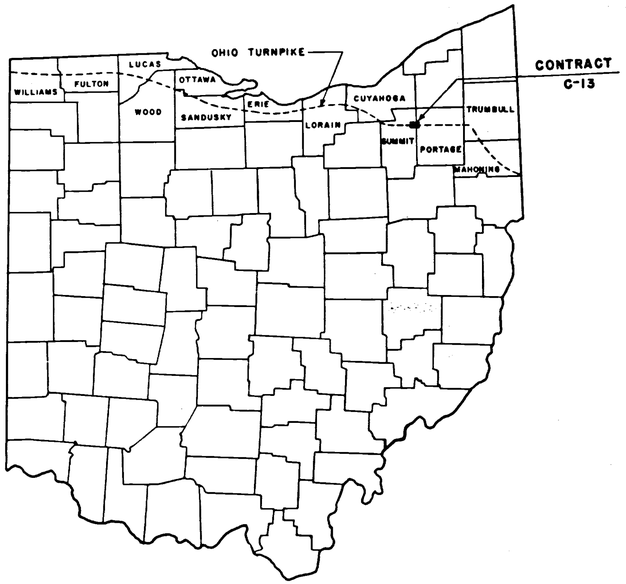
CONTRACT NO. C-13
COUNTY - SUMMIT AND PORTAGE
DATE: APRIL 1953



OHIO TURNPIKE COMMISSION

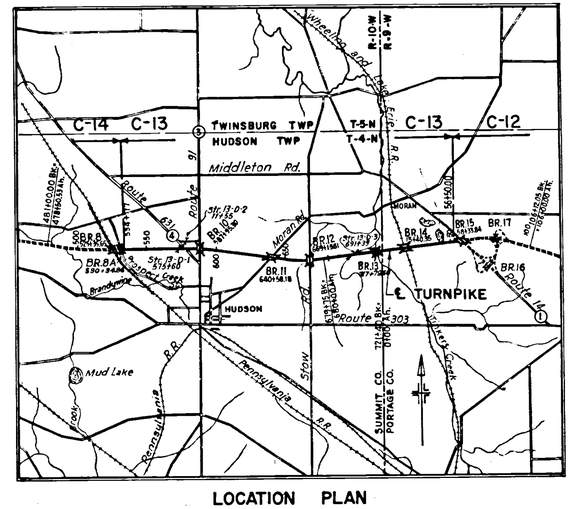
OHIO TURNPIKE PROJECT NO. 1

DESIGN SECTION D-4

CONTRACT NO. C-13

TURNPIKE CONSTRUCTION CONTRACT

STATION 534+77 TO STATION 721+40
STATION 0+00 TO STATION 56+50



LOCATION PLAN

SCALE IN MILES

APPROVAL RECOMMENDED
HOWARD, NEEDLES, TAMMEN, & BERGENDOFF
CONTRACTING ENGINEER
R. H. Bergendoff
March 31, 1953

APPROVED
J. E. GREINER CO.
CONSULTING ENGINEER
J. J. Greiner Jr.
7-7-53

APPROVED
OHIO TURNPIKE COMMISSION
CHIEF ENGINEER
7-8-54

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2.	SUMMARY SHEET - ROADWAY, DRAINAGE AND PAVING ITEMS
3.	SUMMARY SHEET - STRUCTURES
4.	TYPICAL CROSSROAD CROSS SECTIONS AND MISC. DETAILS
5.	PLAN AND PROFILE STA. 534+77 TO STA. 560+00
6.	PLAN AND PROFILE STA. 560+00 TO STA. 584+94.04
7.	PLAN AND PROFILE STA. 584+94.04 TO STA 610+00
8.	PLAN AND PROFILE STA. 610+00 TO STA. 635+00
9.	PLAN AND PROFILE STA. 635+00 TO STA. 653+05.58
10.	PLAN AND PROFILE STA. 653+05.58 TO STA. 678+00
11.	PLAN AND PROFILE STA. 678+00 TO STA. 703+00
12.	PLAN AND PROFILE STA. 703+00 TO STA. 7+00
13.	PLAN AND PROFILE STA. 7+00 TO STA. 32+00
14.	PLAN AND PROFILE STA. 32+00 TO STA. 56+00
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16.	PLAN AND PROFILE - MORAN ROAD
17.	PLAN AND PROFILE - STOW ROAD
18.	STRUCTURE NO. 13-D-1 BOX CULVERT @ STA. 11+55 ON RELOCATED S.R. 631
19.	STRUCTURE NO. 13-D-2 BOX CULVERT @ STA. 575+60
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23.	STRUCTURE NO. 10 - SUPERSTRUCTURE
24.	STRUCTURE NO. 10 - BENTS
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3.	STANDARD HEADWALLS
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5.	METAL HANDRAIL DETAILS
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5- 6-53	S-1	ABUTMENT - ROADWAY = 32'
1-20-53	S-3	ABUTMENT - ROADWAY = 28'
1-20-53	S-4	ABUTMENT - ROADWAY = 24'
5- 6-53	S-5	BRIDGE FLOOR - ROADWAY = 32' AND 2 AT 14' PLUS 2' MEDIAN
5- 6-53	S-6	BRIDGE FLOOR - ROADWAY = 28' AND 24'
5- 6-53	S-7	APPROACH SLABS
5- 6-53	S-8	BENTS
6- 3-53	S-9	BEAM SPLICES
2- 7-53	S-10	BEAM SPLICES
5- 6-53	S-11	BEARING DEVICES
12-31-52	S-12	FLOOR EXPANSION DEVICES AND MEDIAN
5- 6-53		
5- 6-53		

CROSS SECTIONS

13-X-1 TO
13-X-72 ROADWAY CROSS SECTIONS

13-X-201 TO
13-X-211 DRAINAGE CROSS SECTIONS

INFORMATIONAL DRAWINGS

1.	GEOLOGIC PROFILE
2-6	SOIL PROFILES
7-13	STRUCTURE BORING LOGS

GENERAL NOTES

GENERAL

SPECIFICATIONS:

THIS PROJECT SHALL BE CONSTRUCTED UNDER THE FOLLOWING SPECIFICATIONS:

CONSTRUCTION AND MATERIALS - GENERAL SPECIFICATIONS, OHIO TURNPIKE PROJECT NO. 1, DATED DEC. 9, 1952.

DESIGN - STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES, DATED OCT. 1, 1951 AND REVISED JULY 15, 1952.

SPECIAL PROVISIONS FOR CONTRACT C-13.

SUPPLEMENTAL SPECIFICATIONS - THOSE SUPPLEMENTAL SPECIFICATIONS (SS) LISTED BELOW SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS:

SS-T-10 DATED DEC. 9, 1952 TRAFFIC COMPACTED SURFACE COURSE
SS-T-30 DATED DEC. 9, 1952 BITUMINOUS PRIME COAT AND TACK COAT
SS-T-31 DATED DEC. 9, 1952 BITUMINOUS SURFACE TREATMENT
SS-T-35 DATED DEC. 9, 1952 ASPHALTIC CONCRETE SURFACE COURSE
SS-B-21 DATED FEB. 20, 1953 COMPACTED AGGREGATE BASE COURSE
SS-B-35 DATED DEC. 9, 1952 ASPHALTIC CONCRETE BASE AND/OR LEVELING COURSE
SS-I-9 DATED DEC. 9, 1952 STONE UNDERDRAINS
SS-I-30 REV. 1 JULY, 5, 1953 FARM TILE DRAINS
SS-A-4 DATED MAY 29, 1953 AMENDMENTS OF GENERAL SPECIFICATIONS
SS-T-18 DATED MAY 28, 1953 STABILIZED SHOULDERS AND TEMPORARY RUNAROUNDS
SS-I-29 DATED MAY 28, 1953 CONSTRUCTION CONTRACT INFORMATION SIGNS

BORINGS:

BORINGS AT STRUCTURE SITES AND ALONG THE CENTERLINE OF TURNPIKE HAVE BEEN MADE UNDER A PREVIOUS CONTRACT. LOGS OF THE BORINGS TAKEN AT STRUCTURE SITES ARE SHOWN ON THE BRIDGE PLANS. A SOILS PROFILE HAS BEEN PREPARED FROM BORINGS MADE ON THE CENTERLINE OF THE TURNPIKE. ALL BORING DATA IS GIVEN FOR INFORMATIONAL PURPOSES ONLY; ITS ACCURACY AND COMPLETENESS IS NOT GUARANTEED BY THE COMMISSION.

UTILITIES:

EXCEPT AS OTHERWISE SHOWN ON THE PLANS, ALL UTILITIES ENCOUNTERED IN THE CONSTRUCTION WHICH INTERFERE WITH PORTIONS OF THE FINISHED PROJECT WILL BE REMOVED OR RELOCATED BY OTHERS. THE CONTRACTOR SHALL CO-ORDINATE HIS OPERATIONS WITH THE WORK OF THE UTILITY OWNERS OR OTHERS WHO MAY BE MAKING THE RELOCATIONS OR REMOVALS, AND SHALL NOTIFY THE OWNERS OF THE UTILITIES OF HIS PROPOSED SCHEDULE SUFFICIENTLY IN ADVANCE TO PERMIT THEM TO MAKE ANY NECESSARY ARRANGEMENTS.

STATUS OF PLANS:

THE CONTRACT DRAWINGS ATTACHED HERETO ARE SUBSTANTIALLY COMPLETE AS SHOWN. HOWEVER, SOME FINAL FIELD AND DETAIL WORK IS STILL UNDER WAY AND IT IS EXPECTED THAT MINOR ADDITIONS WILL BE NECESSARY AS THIS WORK PROGRESSES.

ELEVATIONS ARE REFERRED TO M.S.L., M.S.C. & G.S. DATUM.
THE NORTH INDICATED AND REFERRED TO IN THE SET OF PLANS IS THE GRID NORTH OF THE NORTH ZONE OF THE OHIO STATE LAMBERT PROJECTION COORDINATE SYSTEM.

ROADWAY, DRAINAGE AND PAVEMENT

CROSS-SECTIONS:

THE TEMPLATE SHOWN ON ROADWAY QUANTITY CROSS SECTIONS IS DRAWN TO TOP OF SUBGRADE. SURFACING QUANTITIES ARE COMPUTED SEPARATELY.

DRAINAGE:

LOCATION, GRADE AND CROSS-SECTIONS FOR CROSS CULVERTS, MEDIAN INLETS, UNDERDRAINS, SEWERS, INTERCEPTING, SIDE OR TOE DITCHES OR AGRICULTURAL DRAINS, MAY BE MODIFIED AT THE DIRECTION OF THE ENGINEER TO BETTER FIT CONDITIONS ENCOUNTERED DURING THE CONSTRUCTION.

DRIVEWAYS:

THE NUMBER, LOCATION, ALIGNMENT, SURFACING AND GRADE OF DRIVEWAYS ABUTTING RELOCATED OR IMPROVED, STATE, COUNTY OR TOWNSHIP ROADS MAY BE MODIFIED BY THE ENGINEER DURING CONSTRUCTION AS CIRCUMSTANCES THEN ENCOUNTERED MAY REQUIRE.

RIGHT OF WAY FENCE:

RIGHT OF WAY FENCE SHALL BE CONSTRUCTED SIX (6) INCHES INSIDE THE BOUNDARIES OF THE TURNPIKE RIGHT OF WAY EXCEPT AS INDICATED ON STANDARD DRAWING NO. 13 AND AS SHOWN ON THE PLANS. TYPE 2 RIGHT OF WAY FENCE SHALL BE CONSTRUCTED UNLESS OTHERWISE NOTED ON THE PLANS.

