1/84

OHIO TURNPIKE COMMISSION

THE JAMES W. SHOCKNESSY OHIO TURNPIKE

CONTRACT CIP 43 - 85 - 05

TURNPIKE BRIDGE DECK REPLACEMENT & WIDENING

OVER

SUGAR CREEK M. P. 81.3

WOLF CREEK M. P. 82.02

CONRAIL M. P. 83.26

WAGGONER RD. (C. R. 82) M. P. 83.30

OTTAWA COUNTY AND SANDUSKY COUNTY

ORIGINAL CONTRACT SECTION C-41

UNDERGROUND UTILITIES

48 HOURS
BEFORE YOU DIG
CALL: 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

INDEX OF SHEETS

TITLE SHEET 1
ALIGNMENT PLAN 2
TYPICAL SECTIONS 3
GENERAL NOTES 4
GENERAL SUMMARY 5-6
MISCELLANEOUS DETAILS 7-9
SUGAR CREEK .....
20 SCALE PLAN 10
PROFILE 11
CROSS SECTIONS 12-14
WOLF CREEK .....
20 SCALE PLAN 15
PROFILE 16
CROSS SECTIONS 17-18
CONRAIL/WAGGONER RD. .....
20 SCALE PLAN 19-21
PROFILE 22
CROSS SECTIONS 23-28
MAINTENANCE OF TRAFFIC 29-34
STRUCTURE PLANS - DECK JOINT DETAILS 35
SUGAR CREEK 36-46
WOLF CREEK 47-54
CONRAIL 55-72
WAGGONER ROAD 73-84

STANDARD DRAWINGS

BP-2 12-6-76
BP-3 12-6-76
BP-5 7-16-81
BP-7 12-6-76

F-2 5-1-76
F-3 5-1-76

GR-1 2-5-82
GR-2B 2-5-82
GR-3 2-5-82
GR-4A 1-30-84
GR-4 2-5-82
MC-3 6-1-73
MC-4 7-26-76
MC-7 10-15-76
MC-9A 5-1-81
MC-11 8-1-78

TC-35.10 8-29-84

PLANS PREPARED BY
ERIKSSON ENGINEERING, LTD.
COLUMBUS, OHIO

PROJECT LOCATION

0 1 2 3 4 5 6
SCALE IN MILES

AS BUILT
12-16-86

APPROVED FOR
THE OHIO TURNPIKE COMMISSION
BY
Ed Allan Plain
CHIEF ENGINEER
3-13-85
DATE

ALIGNMENT PLAN

OHIO TURNPIKE COMMISSION
CIP 43-85-05

2/84

SHEET 2 OF 84

ALIGNMENT PLAN

OHIO TURNPIKE COMMISSION
CIP 43-85-05

3
84

⊗ EXISTING AGGREGATE DRAIN MATERIAL REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED, RESHAPED, OR RESTORED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM SP 605, AGGREGATE DRAINS. EXISTING AGGREGATE DRAIN OUTLETS SHALL BE MAINTAINED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THIS WORK. PAYMENT SHALL BE INCLUDED WITH ITEM 304, AGGREGATE BASE.

* 0'-0" WITHOUT ASPHALT CONRETE CURB
1'-1" WITH ASPHALT CONCRETE CURB

NOTE: TRANSITION SHOULDER SLOPE FROM 3/16"/FT. AT APPROACH SLAB TO 1/2"/FT. NORMAL SHOULDER SLOPE IN 50 FEET, OR AS DIRECTED BY THE ENGINEER.

SUGAR CREEK	STA. 377+50 TO STA. 379+02.58
WOLF CREEK	STA. 380+68.32 TO STA. 381+50
CONRAIL/WAGGONER RD.	STA. 3+75 TO STA. 5+30.88
	STA. 6+29.13 TO STA. 7+25
	STA. 68+50 TO STA. 69+37.20
	STA. 76+91.03 TO STA. 77+75

FASTBOUND LIMITING STATIONS

DETAIL A

SUGAR CREEK	STA. 378+50 TO STA. 379+31.69
WOLF CREEK	STA. 380+97.43 TO STA. 382+75
CONRAIL/WAGGONER RD.	STA. 4+50 TO STA. 5+30.88
	STA. 6+29.13 TO STA. 7+75
	STA. 65+75 TO STA. 67+00.42
	STA. 72+44.65 TO STA. 74+54.61 ‡ (MAINTAIN 3/16"/FT. ON OUTSIDE SHOULDER SLOPE)
	STA. 76+51.49 TO STA. 77+75

