08.~~

~~FINEST SUSCEPTIBLE SILT WAS ENCOUNTERED WITHIN THREE FEET BELOW PROPOSED GRADE AT CO. RD. 719 STATION 525+25.~~

RANDOM FILL MATERIALS WERE ENCOUNTERED AT CO. RD. 719 STATIONS 553+50, SR 555 STATIONS 556+00, 557+00 AND 558+00, AND CO. RD. 6 STATIONS 6+00, 9+00, 15+00 AND 17+93.

STATION & OFFSET	DEPTH FROM	% TO AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS
CO. RD. 719										
525+45 CH	0.5-5.0	65	10	10	8	7	NP	NP	20	A-1-A*
	5.0-9.0	49	9	15	14	13	29	11	22	A-2-6
	9.0-12.0	27	12	13	22	20	29	8	25	A-4A
	12.0-15.0	24	19	44	8	5	NP	NP	19	A-3A
527+00 CL	0.2-3.0	27	2	7	27	37	44	12	50	A-7-5
	3.0-6.0	4	2	5	51	38	26	12	34	A-6A
	6.0-8.0	0	1	10	55	34	29	10	20	A-4B
	8.0-13.0	39	35	19	4	3	NP	NP	20	A-1-B
	13.0-17.0	16	45	23	8	7	NP	NP	21	A-1-B
	17.0-19.0	6	12	9	14	59	40	16	25	A-6B
528+85 10 RT	0.5-2.5	0	2	17	61	20	NP	NP	18	A-4B*
	2.5-4.5	0	2	24	44	30	NP	NP	16	A-4A
	4.5-7.0	0	3	15	47	35	32	11	27	A-6A
	7.0-9.0	0	1	18	60	21	25	7	25	A-4B
	9.0-12.5	46	6	19	19	10	22	7	27	A-2-4
	12.5-13.5	3	13	49	20	15	NP	NP	16	A-3A
530+00 CL	0.5-4.0	16	1	9	48	26	NP	NP	15	A-4A
	4.0-5.0	0	2	37	37	24	NP	NP	11	A-4B
552+00 CL	1.0-5.5	21	6	8	29	36	32	10	16	A-4A
	5.5-11.0	9	1	20	52	27	26	6	25	A-4B
	11.0-14.0	46	38	9	4	3	NP	NP	13	A-1-B
	14.0-19.0	49	7	15	17	11	25	7	16	A-2-4
	19.0-24.0	66	6	10	10	8	25	6	20	A-1-B
	24.0-30.0	66	5	12	10	7	27	9	17	A-2-4
553+50 CL	0.0-5.0	(55)	2	5	22	6	NP	NP	11	VISUAL
	5.0-10.0	(21)	15	21	29	14	30	7	26	VISUAL
	10.0-15.0	7	2	5	56	30	30	6	24	A-4B
	15.0-20.0	74	17	4	3	2	NP	NP	11	A-1-A
60+00 6	0.5-3.0	54	13	13	13	7	NP	NP	11	VISUAL
	3.0-7.0	26	6	10	23	35	30	7	18	A-4A
	7.0-8.0	44	4	10	22	20	29	11	20	A-6A
	8.0-12.0	44	5	6	22	23	34	12	24	A-6A
	12.0-15.0	41	11	20	14	11	24	6	14	A-2-4

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 89 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-A(0)	A-1-A	70	13	7	6	4	NP	NP	16	2
GRAVEL WITH SAND	A-1-B(0)	A-1-B	42	31	15	7	5	NP	NP	19	4
COARSE AND FINE SAND	A-3A	A-3A	6	11	58	13	12	NP	NP	18	7
GRAVEL OR STONE FRAGMENTS WITH SAND AND SILT	A-2-4(0)	A-2-4	51	8	15	16	10	23	7	20	5
GRAVEL WITH SAND, SILT AND CLAY	A-2-5(0)	A-2-5	49	9	15	14	13	29	11	22	1
SANDY SILT	A-4(4)	A-4A	8	5	33	34	20	NP	NP	18	26
SILT	A-4(6)	A-4B	0	1	14	58	27	28	6	24	10
SILT AND CLAY	A-6(9)	A-6A	9	4	19	34	34	33	12	23	14
SILTY CLAY	A-6(10)	A-6B	5	5	14	26	50	36	16	27	4
ELASTIC CLAY	A-7-5(7)	A-7-5	27	2	7	27	37	44	12	50	1
CLAY	A-7-6(2)	A-7-6	0	0	8	15	77	48	25	28	5
RANDOM FILL											
COAL											
WEATHERED SHALE											5
WEATHERED SANDSTONE											1
CLAYSTONE											
SILTSTONE											
SHALE											4
SANDSTONE											
LIMESTONE											
SOD=X=APPROXIMATE DEPTH											
AUGER BORING-PLAN VIEW											
DRIVE SAMPLE-CORE BORING-PLAN VIEW											
AUGER BORING PLOTTED TO VERTICAL SCALE ONLY											
DRIVE SAMPLE-CORE BORING PLOTTED TO VERTICAL SCALE ONLY											