MISCELLANEOUS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL MEDIAN INLETS ARE ON THE CENTERLINE OF TURNPIKE.
WHERE SPECIAL SIDE, TOP OR TOE SLOPE DITCHES ARE SHOWN ON THE PLAN-PROFILE SHEETS, BUT ARE NOT COMPLETELY DESCRIBED THEREON, ADDITIONAL DITCH DETAILS NECESSARY ARE SHOWN ON THE DRAINAGE CROSS-SECTIONS. ALL AREAS ADJACENT TO THE TURNPIKE WHICH ARE DISTRUBED DUE TO THE PROPOSED CONSTRUCTION SHALL RECEIVE "SPECIAL SEEDING" IN ACCORDANCE WITH ITEM L-19 OF THE "GENERAL SPECIFICATIONS".

SIDE SLOPES FOR SPECIAL SIDE DITCHES SHALL BE 1 ON 2 UNLESS OTHERWISE NOTED ON THE PLANS.

STRUCTURES

RIVETING:

ALL RIVETS SHALL BE 7/8" Ø EXCEPT AS OTHERWISE NOTED ON THE PLANS. ALL FIELD CONNECTIONS SHALL BE RIVETED

STRUCTURAL STEEL:

STRUCTURAL STEEL NOT OTHERWISE SPECIFIED SHALL CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR STEEL FOR BRIDGES AND BUILDINGS", A.S.T.M. DESIGNATION A7.

CAMBER:

BEAMS SHALL BE CAMBERED SO AS TO CONFORM TO THE PROFILE GRADE OF THE ROADWAY AFTER DEFLECTION UNDER TOTAL DEAD LOAD.

SETTING SHOES AND ANCHOR BOLTS:

ALL ANCHOR BOLTS, EXCEPT WHERE THE ERECTED SUPERSTRUCTURE WILL PREVENT, SHALL BE DRILLED-IN AND SET IN GROUT AFTER THE SUPERSTRUCTURE IS ERECTED. IN THE EVENT THAT THE ERECTED SUPERSTRUCTURE WILL PREVENT DRILLING IN CERTAIN ANCHOR BOLTS, THESE ANCHOR BOLTS SHALL BE DRILLED-IN AND PLACED BEFORE, BUT GROUTED AFTER, ERECTION OF SUPERSTRUCTURE. SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE BRIDGE SEATS SO THAT IT WILL NOT INTERFERE WITH THE DRILLING OF ANCHOR BOLT HOLES. FOR ALL DEGREES OF SKEW, ANCHOR BOLTS, MASONRY PLATES AND SHOES SHALL BE SET SQUARE WITH CENTERLINE OF BEAM UNLESS OTHERWISE SHOWN ON THE PLANS.

DIMENSIONS:

SPAN LENGTHS GIVEN ON THE PLANS ARE TO BE MEASURED HORIZONTALLY AND ADJUSTED TO A TEMPERATURE OF 60° F. UNLESS OTHERWISE NOTED.

CONCRETE:

ALL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE CLASS "C", UNLESS OTHERWISE SHOWN ON THE PLANS. ALL EXPOSED CORNERS AND EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1", UNLESS OTHERWISE SHOWN. BEARING PADS FOR BEAMS AT ABUTMENTS AND BENTS SHALL BE MONOLITHIC WITH BRIDGE SEATS

REINFORCING STEEL:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF SECTION S-4 OF "GENERAL SPECIFICATIONS". DIMENSIONS SHOWN ON THE PLANS FOR DISTANCE FROM SURFACE OF CONCRETE TO REINFORCING BARS ARE CLEAR DIMENSIONS. BAR SPLICES SHALL BE 30 DIAMETERS, UNLESS OTHERWISE SHOWN ON THE PLANS. REINFORCING BAR EMBEDMENTS SHALL BE 20 DIAMETERS MINIMUM. METAL BAR SUPPORTS AND SPACERS SHALL BE GALVANIZED.

FORMS:

FORMS FOR PARAPETS (INCLUDING CURVED SURFACES), SIDEWALKS AND SAFETY CURBS SHALL BE LINED FOR SMOOTH FINISH. STEEL FORMS MAY BE USED FOR CURVED SURFACES. FORMS FOR ALL OTHER EXPOSED SURFACES OF BENTS AND ABUTMENTS SHALL BE TONGUE AND GROOVED WITH STAGGERED END BUTT JOINTS, AND WITH THE GRAIN VERTICAL FOR ALL VERTICAL SURFACES.

CONSTRUCTION JOINTS:

CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

POURING SEQUENCE:

THE FLOORS OF CONTINUOUS SPANS SHALL BE POURED IN SECTIONS AND IN THE SEQUENCE AND DIRECTION INDICATED BY CIRCLED NUMBERS AND ARROWS SHOWN ON THE PLANS.

PARAPETS:

PARAPETS SHALL NOT BE POURED UNTIL ALL ABUTMENT AND BRIDGE SLABS HAVE BEEN POURED.

ROADWAY FINISH:

ABUTMENT AND BRIDGE FLOORS FOR TURNPIKE ROADWAYS ARE TO BE MACHINE FINISHED IN ACCORDANCE WITH SECTION T-71.21 OF "GENERAL SPECIFICATIONS."

WATERPROOFING:

ALL SURFACES IN CONTACT WITH ASPHALTIC CONCRETE ROADWAY SURFACING SHALL BE WATERPROOFED WITH TYPE "C" WATERPROOFING IN ACCORDANCE WITH SECTION S-3.07 OF "GENERAL SPECIFICATIONS".

PILING:

ALL STEEL H PILING SHALL BE DRIVEN TO REFUSAL. CONCRETE PILING SHALL BE DRIVEN TO THE BEARING SPECIFIED BELOW; AS DETERMINED BY THE FORMULA IN SECTION S-18.05 OF "GENERAL SPECIFICATIONS". 12" PILING - 60 TONS; 14" PILING - 75 TONS.

VIBRATION:

ALL CONCRETE SHALL BE MECHANICALLY VIBRATED IN CONFORMANCE WITH REQUIREMENTS OF SECTION S-1.15 OF "GENERAL SPECIFICATIONS".

WELDING:

EXCEPT AS OTHERWISE NOTED ON THE PLANS, WELDING SHALL BE LIMITED TO SHOP FABRICATION. ALL WELDING SHALL BE CLASS "A" CONFORMING TO REQUIREMENTS OF SECTION S-7.22 "GENERAL SPECIFICATIONS".

BASE PRESSURE:

SPREAD FOOTINGS ARE DESIGNED FOR A MAXIMUM PRESSURE OF FIVE TONS PER SQUARE FOOT.

No.	Revision	By	Date

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE PROJECT NO. 1

INDEX AND GENERAL NOTES

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONTRACTING ENGINEER
DESIGN SECTION D-4

DESIGNED: D.J.W.	CHECKED: R.E.S.	DATE: 3-23-53
DRAWN: L.W.	IN CHARGE: D.J.W.	SCALE: No Scale

CONTRACT NO. C-13 SHEET 1 OF 44

REFERENCE NUMBER	SPECIFICATION ITEM NUMBER	DESCRIPTION	UNIT	SHEET NUMBERS 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			TOTALS	PROPOSAL QUANTITIES
		ROADWAY																					
1	E-1	Roadway Excavation	Cu.Yd.	120927	8461	582943	128454	22619	216994	26854	3870	1353	11199	1584	12199	380						1237837	1236000
2	E-1	Excavation of Unsuitable Material	Cu.Yd.						341	7902	27700	2326										38269	40000
3	E-8	Removal & Disposal of Existing Pavement (S.R.631)	Sq.Yd.											4222								4222	4225
4	E-8	Removal & Disposal of Existing Pavement (S.R.91)	Sq.Yd.			1111																1111	1115
5	E-11	Water	M.Gal.	74	202		10	114	13	165	150	392	177	41		6						1344	1350
6	SP-404	Removal of Highway Bridge No. SU 631-03	Lump																			Lump	Lump
7	E-12	12" C.M.P. Pipe Removed For Re-use	Lin.Ft.			20								20	12	20						72	72
8	E-12	Pipe Removed (Under 16")	Lin.Ft.			150			30													180	180
9	I-15	Guard Rail, Type "A"	Lin.Ft.			352		1350	248		1520	1600										5070	5100
10	I-15	Guard Rail, Type "B"	Lin.Ft.		1936			688		1088		2400	1408									7520	7550
11	I-15	Guard Rail, Type "D-1" or "D-2"	Lin.Ft.											800								800	800
12	I-15	Guard Rail, Type "D-1"	Lin.Ft.													400						400	400
13	I-23	R.O.W. Fence, Type 2	Lin.Ft.	5186	5028	5040	5150	4050	5209	5140	5120	5445	5090									50458	51000
14	I-25	Permanent Barricades	Lin.Ft.		127																	127	130
15	I-26	Permanent Monuments & Station Markers	Ea.	1		3	1		4	1	2	1	1									14	14
16	I-28	Temporary Cattle Fence	Lin.Ft.																			2000	2000
17	SP-206	Settlement Gages	Ea.								9	6										15	15
18	L-3	Placing Stock piled Topsoil	Sq.Yd.	13769	13768	16279	13722	9115	16306	13614	9227	12689	13209									131698	132000
19	L-6	Roadside Cleanup	Lump																			Lump	Lump
20	L-9	Agricultural Hydrated Lime	Ton	6.20	6.20	7.33	6.17	4.10	7.34	6.13	4.15	5.71	5.94									59.27	60
21	L-9	Bonemeal or Raw Bone	Ton	1.24	1.24	1.47	1.23	0.82	1.47	1.23	0.83	1.14	1.19									11.86	12
22	L-9	Commercial Fertilizer, 10-6-4	Ton	1.24	1.24	1.47	1.23	0.82	1.47	1.23	0.83	1.14	1.19									11.86	12
23	L-9	Seeding and Protecting, Type "A"	Sq.Yd.	13769	13768	16279	13722	9115	16306	13614	9227	12689	13209									131698	132000
24	L-10	Sodding	Sq.Yd.	1246	553	693	1502	1526	5011	4197	1722	1630	2208									20278	20500
25	L-19	Seeding & Mulching (Special Seeding)	Sq.Yd.	24653	17272	27494	19433	13742	17828	30383	14648	28158	20785	15316	5371	2562						237645	236000
26	SP-202	Special Swamp Excavation	Cu.Yd.								23822	13923										37745	3800
27	SP-203	Granular Embankment Material	Cu.Yd.								35599	19752										55351	56000
28	SP-204	Check Borings for Granular Embankment	Lin.Ft.									293										293	295
		DRAINAGE (Including Small Structures)																					
29	E-2	Excavation for Structures (Dry)	Cu.Yd.	442	293	21	635	1204	334	29	11	311	773				355	1000	630			5158	6000
30	E-3	Channel Excavation	Cu.Yd.	12623			704	2338	33172	21223	1000		15	338			490	853	1120			73876	74000
31	I-5	Pipe Specials (24" PCCP 20° Bend)	Each			1																1	1
32	I-2	15" R.C.C.P. Under Pavement	Lin.Ft.	88	100		88	100		108	300	196	200									1180	1180
33	I-2	18" R.C.C.P. Under Pavement	Lin.Ft.			192		88	72				92									444	448
34	I-2	24" R.C.C.P. Under Pavement	Lin.Ft.			72			76													148	148
35	I-2	30" R.C.C.P. Under Pavement	Lin.Ft.			76																76	76
36	I-5	Pipe Specials 24" into 30" RCCP Y "Branch, "Y" = 42"	Each			1																1	1
37	I-2	42" R.C.C.P. Under Pavement	Lin.Ft.		132					144												276	276
38	I-2	36" R.C.S.P. or V.C.P.	Lin.Ft.					232														232	232
39	I-2	15" P.C.C.P. or V.C.P.	Lin.Ft.	724					900				1000									2624	2624
40	I-2	18" P.C.C.P. or V.C.P.	Lin.Ft.			64			872													936	936
41	I-2	24" P.C.C.P. or V.C.P.	Lin.Ft.			2352			76													2428	2428
42	I-2	42" R.C.S.P.	Lin.Ft.		794	206			500	100												1600	1600
43	I-4	6" Underdrain (Box Culvert)	Lin.Ft.														120	350	378			848	848
44	I-4	6" Underdrain Type "A" (H=2'6")	Lin.Ft.						5200													5200	5200
45	I-4	6" Pipe Outlets for Underdrains	Lin.Ft.						60													60	60
46	I-5	Pipe Specials (15" R.C.C.P. 30° Bend)	Each									2	2									4	4
47	I-5	Pipe Specials (18" R.C.C.P. 20° Bend)	Each			1		2														3	3
48	I-6	Relaying 12" C.M.P.	Lin.Ft.			20								20	12	20						72	72
49	I-8	Inlets, Type "A"	Each						1		1		1									3	3
50	I-8	Inlets, Type "A-1"	Each	2	1	7	1	2	4	1	2	2	3									23	25
51	I-8	Inlets, Type "A-1" Modified	Each		1	1	1			1												4	4
52	I-8	Manholes, Type I	Each			1			1													2	2
53	I-9	Stone Underdrains, No. 1	Lin.Ft.											40	40							80	80
54	I-10	Riprap, Type "A"	Sq.Yd.																130			130	130
55	I-14	Paved Ditches (6" Plain Concrete)	Sq.Yd.						420													935	950
56	I-14	Paved Ditches (4" Plain Concrete)	Sq.Yd.			771		90	564	271	997	86	856									3635	3800
57	I-14	Stream Bed Paving (6" Plain Concrete	Sq.Yd.																250			250	250
58	I-30	6" Farm Tile Drains E.Q.D.T.	Lin.Ft.		80			60														140	140
59	I-30	6" Pipe Outlets for Tile Drains	Lin.Ft.		20			20														40	40
60	I-30	12" R.C.C.P.			280																	280	280
61	S-1	Concrete for Structures, Class "C"	Cu.Yd.	20.30	14.87	4.86	42.90	90.27	28.38	7.69	2.61	7.48	29.89				220	680	632			1781.25	1780
62	S-4	Reinforcing Steel	Lb.	661	580	262	1236	2903	1872	298	150	342	1090				24000	101000	82000			216394	216500
63	S-27	30"-12 Ga. C.M.P.	Lin.Ft.									300										300	300
64	S-27	36" R.C.C.P.	Lin.Ft.					56														56	56
65	S-27	36" R.C.C.P. or 12 Ga. C.M.P.	Lin.Ft.		198																	198	198
66	S-27	42" R.C.C.P. (E.S.) or 10 Ga. C.M.P.	Lin.Ft.										212									212	212
67	I-8	Inlets, Type "A" Modified	Each			1																1	1
68	S-27	48" 10 Ga. C.M.P.	Lin.Ft.										208									208	208
69	S-27	48" R.C.C.P. or 12 Ga. C.M.P.	Lin.Ft.	204																		204	204
70	S-27	60" 10 Ga. C.M.P.	Lin.Ft.				224															224	224
71	S-27	72" R.C.C.P.	Lin.Ft.						76													76	76
72																							