WESTBOUND LIMITING STATIONS

LEGEND

1	SP 404	~ 1" Asphalt Concrete AC-20
2	402	~ Variable Depth Asphalt Concrete AC-20
3	SP 451	~ 10" Reinforced Concrete Pavement
4	402	~ 6" Asphalt Concrete AC-20
5	SP 310	~ 6" Subbase Grading A, Type 1
6	SP 304	~ 4" Aggregate Base
7	SP 407	~ Tack Coat
8	SP 408	~ Prime Coat
9	SP 414	~ Surface Treatment for Shoulders
10	SP 606	~ Gaurdrail Rebuilt Type 5
11	SP 609	~ Asphalt Concrete Curb
12	659	~ Seeding and Mulching
13	SP 617	~ Reconditioning Shoulders without Guardrail
14	SP 627	~ Stone Shoulder Protection with Guardrail
15	653	~ 2" Topsoil Furnished & Placed

(A) Existing 10" Reinforced Portland Cement
(B) Existing 6" Sub-base

Note: The taper to the new approach slab and bridge shall be adjusted to field conditions. See General Notes.

FEATHER TO APPROACH SLAB

APPROACH SLAB DETAIL
for Additional Details, See Sheet No. 7

SHEET 3 OF 84

TYPICAL SECTIONS.

SUMMARY OF QUANTITIES AND GENERAL SUMMARY
(ROADWAY)

OHIO TURNPIKE COMMISSION
C.I.P. 43-85-05

5/84

COMPUTED BY _____ DATE _____
CHECKED BY _____ DATE _____

ITEM	TOTAL FROM SHEET NUMBER 4		10		15		19	20	21	29	GENERAL SUMMARY ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP										201	LUMP	LUMP	CLEARING AND GRUBBING
202			1169		1277		295	335	430		202	3566	S.Y.	WEARING COURSE REMOVED FULL DEPTH
202			172		160		248	169	90		202	859	S.Y.	PAVEMENT REMOVED, RIGID
202			1000		825		400	542.6	387.5		202	3159.1	L.F.	GUARDRAIL REMOVED FOR REUSE, TYPE 5
202			4		8		3		4		202	19	EACH	INLET REMOVED
202							1	2			202	3	EACH	CATCH BASIN REMOVED, SALVAGE FRAME AND GRATE
202			112		156		78	26	50		202	422	L.F.	PIPE 24" & UNDER REMOVED
202			312		346		504	373	212		202	1747	L.F.	FENCE REMOVED
203			64		52		63	63	24		203	266	C.Y.	EMBANKMENT
203			230		269		165	118	107		203	889	C.Y.	EXCAVATION, NOT INCLUDING EMBANKMENT
203			1352		1125		1133	873	678		203	5161	S.Y.	SUBGRADE COMPACTION
			105		100		50	47	46					
SP 304	70		76		42		117	77	46		SP 304	348	C.Y.	AGGREGATE BASE
SP 310										50	SP 310	428	C.Y.	SUBBASE GRADING A, TYPE I
402			200		222		95	90	88		402	50	C.Y.	3" ASPHALT CONCRETE, AC-20 AS PER PLAN
SP 404			39		37		17	16	17		402	695	C.Y.	ASPHALT CONCRETE, AC-20
											SP 404	126	C.Y.	ASPHALT CONCRETE, AC-20
SP 407			133		129		58	57	56	130	404	130	C.Y.	ASPHALT LEVELING COURSE FOR MAINTAINING TRAFFIC ON CROSSOVERS
SP 408			460		441		222	210	202		SP 407	433	GAL.	TACK COAT
SP 414			460		441		222	210	202		SP 408	1535	GAL.	PRIME COAT
SP 414			919		879		444	420	403		SP 414	1535	GAL.	BITUMINOUS MATERIAL FOR SHOULDER SURFACE TREATMENT
											SP 414	3065	S.Y.	AGGREGATE FOR SHOULDER SURFACE TREATMENT
SP 451	130										SP 451	130	C.Y.	COMPACTED SUBGRADE
SP 451	400		156				284	171	127		SP 451	1135	S.Y.	FULL DEPTH PAVEMENT REPAIRS
SP 451	80										SP 451	80	L.F.	JOINT REPAIR, TYPE D
SP 451	450										SP 451	450	L.F.	JOINT REPAIR, TYPE H
SP 451	100										SP 451	100	L.F.	JOINT REPAIR, TYPE K
SP 451	100										SP 451	100	L.F.	JOINT REPAIR, TYPE L
SP 451	48										SP 451	48	L.F.	EXPANSION JOINT
SP 603			76								603	76	L.F.	15" CONDUIT, TYPE B 706.02
SP 603							7	14			603	21	L.F.	12" TYPE F CONDUIT, 707.01 (EXCEPT GALVANIZED) OR 707.05 TYPE C WITHOUT PAVED INVERT.
SP 603			74								603	74	L.F.	15" TYPE F CONDUIT, 707.01 (EXCEPT GALVANIZED) OR 707.05 TYPE C WITHOUT PAVED INVERT.
SP 604							1	2			SP 604	3	EACH	CATCH BASIN, USING SALVAGED FRAME AND GRATE
604									1		604	1	EACH	CATCH BASIN, ADJUSTED TO GRADE
SP604			4								SP604	4	EACH	CATCH BASIN
SP 605	600										SP 605	600	L.F.	AGGREGATE DRAINS, TYPE II
606			75		75		75		75		606	300	L.F.	GUARDRAIL STANDARD TYPE 5, USING STEEL POSTS
SP 606			1000		825		400	559.18	387.5		SP 606	3171.68	L.F.	GUARDRAIL REBUILT, TYPE 5
606			7		7		4	4	4		606	26	EACH	BRIDGE TERMINAL ASSEMBLY TYPE A
606			2		2						606	4	EACH	ANCHOR ASSEMBLY TYPE T
606			1		1		1		1		606	4	EACH	ANCHOR ASSEMBLY TYPE A