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT E.G. 15

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM	% TO AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS
DRIVE SAMPLE SOIL TEST DATA										
CO. RD. 719										
533+50 50 LT	5.0-6.5	0	0	1	4	95	42	18	19	A-7-6
	10.0-11.0	(13)	9	13	36	29	NP	NP	(12)	VISUAL
	15.0-16.0	(0)	5	10	50	35	31	13	7	VISUAL
	20.0-20.5	(47)	3	22	15	13	22	7	9	VISUAL
536+85 102 LT	5.0-6.5	0	0	2	80	18	NP	NP	27	A-4B
538+00 55 RT	10.0-11.5	0	3	58	30	9	NP	NP	12	A-4A
	15.0-16.5	4	17	45	18	16	NP	NP	16	A-3A
	20.0-21.5	9	1	3	35	52	35	16	36	A-6B
	25.0-26.5	0	3	38	28	31	24	9	11	A-4A
	30.0-31.5	0	2	28	30	40	33	16	20	A-6B
	35.0-36.5	0	3	37	28	32	26	12	18	A-6A
	40.0-41.0	0	1	22	49	28	30	8	11	A-4A
545+00 40 RT	5.0-6.5	0	2	61	23	14	NP	NP	16	A-4A
	10.0-11.0	0	1	63	27	9	NP	NP	8	A-4A
	15.0-15.4	(24)	6	9	43	18	NP	NP	8	VISUAL
BROWN WEATHERED CLAY SHALE										

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 INVESTIGATION, SOIL TESTS, AND BEDROCK BORINGS 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.

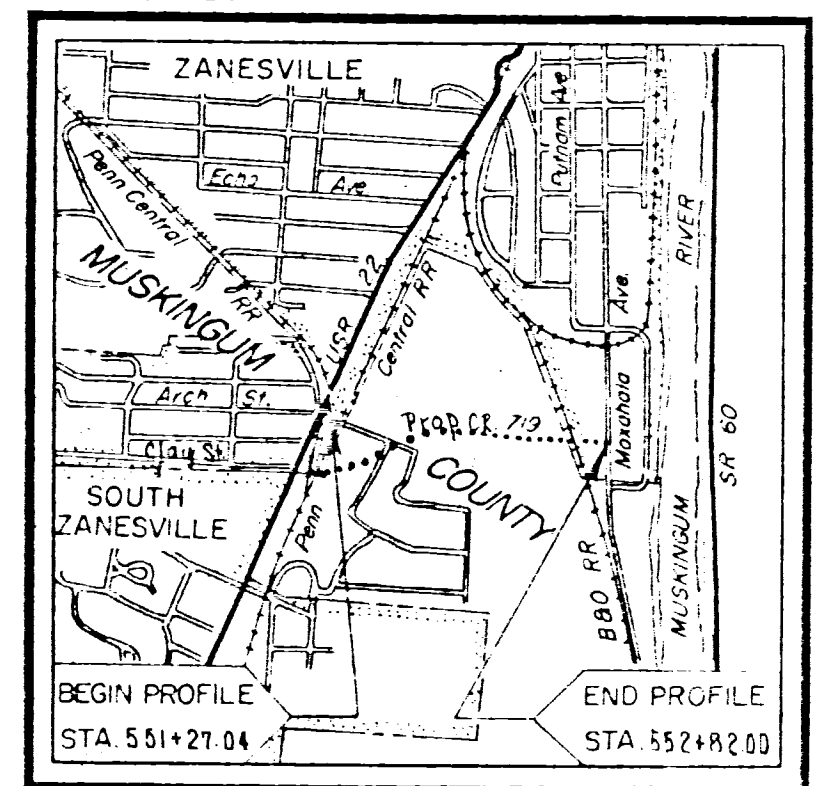
SOIL PROFILE
MUSKINGUM COUNTY

MUS-CO. RD. 719

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-TESTING LABORATORY
1600 WEST BROAD STREET COLUMBUS, OHIO 43223

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.

FED. NO. 11-



LOCATION MAP

REVISION

Recon-J.S.M.- 5/28/75

Auger - C.A.C. - 5/5/76

Auger - J.A.G. - 7/16/75 and 7/17/75

Core - C.E.G. - 5/6 to 12/76

Core - D.W.B. - 7/9/75 to 7/23/75

Drafting - R.A.W. - 6/16/76

Drafting - R.A.W. - 8/7/75

STATION & OFFSET		DEPTH		%	%	%	%	%	L.L.	P.I.	%	SHTL CLASS
		FROM	TO	AGG.	C.S.	F.S.	SILT	CLAY			W.C.	
548+00	36 RT	5.0	6.5	13	7	17	21	42	36	13	19	A-6A
549+93	35 LT	2.5- 4.0	0	6	15	36	43	40	17	21	A-6B	
		5.0- 6.5	0	3	40	35	22	NP	NP	13	A-4A	
		7.5- 9.0	0	3	45	33	19	NP	NP	14	A-4A	
		10.0-11.5	0	3	50	32	15	NP	NP	9	A-4A	
		12.5-14.0	7	7	30	37	19	NP	NP	17	A-4A	
		15.0-16.5	37	3	26	20	14	NP	NP	16	A-2-4	
		17.5-18.0	(54	9	24	-13-	NP	NP	4	VISUAL		
GRAY WEATHERED SANDSTONE												
551+23	32 RT	2.5- 4.0	7	6	26	32	29	NP	NP	17	A-4A	
		5.0- 6.5	10	3	11	51	35	33	16	20	A-6B	
		7.5- 9.0	0	2	9	59	30	34	16	23	A-6B	
		10.0-11.5	0	1	28	51	20	24	3	24	A-4B	
		12.5-14.0	(17	15	43	15	10	NP	NP	13	VISUAL	
		15.0-16.0	(79	5	4	8	4	NP	NP	14	VISUAL	
BROWN WEATHERED SANDSTONE												
GRAY WEATHERED SHALE												

NOTE: For Supplemental Soil Test Data, see sheet 2.