REFERENCE NUMBER	SPECIFICATION ITEM NUMBER	DESCRIPTION	UNIT	SHEET NUMBERS 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			TOTALS	PROPOSAL QUANTITIES
73	S-27	90" 8 Ga. Sectional Plate Pipe	Lin.Ft.					224														224	224
74																							
75																							
76																							
77																							
		PAVEMENT																					
78																							
79	B-21	Compacted Agg. Base Course, 1 Course	Cu.Yd.												313	267						580	600
80																							
81	B-35	Asphaltic Concrete Leveling Course	Cu.Yd.											451								451	460
82																							
83	I-7	9" Reinforced Concrete Approach Slabs	Sq.Yd.			80																80	80
84	I-22	Selected Sub-base	Cu.Yd.	6593	5500	11156	6585	4423	7719	6521	4180	6788	7603	1311								68379	68400
85	I-27	Classified Embankment Material	Cu.Yd.			126																126	130
86	S-9	Waterproofing, Type "C"	Sq.Yd.			80																80	80
87	T-10	Traffic Compacted Surface Course	Cu.Yd.											31								31	35
88																							
89																							
90	T-30	Bituminous Prime Coat MC-0 or 1; RT-2 or 3	Gal.												940	800						1740	1740
91																							
92	T-31	Bituminous Surface Treatment-No. 6 Aggregate	Cu.Yd.												16							16	16
93	T-31	Bituminous Surface Treatment-Bit. Material*	Gal.												658							658	660
94	T-33	3" Bituminous Macadam Surface Course	Sq.Yd.	10092	9976	10024	10000	6622	9978	10000	10160	9460	9800									96112	96150
95	T-35	Asphaltic Concrete Surface Course, Type "A"	Cu.Yd.											265		67						332	340
96	T-36	Asphaltic Concrete Surface Course, Type "C"	Cu.Yd.			3																3	3
97																							
98																							
99	T-71	9" Reinforced Portland Cement Concrete Pavement	Sq.Yd.			600																600	600
100	T-71	10" Reinforced Portland Cement Concrete Pavement	Sq.Yd.	13456	13302	13365	13333	8830	13303	13333	13547	12613	13067									128149	128150
		MISCELLANEOUS																					
101	I-29	Construction Contract Information Signs	Each																			4	4

* Bituminous Material shall be, MC-4, MC-5, RT-8, RT-9 or RT-10

GRADING ANALYSIS

SHEET NO.	STATION TO STATION	ITEM E-1 ROADWAY EXC.	ROADWAY EMBANKMENT X FACTOR (1.02)	E-1 EXC. UNSUIT. MAT.	SP-2.02 SWAMP EXC.	SP-2.03 GRAN. EMB.	E-3 CHAN. EXC.
5	534+77 to 560+00	120927	45918	0	0	0	12623
6	560+00 to 584+94.04	8461	-125404	0	0	0	0
7	584+94.04 to 610+00	582943	83	0	0	0	0
8	610+00 to 635+00	128454	5712	0	0	0	704
9	635+00 to 653+05.58	22619	70990	0	0	0	2338
10	653+05.58 to 678+00	216994	7700	341	0	0	33172
11	678+00 to 703+00	26854	94858	7902	0	0	21223
12	703+00 to 7+00	3870	94088	27700	23822	35599	1000
13	7+00 to 32+00	1353	243835	2326	13923	19752	0
14	32+00 to 56+50	111199	104417	0	0	0	15
15	STATE ROUTE 631, (RELOC.)	1584	27537	0	0	0	338
16	MORAN ROAD	12199	0	0	0	0	0
17	STOW ROAD	380	3338	0	0	0	0
18	BOX CULVERT-Sta. 11+55-S.R.631						490
19	BOX CULVERT-Sta. 575+60						853
20	BOX CULVERT-Sta. 691+39						1120
TOTALS		1,237,837	823,880	38,269	37,745	55,351	73876

\# Tests indicate that the proper balance factor = 1.02

Since Roadway excavation exceeds Roadway embankment there will be no Borrow Item.

Approximate excess yardage = (E-1) + (E-3) - (L-3) - Embankment
1,237,837 + 73,876 - 7317 - 823,880 = 480,516 Cu. Yds.

The symbols shown below are used throughout the plans to designate various types of pipe culverts or sewers.

P.C.C.P.	Standard Strength Plain Cement Concrete Pipe	Sec. M-6.5(a)
P.C.C.P.(ES)	Extra Strength Plain Cement Concrete Pipe	Sec. M-6.5(b)
R.C.S.P.	Standard Reinforced Concrete Sewer Pipe	Sec. M-6.6(a)
R.C.C.P.	Standard Strength Reinforced Concrete Culvert Pipe	Sec. M-6.8(b)
R.C.C.P. (E.S.)	Extra Strength Reinforced Concrete Culvert Pipe	Sec. M-6.6(c)
C.M.P.	Corrugated Metal Pipe	Sec. M-6.4
V.C.P.	Standard Strength Vitrified Clay Pipe	Sec. M-6.8(a)
P.V.C.P. (E.S.)	Extra Strength Perforated Vitrified Clay Pipe	Sec. M-6.8(d)
E.Q.D.T.	Extra Quality Drain Tile	Sec. M-6.7(b)

No.	Revision	By	Date
6	Revised Reference Numbers 1, 25, 29, 61, 62 and 32, 33, 39, 47, 58, 59 with Proposals & Grading Analysis	R.E.W.	2-2-54
5	Added Reference Numbers 31 and 36	R.E.W.	12-18-53
4	Revised Ref. Numbers 1, 29, 34, 41, 50, 56, 61, 62 and Grad. Anal. Deleted Ref. Number 36.	R.E.S.	12-8-53
3	Revised Ref. Numbers 1, 24, 29, 34, 41, 49, 50, 51, 56, 61, 62 and Grading Analysis. Deleted Ref. Number 31. Added Ref. Numbers 35, 36, and 67	R.E.S.	12-1-53
2.	Added Ref. Number 60	R.E.S.	8-24-53
1.	Deleted Ref. Number 67, Added Ref. Number 38. Minor Checking Revisions Throughout.	R.E.S. V.F.D.	8-12-53

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE PROJECT NO. 1

SUMMARY SHEET

ROADWAY, DRAINAGE AND PAVING ITEMS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONTRACTING ENGINEER
DESIGN SECTION D-4

DESIGNED: H.J.G.-V.F.D. CHECKED: S.L.C. DATE: 3-24-53
DRAWN: E.D.H. IN CHARGE: D.J.W. SCALE: No Scale

CONTRACT No. C-13 SHEET 2 OF 44

QUANTITIES					
No.	Item	Location & Remarks	Unit	Estimated Quantity	Final Quantity