Rev	Description	By	Date
1	REV. PAV'T REM'D QUANT.	DFC	3-27-85

SUMMARY OF QUANTITIES & GENERAL SUMMARY

SUMMARY OF QUANTITIES AND GENERAL SUMMARY
(ROADWAY)

OHIO TURNPIKE COMMISSION
C.I.P. 43-85-05

6 / 84

COMPUTED BY _____ DATE _____
CHECKED BY _____ DATE _____

ITEM	TOTAL FROM SHEET NUMBER 4		10		15	31	19	20	21	29	GENERAL SUMMARY ITEM	QUANTITY	UNIT	DESCRIPTION
607			299		322		482	363	202		607	1657	L.F.	FENCE, TYPE 47
SP609			91		20		292	303	216		SP 609	922	L.F.	ASPHALT CURB, AC-20, STANDARD TYPE 1
SP611			278		262		405	292	148		SP 611	1375	S.Y.	CLASS "S" CONCRETE APPROACH SLAB, USING SHRINKAGE COMPENSATING CEMENT (T=10")
SP617	317										SP 617	317	S.Y.	SHOULDER PREPARATION
SP617	36										SP 617	36	C.Y.	COMPACTED AGGREGATE
SP617	1										SP 617	1	M-GAL.	WATER
						1,800					621	1,800	L.F.	REMOVAL OF PAVEMENT MARKINGS
										15,800	SP 622	15,800	L.F.	TEMPORARY CONCRETE BARRIER (FURNISHED BY ~~COMMISSION~~ CONTRACTOR)
						~~1350~~ 700					SP 626 A	~~1350~~	EA.	CONSTRUCTION ZONE MARKERS, ONE-WAY MODEL, WHITE
											SP 626 A	700	EA	CONSTRUCTION ZONE MARKERS, ONE-WAY MODEL, YELLOW
SP627	276										SP 627	276	TON	STONE SHOULDER PROTECTION
653			22		22		18	17	14		653	93	C.Y.	TOPSOIL FURNISHED AND PLACED
659			478		940		569	537	442		659	2966	S.Y.	SEEDING & MULCHING
659	0.3										659	0.3	TON	COMMERCIAL FERTILIZER
660					38		14	7	14		660	73	S.Y.	REINFORCED SODDING
207	40										207	40	EACH	STRAW OR HAY BALES
SP113											~~SP 113~~	~~LUMP~~	~~LUMP~~	~~RAILROAD PROJECTIVE LIABILITY INSURANCE~~
SP619											SP 619	LUMP	LUMP	FIELD OFFICE
SP623											SP 623	LUMP	LUMP	CONSTRUCTION LAYOUT SURVEY
624											624	LUMP	LUMP	MOBILIZATION
SP614										LUMP	SP 614	LUMP	LUMP	MAINTAINING TRAFFIC
103.05											103.05	LUMP	LUMP	PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND

REV.	DESCRIPTION	BY	DATE
1	SP 626, REPLACE "COMMISSION" WITH "CONTRACTOR" SP 626 A, REVISED QUANTITY SP 113 DELETED ITEM	J.D.L.	12/12/85

SHEET 6 OF 84

SUMMARY OF QUANTITIES & GENERAL SUMMARY

PLAN

APPROACH SLAB FOR SKEWED BRIDGE

GENERAL THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS THE PROJECT PLANS WILL SHOW SKEW, CURBS (IF ANY), ESTIMATED QUANTITY (SQ. YDS.), AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.

DESIGN DATA

CONCRETE - CLASS S USING SHRINKAGE COMPENSATING CEMENT
REINFORCING STEEL: A.S.T.M. A615, A616 OR A617 - GRADE 60 MIN. YIELD STRENGTH 60,000 P.S.I.

PREFORMED EXPANSION JOINT FILLER AND SEALER AT THE CORNERS AND SIDES OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB

GROOVE AND JOINT SEAL SHOWN AT THE BRIDGE LIMIT END OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB

TYPE A WATERPROOFING SHOWN AT THE ABUTMENT SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09.

CURBS, BRIDGES WITH SIDEWALKS: FOR BRIDGES CONSTRUCTED WITH RAISED SIDEWALKS, DEFLECTOR PARAPETS OR OTHER TYPES OF CONSTRUCTION WHICH RETAIN ROADWAY SURFACE DRAINAGE, THE APPROACH SLABS SHALL EITHER INCLUDE INTEGRAL CURBS OR BE CONSTRUCTED IN CONJUNCTION WITH BRIDGE CURBS. CURB HEIGHT SHALL BE TRANSITIONED UNIFORMLY BETWEEN BRIDGE CURB HEIGHT AND APPROACH CURB HEIGHT IN LENGTH AS FOLLOWS: WHERE WINGWALL EXTENDS BEYOND END OF APPROACH SLAB, USE A MINIMUM LENGTH OF 10 FT BEYOND END OF WINGWALL WHERE THE APPROACH SLAB EXTENDS BEYOND THE END OF WINGWALL, TRANSITION IN THIS LENGTH. HOWEVER, THE TRANSITION LENGTH SHALL NOT BE LESS THAN 10 FT AND THE TRANSITION SHALL EXTEND BEYOND THE END OF THE APPROACH SLAB IF NECESSARY

APPROACH SLAB WIDTH APPROACH SLABS SHALL BE THE SAME WIDTH AS THE BRIDGE ROADWAY, UNLESS SHOWN OTHERWISE ON THE PLANS.

CROWN SHALL CONFORM TO THAT OF THE APPROACH PAVEMENT AND BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED WITHIN THE LIMITS OF THE APPROACH SLAB.

TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB SHALL BE EITHER TYPE 'K' OR 'H' AS DETAILED ON THE PLANS. PAYMENT FOR THE TRANSVERSE JOINT SHALL BE AT THE UNIT PRICE BID PER LIN. FT. FOR THE TYPE OF JOINT FURNISHED.

SECTION A-A

NOTE 1: GROOVE AND SEAL AS PER O.D.O.T. STD. CONST. DWG. BP-3.

NOTE 2: TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.

NOTE 3: REPAIR OF BROKEN APPROACH SLAB SEAT SHALL BE CONSTRUCTED BY THE CONTRACTOR AS PER DETAIL OR AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE ON THE BASIS OF "DIRECT COSTS" PLUS 15% FOR OVERHEAD AND PROFIT. "DIRECT COSTS" SHALL BE DEFINED UNDER SECTION G-9.02(5) OF THE GENERAL CONDITIONS.

NOTE: SEE SHEET NO. 3 FOR APPROACH SLAB TYPICAL SECTION.