REFERENCE NUMBER	SPECIFICATION ITEM NUMBER	DESCRIPTION	UNIT	STRUCTURE AND SHEET NUMBERS					TOTALS	PROPOSAL QUANTITIES
				STR. NO. 10 SH. NO. 21	STR. NO. 11 SH. NO. 28	STR. NO. 12 SH. NO. 31	STR. NO. 13 SH. NO. 34	STR. NO. 14 SH. NO. 39		
110	**E-2	Excavation for Structures (Dry)	Cu. Yd.	546	640	331	316	1605	3438	3530
111	E-2	Excavation for Structures (Wet)	Cu. Yd.				86		86	90
112	I-10	Riprap, Type A - 12" Thick	Sq. Yd.		12		644		656	650
113	I-15	Guard Rail, Type A	Lin. Ft.		646		3968	610	5224	5220
114	*S-1	Concrete for Structures, Class C	Cu. Yd.	1007	905	495	3034	1769	7210	7250
115	S-3	Waterproofing, Type A	Sq. Yd.					531	531	530
116	S-3	Waterproofing, Type B	Sq. Yd.					25	25	25
117	S-3	Waterproofing, Type C	Sq. Yd.	1400					1400	1300
118	•S-4	Reinforcing Steel	Lb.	186,870	143,800	89,650	902,782	184,720	1,527,822	1,555,500
119	+S-7	Structural Steel	Lb.	395,750	213,150	171,600	1452,068	252,670	2,485,238	2,467,200
120	##S-9	Structural Exp. and/or Contraction Joints	Lb.	16,900	8,400	4562	68,950	15,050	112,562	112,560
121	S-14	Metal Handrail, Type A	Lin. Ft.		646		3968	610	5224	5220
122	S-14	Metal Handrail, Type B	Lin. Ft.	450		450			900	1005
123	S-16	First Test Pile	Ea.	1	1	1	2	1	6	6
124	S-17	Pile Test Load	Ea.		1	1		1	3	3
125	S-18	Furnishing Bearing Piles, Steel - 12BP53	Lin. Ft.	300					300	300
126	S-18	Driving Bearing Piles, Steel - 12BP53	Lin. Ft.	300					300	300
127	S-18	Splice for Bearing Piles, Steel - 12BP53	Ea.	9					9	10
128	S-18	Furnishing Bearing Piles, Cast-in-Place Reinforced Conc. 12" Dia.	Lin. Ft.		3020	1992			5012	5020
129	++S-18	Driving Bearing Piles, Cast-in-Place Reinforced Concrete 12" Dia.	Lin. Ft.		3020	1992			5012	5020
130	S-18	Splice for Bearing Piles, Cast-in-Place Reinforced Concrete 12" Dia.	Ea.		52	29			81	80
131	S-18	Furnishing Bearing Piles, Cast-in-Place Reinforced Concrete 14" Dia.	Lin. Ft.					11,342	11,342	12280
132	++S-18	Driving Bearing Piles, Cast-in-Place Reinforced Concrete 14" Dia.	Lin. Ft.					11,342	11,342	12,280
133	S-18	Splice for Bearing Piles, Cast-in-Place Reinforced Concrete 14" Dia.	Ea.					84	84	110
134	S-18	Furnishing Bearing Piles, Cast-in-Place Reinforced Concrete 18" Dia.	Lin. Ft.				11,679		11,679	10,225
135	++S-18	Driving Bearing Piles, Cast-in-Place Reinforced Concrete 18" Dia.	Lin. Ft.				11,679		11,679	10,225
136	S-18	Splice for Bearing Piles, Cast-in-Place Reinforced Concrete 18" Dia.	Ea.				276		276	240
137	T-35	Asphaltic Concrete Surface Course, Type C	Cu. Yd.	49					49	45
138	S-19	Soil Load Bearing Test	Ea.		1				1	1
139		Not Used								
140	S-29	Scuppers, Type A	Ea.		6			4	8	8
141	S-29	Scuppers, Type A (Modified)	Ea.				28		28	28
142	S-29	Scuppers, Type B	Ea.	2		4			6	6
143	S-29	Drainage of Structures, 6" Wrought Iron Pipe	Lin. Ft.	76	152	120	88	152	588	600
144	S-29	Drainage of Structures, 6" Pipe	Lin. Ft.	200	404	200	80	340	1224	1200
145	S-29	Drainage of Structures, Porous Backfill No. 34 Aggregate	Cu. Yd.					214	214	220
146	I-4	Underdrains, Type A - 6" Perforated Pipe	Lin. Ft.					448	448	450
147	I-5	Pipe Specials (12" Half round P.C.C.P.)	Lin. Ft.					448	448	450
148	S-29	Drainage of Structures, 15" C.M.P. 12 Ga., or 15" P.C.C.P.	Lin. Ft.					115	115	115
149	I-8	Tile Line Junction Box	Ea.					2	2	2

* Includes Premolded expansion joint filler, poured elastic joint filler, copper flashing, copper tubes and screens and Class "C" concrete for shoulder inlets, and headwalls.

\+ Includes Bearing Devices, Link Joints, and Anchor Bolts.

++ Includes concrete and reinforcing steel.

•• Includes plates, anchor bars, angles, bolts and shims.

• Includes reinforcing steel for shoulder inlets and headwalls.

•• Includes impervious till material for underdrains.

No.	Revision	By	Date
1	Minor Revisions, Checking	AEP	9-13-53

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE PROJECT NO. 1

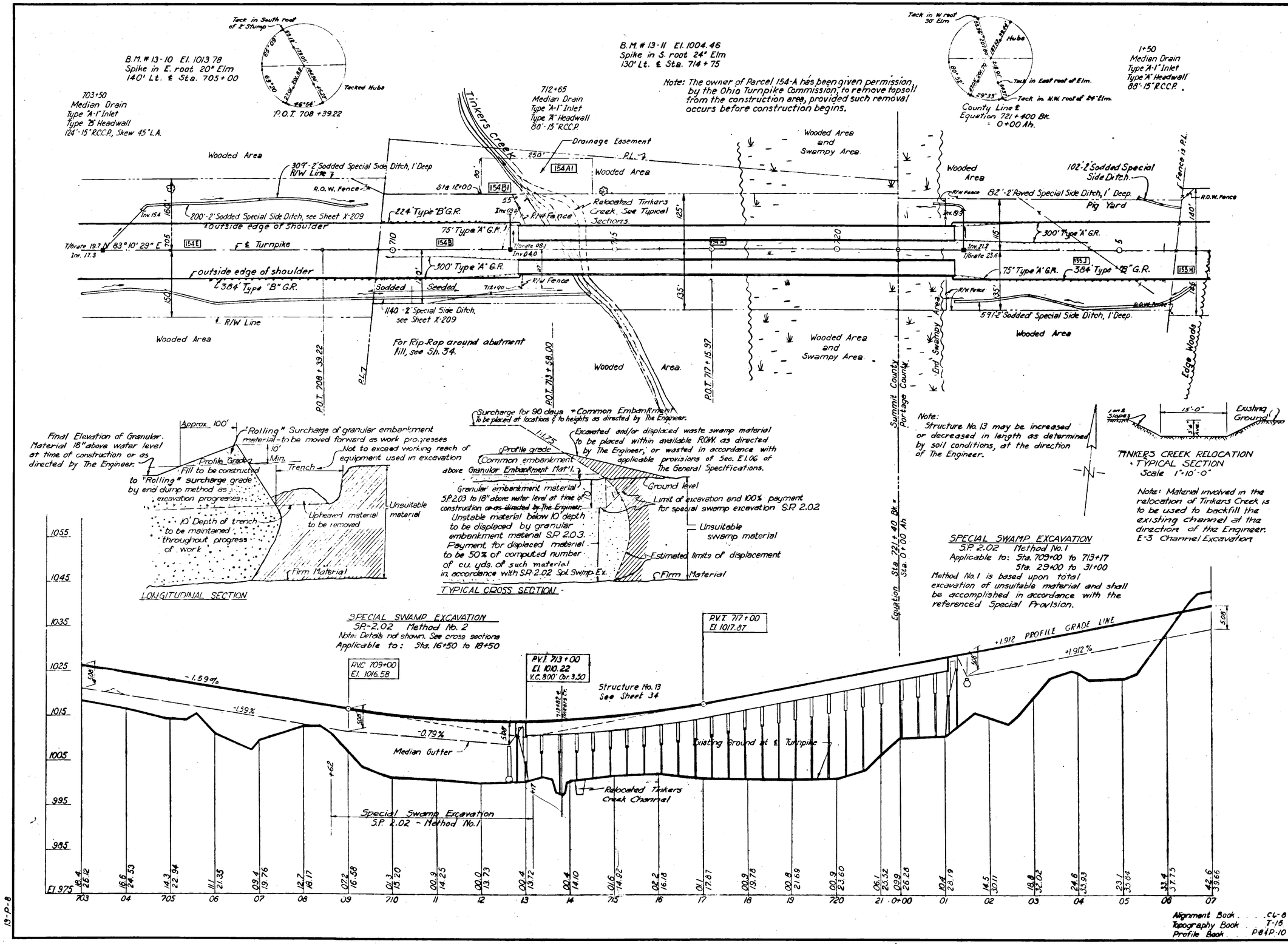
SUMMARY SHEET

STRUCTURES

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONTRACTING ENGINEER
DESIGN SECTION D-4

DESIGNED: DRAWN: CHECKED: IN CHARGE: DATE: 9-30-53 SCALE:

CONTRACT No. C-13 SHEET 3 OF 44



QUANTITIES

No.	Item	Location & Remarks	Unit	Estimated Quantity	Final Quantity
	ROADWAY				
E-1	Roadway Exc.		Cu.Yd.	3,870	3,215
E-1	Exc. of Unsuit. Mat'l.		Cu.Yd.	27,700	11,340
I-15	G.R. Type "A"		Lin.Ft.	1,520	1,350
I-15	G.R. Type "B"		Lin.Ft.	0	992
I-23	R.O.W. Fence Type "2"		Lin.Ft.	3,120	3,505.0
L-3	Place Stockpiled Topsoil		Sq.Yd.	9,227	8,476
L-9	Seed & Protect. Type "A"		Sq.Yd.	9,227	8,476
L-10	Sodding		Sq.Yd.	1,722	1,829
L-19	Seed & Mulch.		Sq.Yd.	14,648	16,711
SP2.02	Spec. Swamp Exc.		Cu.Yd.	23,822	17,150
SP2.03	Gran. Emb. Mat'l.		Cu.Yd.	35,599	23,624
SP2.04	Check Borings		Lin.Ft.	0	76.9
SP2.06	Settlement Gauges		Ea.	9	9
	DRAINAGE				
E-2	Excavation for Structures (Drg.)		Cu.Yd.	11	12
E-3	Channel Exc.		Cu.Yd.	1000	653
I-2	15" R.C.C.P.	703+50, 712+65, 1+50	Lin.Ft.	300	292.0
I-8	Inlets, Type "A-1"	703+50, 1+50, 712+65	Ea.	2	3
I-14	Paved Ditches (4" Pl. Concrete)		Sq.Yd.	997	58.6
S-1	Concrete for Structures		Cu.Yd.	2.61	2.64
S-4	Reinf. Steel		Lb.	150	159
	PAVEMENT				
T-22	Selected Sub-base		Cu.Yd.	4,180	3,731
T-33	3" Bit. Macadam Surface Course		Sq.Yd.	10,160	6,196
T-71	10" Reinf. P.C.C. Pav't.		Sq.Yd.	13,547	8,262

No.	Revision	By	Date
2	AS-BUILT PLANS		3-3-56
1	Deleted SP 2.04 & Added E-3 to Quantities. Added Tinkers Creek Typ. Sec., Minor Checking, Revisions.	DCM.	4/21/55

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE PROJECT NO. 1

PLAN AND PROFILE

SUMMIT AND PORTAGE COUNTY

STA. 703 + 00 TO STA. 7 + 00

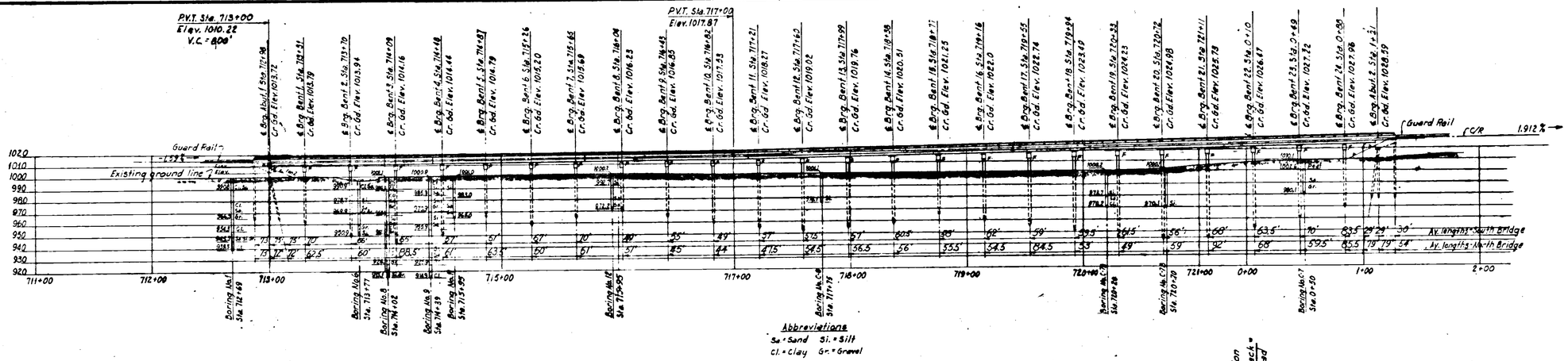
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONTRACTING ENGINEER
DESIGN SECTION D-4

DESIGNED: H.J.G.	CHECKED: R.E.O.	DATE: 1-2-53
DRAWN: C.A.L.	IN CHARGE: D.J.W.	SCALE: 1"=100' Hor. 1"=10' Ver.

CONTRACT No. C-13 SHEET 12 OF 44

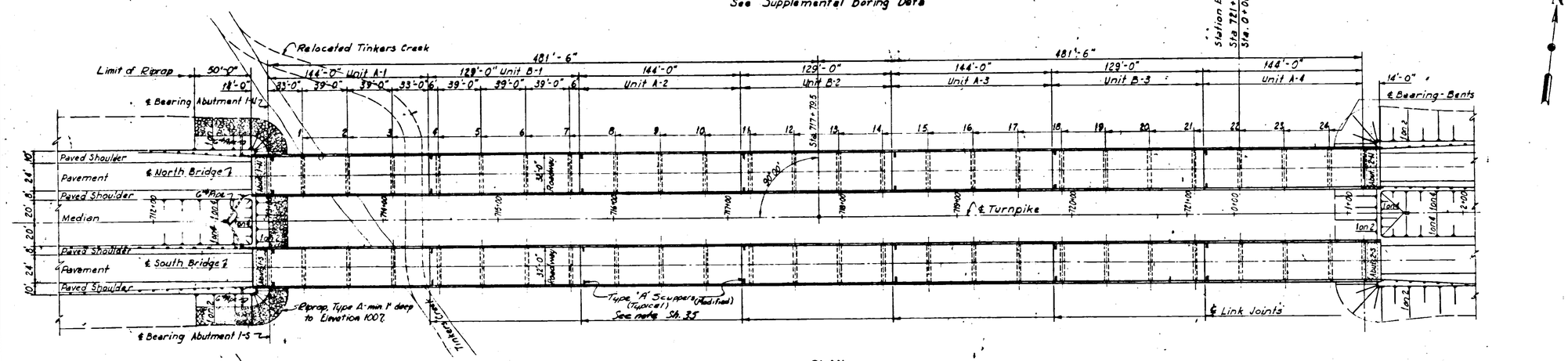
13-P-8

QUANTITIES					
No.	Item	Location & Remarks	Unit	Estimated Quantity	Final Quantity

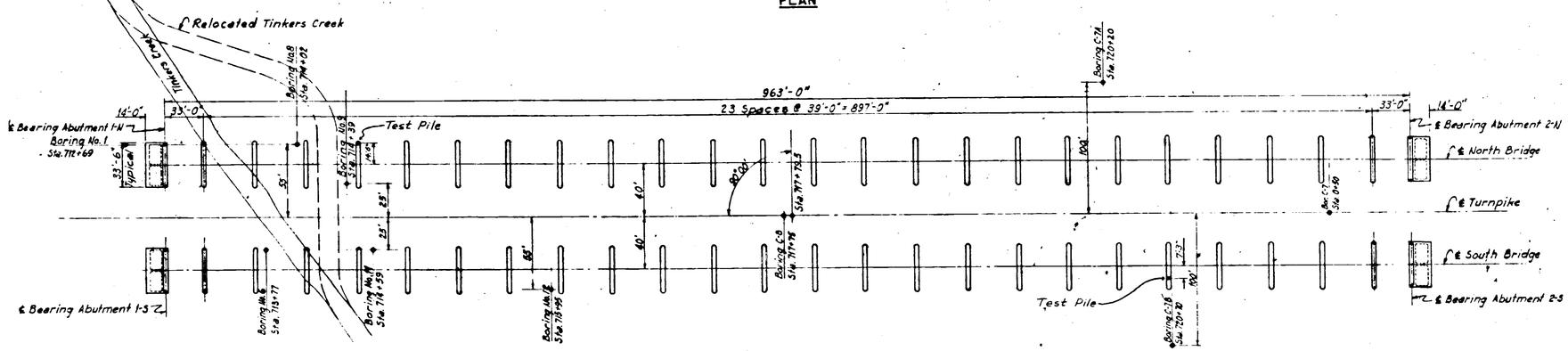


ELEVATION

See Supplemental Boring Data



PLAN



FOOTING PLAN

Note: For Estimated Quantities see sheet no. 38

REFERENCES

For General Notes see sheet 1.
For additional details refer to the following standard and special standard drawings:

Drawing No.	Title
5	Handrail Details
15	Drainage Details
17	Guard Rail Details
5-1	Abutments - Roadway = 32'-0"
5-5	Bridge Floor - Roadway = 32'-0" and 2-14'-0" plus 2'-0" Median.
5-8	Bents

CF = 2000

No.	Revision	By	Date
3	REPLACEMENT & WIDENING, SEE PNP 45-84-16		1984
2	AS BUILT PLANS	D.B.L.	58-56
1	Minor Checking Revisions	F.S.	4-7-58

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 13
TINKERS CREEK
GENERAL PLAN AND ELEVATION

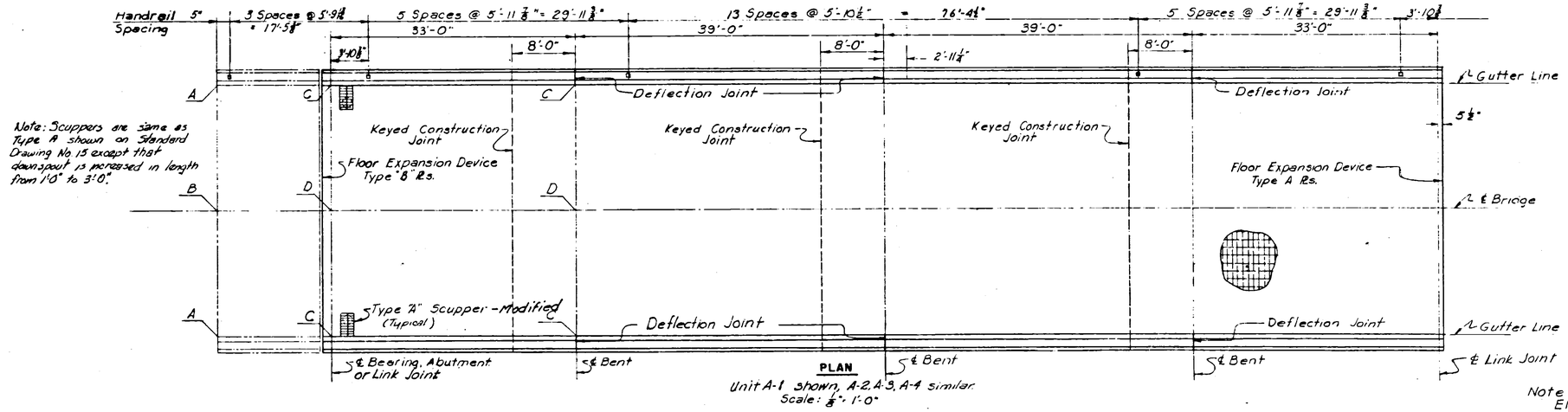
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONTRACTING ENGINEER
DESIGN SECTION D-4

DESIGNED: R.E.B. EL CHECKED: H.A.M. DATE: 3-28-58
DRAWN: G.R. IN CHARGE: J.D.L. SCALE: 1" = 60'

CONTRACT No. C-13 SHEET 34 OF 44

16 M48

QUANTITIES					
No.	Item	Location & Remarks	Unit	Estimated Quantity	Final Quantity

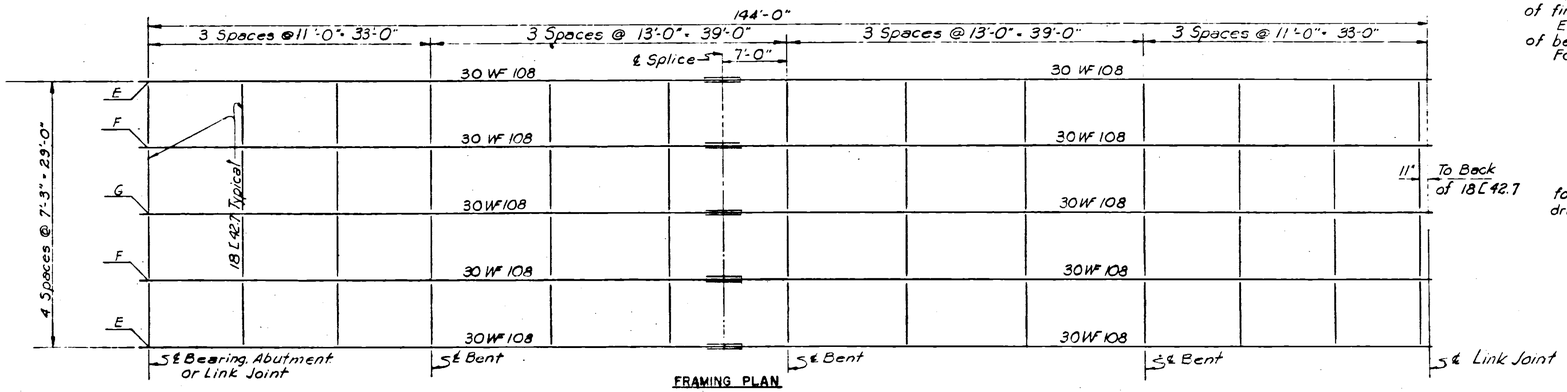


Note: Scuppers are same as Type A shown on Standard Drawing No. 15 except that downspout is increased in length from 1'-0" to 3'-0".

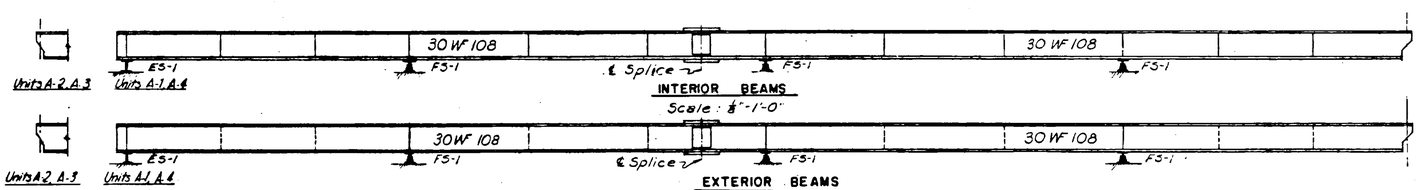
PLAN

Unit A-1 shown, A-2, A-3, A-4 similar.
Scale: ⅛" = 1'-0"

Note
Elevations C and D are to the top of finished concrete.
Elevations E, F, and G are to the top of beam flanges.
For Elevations see sheet No. 38

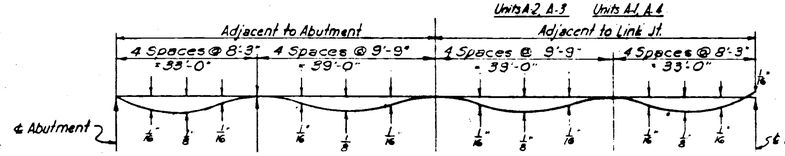


FRAMING PLAN

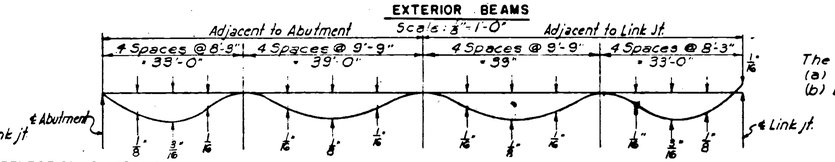


INTERIOR BEAMS
Scale: ⅛" = 1'-0"

EXTERIOR BEAMS
Scale: ⅛" = 1'-0"



INTERIOR BEAMS

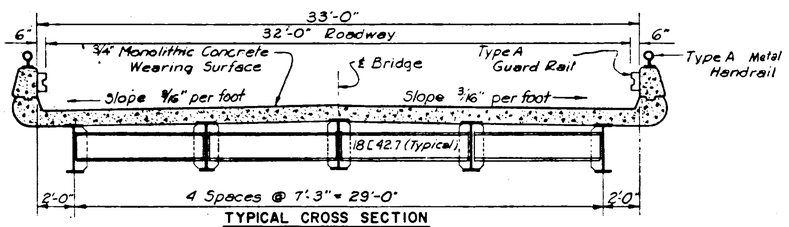


EXTERIOR BEAMS

BEAM DEFLECTION DIAGRAMS
Scale: Horizontal 1/16" = 1'-0"
Vertical 2" = 1"

The deflections shown consist of
(a) D.L. of Structural Steel
(b) D.L. of Reinforced Concrete

Int Beams	Ext. Beams
10 %	6 %
90 %	94 %



TYPICAL CROSS SECTION
Scale: ¼" = 1'-0"

REFERENCES

For General Notes see Sheet No. 1
For additional details refer to the following standard and special standard drawings.

Std. Drawing No.	Title
5	Handrail Details
15	Drainage Details
17	Guard Rail Details
S-1	Abutments - Roadway = 32'-0"
S-5	Bridge Floor - Roadway = 32'-0"
S-9, S-10	Beam Splices
S-11	Bearing Devices
S-12	Floor Expansion Devices and Medians

CF = 2000
For Link Joint Detail see Sheet No. 36

No.	Revision	By	Date
3	REPLACEMENT & WIDENING SEE RMP. 43-84-15		1984
2	AS BUILT PLANS	D.B.L.	33-56
1	Minor Checking Revisions	F.S.	8-6-53

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 13
TINKERS CREEK
SUPERSTRUCTURE - UNIT A

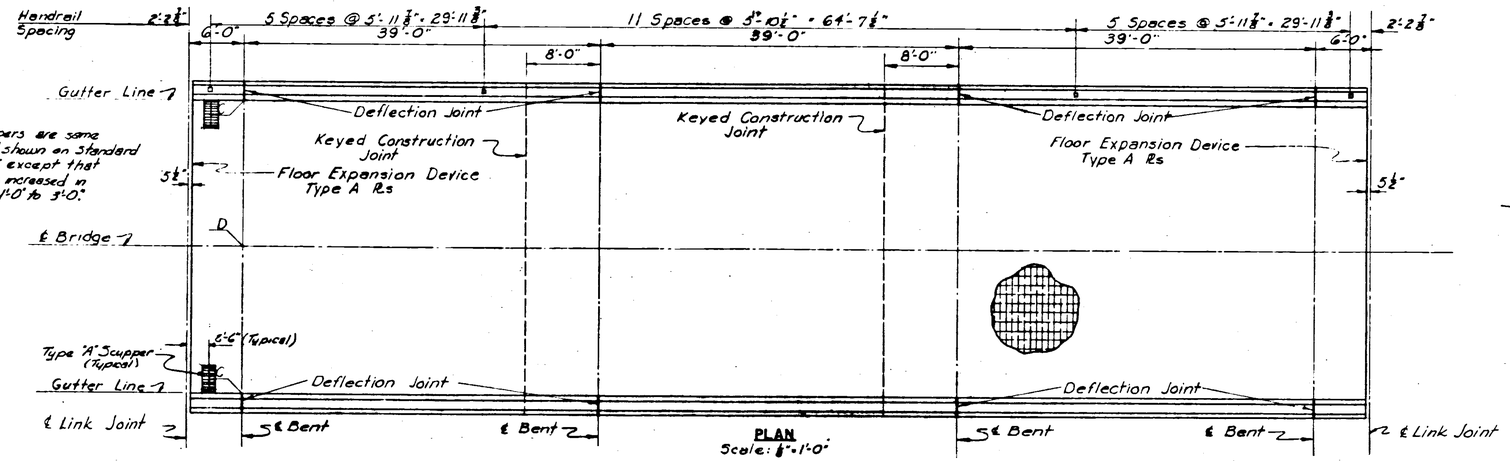
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONTRACTING ENGINEER
DESIGN SECTION D-4

DESIGNED: DRAWN: CHECKED: HAM IN CHARGE: DATE: 3-26-56 SCALE: As Shown

CONTRACT No. C-13 SHEET 35 OF 44

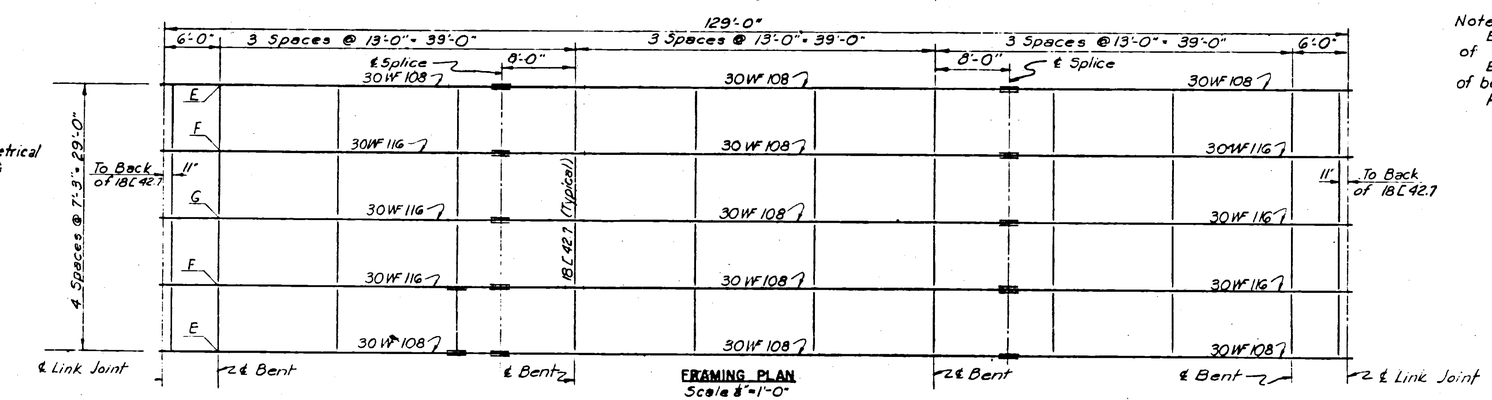
143

17H48

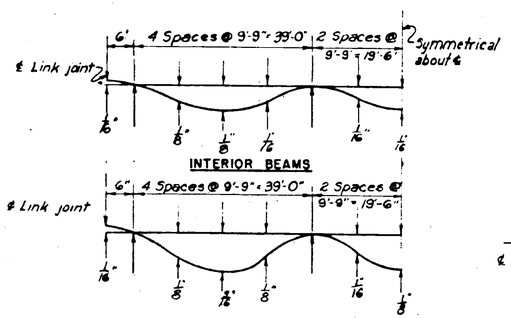


PLAN
Scale: 1/8" = 1'-0"

Notes.
Elevations C and D are to the top of finished concrete.
Elevations E, F, and G are to the top of beam flanges.
For elevations see sheet no. 38



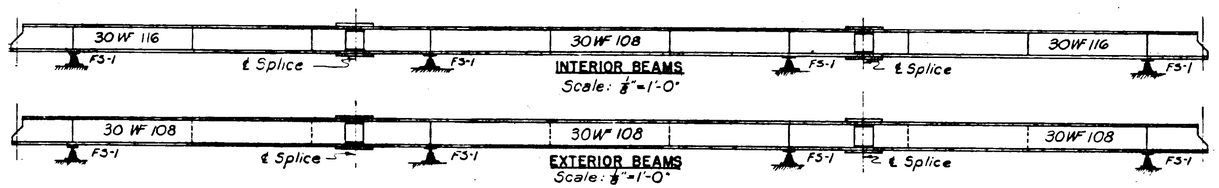
FRAMING PLAN
Scale 1/8" = 1'-0"



The deflections shown consist of:
(a) D.L. of Structural Steel
(b) D.L. of Reinforced Concrete

	Int. Beams	Ext. Beams
(a)	10%	6%
(b)	90%	94%

BEAM DEFLECTION DIAGRAMS
Scale: Horizontal: 1/16" = 1'-0"
Vertical: 2" = 1"



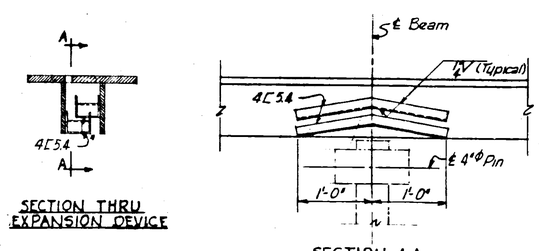
INTERIOR BEAMS
Scale: 1/8" = 1'-0"

EXTERIOR BEAMS
Scale: 1/8" = 1'-0"

REFERENCES
For General Notes see Sheet No. 1
For additional details refer to the following Standard and Special Standard drawings

Std. Drawing No.	Title
5	Handrail Details
15	Drainage Details.
17	Guard Rail Details.
S-5	Bridge Floor - Roadway = 32'-0"
S-11	Bearing Devices
S-12	Floor Expansion Devices and Median

For Cross Section of Bridge see Sheet No. 35

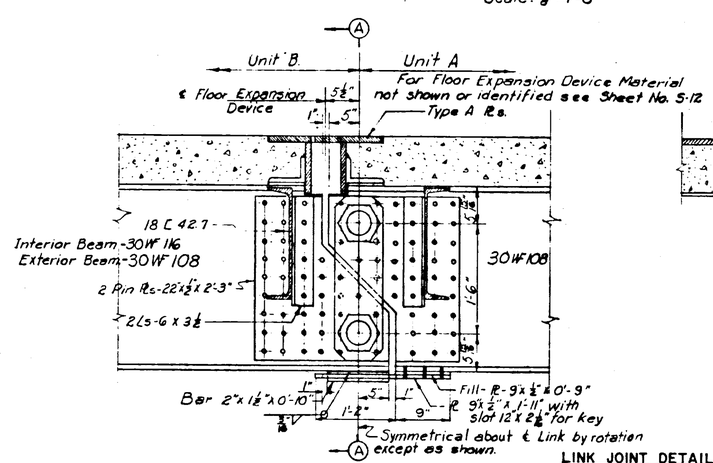


SECTION THRU EXPANSION DEVICE

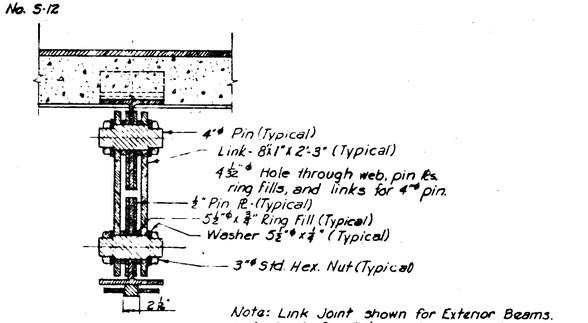
SECTION A-A

DRAINAGE DEFLECTOR
Scale: 1" = 1'-0"

Note: Deflector typical at ℄ of all beams at all Floor Expansion Devices expect at abutments.



LINK JOINT DETAIL
Scale: 1" = 1'-0"



SECTION A-A

Note: Link Joint shown for Exterior Beams. Link Joint for Interior Beams similar. Shear device to be used on Exterior Beams only.

QUANTITIES

No.	Item	Location & Remarks	Unit	Estimated Quantity	Final Quantity

No.	Revision	By	Date
4	REPLACEMENT & WIDENING SEE RMP 43-84-15		1984
3	AS BUILT PLANS	D.B.L.	33-56
2	Added Drainage Deflector Details	F.S.	12-21-53
1	Minor Revisions, Checking	FS	8-6-53

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 13
TINKERS CREEK
SUPERSTRUCTURE - UNIT B

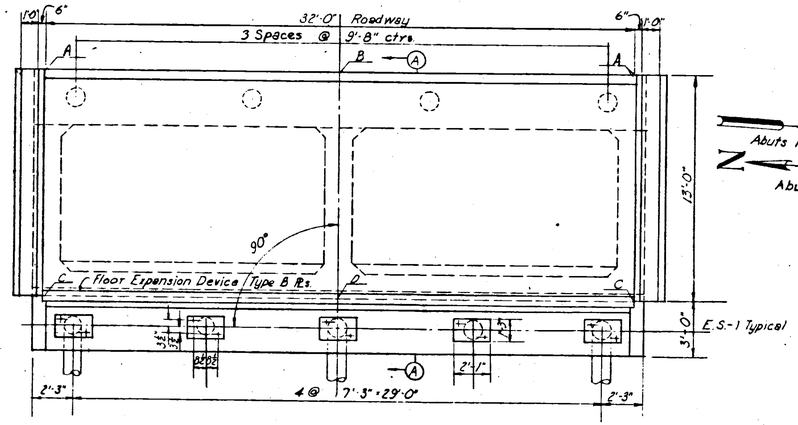
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONTRACTING ENGINEER
DESIGN SECTION D-4

DESIGNED: DEP | CHECKED: H.A.M. | DATE: 5-26-53
DRAWN: DCL | IN CHARGE: DSK | SCALE: As Shown

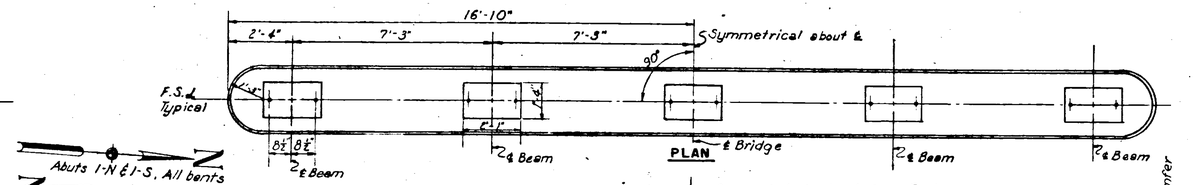
CONTRACT No. C-13 SHEET 36 OF 44

449

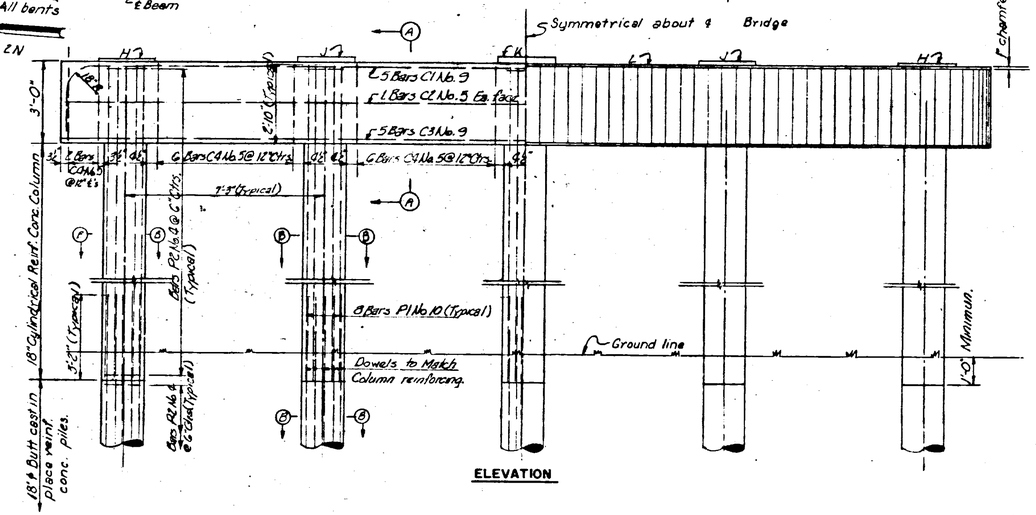
18M45



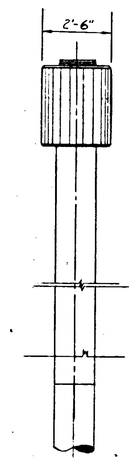
PLAN



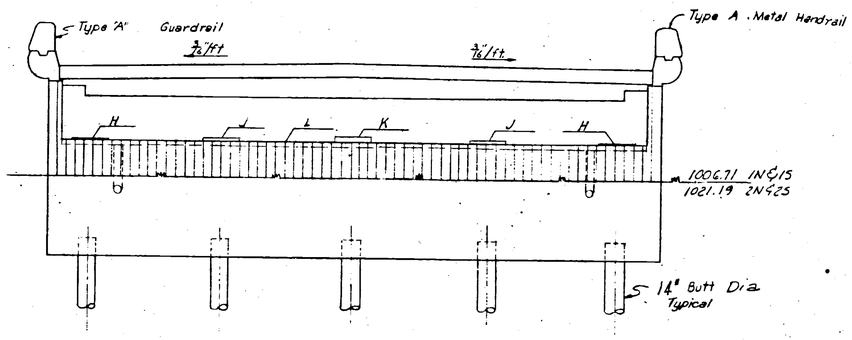
PLAN



ELEVATION



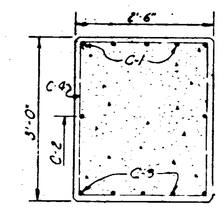
END ELEVATION



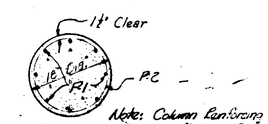
ELEVATION

Notes.

1. All piles to extend 25' minimum below bottom of soft soil.
2. The amount of reinforcing steel reqd in Section S-1809 (Cast in Place Reinforced Concrete Piles) of the General specifications is amended for this bridge to 10.2 square inches as measured at the pile butt. Where reinforcing consists of reinforcing bars in addition to the outer steel shell of the pile the bars shall be continued to a depth 15' above the tip of the pile. Typical reinforcing steel is shown for a pile with a shell thickness of 1/16 or less. All piles to be 18" Diameter at butt.



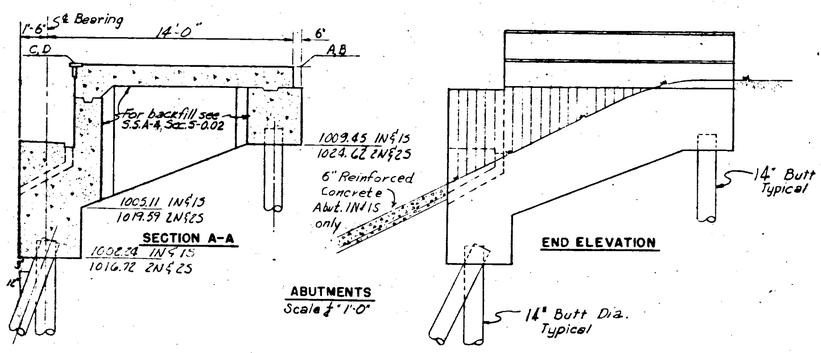
SECTION A-A



Note: Column Reinforcing shown, reinforcing for piles same.

SECTION B-B

Scale ¼" = 1'-0"



SECTION A-A

ABUTMENTS

Scale ¼" = 1'-0"

END ELEVATION

BENTS

Scale ¼" = 1'-0"

QUANTITIES

No.	Item	Location & Remarks	Unit	Estimated Quantity	Final Quantity

REFERENCES

For General Notes see sheet 1
For additional details refer to the following standard and special standard drawings:

Drawing No.	Title
5	Handrail Detail
15	Drainage Details
17	Guardrail Details
S-1	Abutments Roadway = 32'
S-11	Bearing Devices
S-12	Floor Expansion Devices
S-8	Bents

For elevations see sheet no. 38

No.	Revision	By	Date
3	AS BUILT PLANS	DBL	33-56
2	Chg'd Abut. Piling from 18" Butt Dia. to 18" Butt Dia.	F.S.	2/1/54
1	Minor Checking Revisions	F.S.	8-6-53

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 13
TINKERS CREEK
ABUTMENTS AND BENTS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONTRACTING ENGINEER
DESIGN SECTION D-4

DESIGNED: E.L.P.E.R. CHECKED: H.A.M. DATE: 3-26-53
DRAWN: D.K. IN CHARGE: I.D.S.K. SCALE: As Noted

4 | REPLACEMENT & WIDENING | See RMP 43-84-15 | 1984

CONTRACT NO. C-13 SHEET 37 OF 44

19M48

QUANTITIES

Item No.	Description		E2 Excav. for Struct. (Dry)	F2 Excav. for Struct. (Wet)	F10 Riprap, Type A-12" Thick	J15 Guard Rail, Type A	S-1 Conc. for Struct., Class C	S-4 Reinforcing Steel	S-7 Structural Steel	S-9 Struct. Exp. and/or Cont. Jts.	S-14 Metal Handrail, Type A	S-16 First Test Pile	S-17 Test Load	S-18 Furnishing Bearing Piles, Cast-in-Place Rein. Conc. 14" Dia.	S-18 Driving Bearing Piles, Cast-in-Place Rein. Conc. 14" Dia.	S-18 Splice for Bearing Piles, Cast-in-Place Rein. Conc. 14" Dia.	S-29 Scuppers, Type "A" Modified	S-29 Drainage of Struct. 6" W.I. Pipe	S-29 Drainage of Struct. 6" Pipe
		Unit	Cu. Yd.	Cu. Yd.	Sq. Yd.	Lin. Ft.	Cu. Yd.	Lb.	Lb.	Lbs.	Lin. Ft.	Ea.	Ea.	Lin. Ft.	Lin. Ft.	Ea.	Ea.	L.Ft.	L.Ft.
Abut. 1-N		Est. Q	79		322		81	10,850						376	376	9			
		Fin. Q	79.1		328.2		83.2	10622						740	643	8			
Abut. 2-N		Est. Q	79				81	10,850						387	387	9			
		Fin. Q	79.1				82	10623						670	592	8			
Bent 1-N		Est. Q		1.8			11	3504											
		Fin. Q		1.8			11.3	4697											
Bent 2-N		Est. Q		1.8			12	4159											
		Fin. Q		1.8			11.1	4613											
Bent 3-N		Est. Q		1.8			11	3579				1							
		Fin. Q		1.8			11.3	4697				0							
Bent 4-N		Est. Q		1.8			12	3654				0	0						
		Fin. Q		1.8			11.2	4655				1	1						
Bent 5-N		Est. Q		1.8			12	3708											
		Fin. Q		1.8			11.1	4613											
Bent 6-N		Est. Q		1.8			12	3854											
		Fin. Q		1.8			11.1	4613											
Bent 7-N		Est. Q		1.8			12	4014											
		Fin. Q		1.8			11.5	4780											
Bent 8-N		Est. Q		1.8			12	4214											
		Fin. Q		1.8			11.7	4864											
Bent 9-N		Est. Q		1.8			13	4274											
		Fin. Q		1.8			11.7	4864											
Bent 10-N		Est. Q		1.8			13	4369											
		Fin. Q		1.8			11.9	4947											
Bent 11-N		Est. Q		1.8			13	4478				0							
		Fin. Q		1.8			12.2	5072				1							
Bent 12-N		Est. Q		1.8			13	4569											
		Fin. Q		1.8			12.5	5198											
Bent 13-N		Est. Q		1.8			13	4764											
		Fin. Q		1.8			13.0	4506											
Bent 14-N		Est. Q		1.8			14	4934											
		Fin. Q		1.8			12.9	5364											
Bent 15-N		Est. Q		1.8			14	5114											
		Fin. Q		1.8			13.2	5490											
Bent 16-N		Est. Q		1.8			14	5284											
		Fin. Q		1.8			13.4	5573											
Bent 17-N		Est. Q		1.8			14	5454											
		Fin. Q		1.8			13.6	5656											
Bent 18-N		Est. Q		1.8			15	5624											
		Fin. Q		1.8			13.9	5782											
Bent 19-N		Est. Q		1.8			15	5804											
		Fin. Q		1.8			14.2	5907											
Bent 20-N		Est. Q		1.8			15	5969				1							
		Fin. Q		1.8			14.0	5823				0							
Bent 21-N		Est. Q		1.8			14	4921											
		Fin. Q		1.8			13.2	5490											
Bent 22-N		Est. Q		1.8			13	4561											
		Fin. Q		1.8			12.6	5239											
Bent 23-N		Est. Q		1.8			13	4384											
		Fin. Q		1.8			12.4	5156											
Bent 24-N		Est. Q		1.8			13	4502											
		Fin. Q		1.8			12.0	4989											
Super-structure		Est. Q				1984	1040	320,000	726,034	1984							14	44	
		Fin. Q				1982.3	1059.9	326,405	738,662										
Sub-Total		Est. T	158	43	322	1984	1515	451,391	726,034		2	0		763	763	18	5375	5375	120
		Fin. T	158.2	43.2	328.2	1982.3	1522.1	474,139	738,662		1	2		1410	1235	16	7480	7307	69

Item No.	Description		E2 Excav. for Struct. (Dry)	E2 Excav. for Struct. (Wet)	F10 Riprap, Type A-12" Thick	J15 Guard Rail, Type A	S-1 Conc. for Struct., Class C	S-4 Reinforcing Steel	S-7 Structural Steel	S-9 Struct. Exp. and/or Cont. Jts.	S-14 Metal Handrail, Type A	S-16 First Test Pile	S-17 Test Load	S-18 Furnishing Bearing Piles, Cast-in-Place Rein. Conc. 14" Dia.	S-18 Driving Bearing Piles, Cast-in-Place Rein. Conc. 14" Dia.	S-18 Splice for Bearing Piles, Cast-in-Place Rein. Conc. 14" Dia.	S-18 Furnishing Bearing Piles, Cast-in-Place Rein. Conc. 14" Dia.	S-18 Driving Bearing Piles, Cast-in-Place Rein. Conc. 14" Dia.	S-18 Splice for Bearing Piles, Cast-in-Place Rein. Conc. 14" Dia.	S-29 Scuppers, Type "A" Modified	S-29 Drainage of Struct. 6" W.I. Pipe	S-29 Drainage of Struct. 6" Pipe
		Unit	Cu. Yd.	Cu. Yd.	Sq. Yd.	Lin. Ft.	Cu. Yd.	Lb.	Lb.	Lbs.	Lin. Ft.	Ea.	Ea.	Lin. Ft.	Lin. Ft.	Ea.	Lin. Ft.	Lin. Ft.	Ea.	Ea.	L.Ft.	L.Ft.
Abut. 1-S		Est. Q	79		322		83	10,850						367	367	9						
		Fin. Q	79.1		328.2		83.2	10622						740	677	10						
Abut. 2-S		Est. Q	79				83	10850						324	324	9						
		Fin. Q	79.1				82.1	10,623						400	256	0						
Bent 1-S		Est. Q		1.8			11	3504									185	185	5			
		Fin. Q		1.8			11.3	4697									350	347	8			
Bent 2-S		Est. Q		1.8			12	4159									210	210	5			
		Fin. Q		1.8			11.2	4655									350	329	0			
Bent 3-S		Est. Q		1.8			11	3579									220	220	5			
		Fin. Q		1.8			11.9	4947									400	322	0			
Bent 4-S		Est. Q		1.8			12	3654									210	210	5			
		Fin. Q		1.8			11.7	4864									350	284	0			
Bent 5-S		Est. Q		1.8			12	3708									205	205	5			
		Fin. Q		1.8			11.8	4905									350	225	0			
Bent 6-S		Est. Q		1.8			12	3854									210	210	5			
		Fin. Q		1.8			11.9	4947									325	333	3			
Bent 7-S		Est. Q		1.8			12	4014									185	185	5			
		Fin. Q		1.8			12.0	4989									300	351	7			
Bent 8-S		Est. Q		1.8			12	4214									155	155	5			
		Fin. Q		1.8			12.3	5114									275	245	2			
Bent 9-S		Est. Q		1.8			13	4274									165	165	5			
		Fin. Q		1.8			12.4	5156									275	273	2			
Bent 10-S		Est. Q		1.8			13	4369									175	175	5			
		Fin. Q		1.8			12.6	5239									300	247	0			
Bent 11-S		Est. Q		1.8			13	4478									190	190	5			
		Fin. Q		1.8			12.7	5281									325	284	5			
Bent 12-S		Est. Q		1.8			13	4569									215	215	5			
		Fin. Q		1.8			13.0	5406									375	288	0			
Bent 13-S		Est. Q		1.8			13	4764									215	215	5			
		Fin. Q		1.8			13.1	5448									375	287	1			
Bent 14-S		Est. Q		1.8			14	4934									195	195	5			
		Fin. Q		1.8			13.5	5615									325	303	2			
Bent 15-S		Est. Q		1.8			14	5114									160	160	5			
		Fin. Q		1.8			13.7	5698									300	292	5			
Bent 16-S		Est. Q		1.8			14	5284									210	210	5			
		Fin. Q		1.8			13.7	5698									350	309	3			
Bent 17-S		Est. Q		1.8			14	5454									235	235	5			
		Fin. Q		1.8			13.9	5754									400	296	1			
Bent 18-S		Est. Q		1.8			15	5624									235	235	5			
		Fin. Q		1.8			14.3	5934									375	298	1			
Bent 19-S		Est. Q		1.8			15	5804				0					250	250	5			
		Fin. Q		1.8			14.3	5934				1					325	307	4			
Bent 20-S		Est. Q		1.8			15	5969			0						245	245	5			
		Fin. Q		1.8			13.9	5701			1						240	225	1			
Bent 21-S		Est. Q		1.8			14	4921									240	240	5			
		Fin. Q		1.8			13.1	5448									300	340	6			
Bent 22-S		Est. Q		1.8			13	4561									230	230	5			
		Fin. Q		1.8			12.6	5239									275	317	10			
Bent 23-S		Est. Q		1.8			13	4384									175	175	5			
		Fin. Q		1.8			11.9	4947									250	351	11			
Bent 24-S		Est. Q		1.8			13	4502									135	135	5			
		Fin. Q		1.8			12.2	5072									250	418	16			
Super-structure		Est. Q				1984	1040	320,000	726,034	1984											44	
		Fin. Q				1982.3	1059.9	329404													264	
Sub-Total		Est. T	158	43	322	1984	1540	451,391	726,034	1984	2	0	0	691	691	18	4850	4850	120	28	44	80
		Fin. T	158.2	43.2	328.2	1982.3	1532.2	477337	738,662		1	1	1	1140	933	10	7740	7300	88	14	264	36.0
Total		Est. T	316	86	644		3968	3034	702,782	1452468	2	0		1454	1454	36	10115	10225	240	28	88	80
		Fin. T	316.4	86.4	656.4		3964.7	3052.3	951471	1477324	2	3		2550	2168	26	15220	14607	157	28	528	72.0

ELEVATIONS

Location	Top of finished concrete Elevations A	B	C	D	Top of beam Elevations E	F	G	Top of masonry Elevations H	J	K	L
Abut. 1-N & 1-S	1013.45	1013.70	1013.46	1013.72	1012.86	1012.97	1013.08	1009.53	1009.63	1009.81	1009.54
Abut. 2-N & 2-S	1028.61	1028.86	1028.37	1028.62	1027.73	1027.85	1027.96	1024.46	1024.57	1024.68	1024.42
Bent 1-N & 1-S			1013.54	1013.79	1012.93	1013.04	1013.16	1009.40	1009.52	1009.63	1009.36
Bent 2-N & 2-S			1013.69	1013.94	1013.08	1013.19	1013.31	1009.55	1009.67	1009.78	1009.51
Bent 3-N & 3-S			1013.90	1014.16	1013.30	1013.41	1013.52	1009.77	1009.88	1010.00	1009.73
Bent 4-N & 4-S			1014.19	1014.44	1013.58	1013.69	1013.80	1010.05	1010.15	1010.26	1010.01
Bent 5-N & 5-S			1014.53	1014.78	1013.93	1014.04	1014.15	1010.40	1010.51	1010.63	1010.36
Bent 6-N & 6-S			1014.95	1015.20	1014.34	1014.46	1014.57	1010.82	1010.93	1011.04	1010.78
Bent 7-N & 7-S			1015.43	1015.69	1014.82	1014.94	1015.05	1011.30	1011.40	1011.51	1011.26
Bent 8-N & 8-S			1015.98	1016.23	1015.37	1015.49	1015.60	1011.85	1011.96	1012.07	1011.81
Bent 9-N & 9-S			1016.60	1016.85	1015.99	1016.10	1016.21	1012.46	1012.57	1012.69	1012.42
Bent 10-N & 10-S			1017.28	1017.53	1016.67	1016.78	1016.90	1013.14	1013.26	1013.37	1013.10
Bent 11-N & 11-S			1018.02	1018.27	1017.41	1017.52	1017.63	1013.88	1013.98	1014.09	1013.84
Bent 12-N & 12-S			1018.76	1019.02	1018.15	1018.27	1018.38	1014.63	1014.74	1014.85	1014.59
Bent 13-N & 13-S			1019.51	1019.76	1018.90	1019.01	1019.13	1015.37	1015.49	1015.60	1015.33
Bent 14-N & 14-S			1020.25	1020.51	1019.64	1019.76	1019.87	1016.12	1016.22	1016.33	1016.08
Bent 15-N & 15-S			1021.00	1021.25	1020.39	1020.50	1020.62	1016.86	1016.98	1017.09	1016.82
Bent 16-N & 16-S			1021.74	1022.00	1021.14	1021.25	1021.36	1017.61	1017.72	1017.84	1017.57
Bent 17-N & 17-S			1022.49	1022.74	1021.88	1021.99	1022.11	1018.35	1018.47	1018.58	1018.31
Bent 18-N & 18-S			1023.24	1023.49	1022.63	1022.74	1022.85	1019.10	1019.20	1019.31	1019.06
Bent 19-N & 19-S			1023.98	1024.23	1023.37	1023.49	1023.60	1019.85	1019.96	1020.07	1019.81
Bent 20-N & 20-S			1024.73	1024.98	1024.12	1024.23	1024.34	1020.59	1020.71	1020.82	1020.55
Bent 21-N & 21-S			1025.47	1025.73	1024.86	1024.98	1025.09	1021.34	1021.44	1021.55	1021.30
Bent 22-N & 22-S			1026.22	1026.47	1025.61	1025.72	1025.84	1022.08	1022.20	1022.31	1022.04
Bent 23-N & 23-S			1026.96	1027.22	1026.36	1026.48	1026.58	1022.83	1022.94	1023.06	1022.79
Bent 24-N & 24-S			1027.71	1027.96	1027.10	1027.21	1027.33	1023.57	1023.69	1023.80	1023.53

QUANTITIES

No.	Item	Location & Remarks	Unit	Estimated Quantity	Final Quantity

No.	Revision	By	Date
5	REPLACEMENT & WIDENING SEE RMP 43-84-15		1984
4	AS BUILT PLANS	D.B.L.	3-3-56
3	Changed Abut. Piling from 18" Out. Dia. to 14" Out. Dia.	F.S.	7/12/54
2	Corrected Elev. "K" Bent 10-N & 10-S	F.S.	12-21-53
1	Minor Checking Revisions	A.E.R.	8-25-53

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 13
TINKERS CREEK
ELEVATIONS AND QUANTITIES

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONTRACTING ENGINEER
DESIGN SECTION D-4

DESIGNED: | CHECKED: H.A.M. | DATE: 3-28-53
DRAWN: B.W. | IN CHARGE: W.D.S.K. | SCALE: 1" = 10 ft.

CONTRACT No. C-13 SHEET 38 OF 44