APPROACH SLAB SEAT REPAIR DETAIL

Nº	REVISION	BY	DATE
2	ADDED IMPRESSED JOINT & CHANGED TYPE OF CEMENT	DFC	11-28-84
1	ADDED SEAT REPAIR DETAIL	DFC	10-26-84

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLABS

DATE: OCTOBER 1983 | SCALE: N.T.S. | SHEET 7 OF 84

NOTE: SEE SHEET NO. 7 FOR APPROACH SLAB DETAILS

Ref. No.	Station to Station	Side	202 Wearing Surf. & Bond. Pavement Removed	202 Pavement Removed Curb	202 Pavement Removed Curb and Gutter	202 Pavement Removed Inlet	202 Inlet Removed	202 Guardrail Removed	202 Salvage Items Anchor Pipe	202 Fence Removed 54" & Under	606 Fence Removed	603 Inlet Type A	603 Inlet Type C & D	603 Salvaging Frame & Grate	604 Conc. Inlet Tp. 5	606 Guardrail Type 5	606 Guardrail Type 15	606 Bridge Term. Assembly	607 Fence Type 47	660 Reinforced Sodding
			L.F.	L.F.	L.F.	EA.	EA.	L.F.	L.F.	L.F.	EA.	L.F.	EA.	L.F.	L.F.	L.F.	EA.	L.F.	S.Y.
1-R	65+75 TO 67+49.52	LT.	204	124															
2-R	65+70.88 TO 66+81.67	LT.			125											112.5	1		
3-R	66+88	LT.				1		66											
4-R	67+86	LT.				1													
5-R	68+44.49 TO 69+35.96	RT.			87.5											87.5	1		
6-R	69+27	RT.				1													
7-R	69+50 TO 69+85.23	RT.	91	124															
8-R	68+43.78 TO 69+48.24	RT.			187.5											200	1		
9-R	69+86	RT.					1	12											
10-R	66+88 TO 67+28	LT.								260									243
11-R	68+38 TO 69+72	L/R								142									142
12-R	70+02 TO 71+22	RT.								102									97
1-GR	66+94.67 TO 67+94.67	LT.										1			75			1		
1-D	69+99	RT.												7	1					
1-EC	67+44	LT.																		7
2-EC	68+49	RT.																		7
Totals			295	248	400	3	1	78	504		1	7	1	75	400	4	482		14

Ref. No.	Station to Station	Side	203 Excavation and Hauling Embankment	203 Embankment	203 Subgrade Compaction	203	653 3" Topsoil Furnished & Placed	659 Seeding & Mulching	SP451 Full Depth Pavt. Repairs	SP304 Aggregate Base	SP310 Subbase Breaking Concrete	404 Asphalt Concrete Base	SP404 Asphalt Concrete Pavement	SP407 Asphalt Concrete Tack Coat	SP408 Prime Coat	SP414 Bit. Material for Shoulder Surface Treat.	SP414 Aggregate for Shoulder Surface Treat.	SP479 Adjust Concrete Curb	SP611 30" Temporary Concrete Gutter Slab
			C.Y.	C.Y.	S.Y.		C.Y.	S.Y.	S.Y.	C.Y.		C.Y.	C.Y.	Gal.	Gal.	Gal.	S.Y.	L.F.	S.Y.
1-P	65+75 TO 67+01.49	LT.			385				139	28	24	53	10	34	123	123	246		
2-P	68+50 TO 69+38.27	RT.			348				145	22	25	42	7	24	99	99	198		
1-AS	67+01.49 TO 67+49.52	LT.			194						33								194
2-AS	69+38.27 TO 69+86.30	RT.			211						35								211
1-C	65+75 TO 66+64.99	LT.																90	
2-C	68+50 TO 69+01.78	RT.																52	
3-C	69+50 TO 69+99.10	RT.																150	
1-E	65+75 TO 70+47	L/R	165	63			18	569											
Totals			165	63	1133		18	569	284	50	117	95	17	58	222	222	444	292	405

Rev	Description	By	Date
1	REV. PAV'T REM'D QUANT	DFC	3-27-85

Note: Turf of a stable nature shall not be removed in order to place ITEM 660.

NOTE: SEE SHEET NO. 7 FOR APPROACH SLAB DETAILS.

REF. NO.	STATION TO STATION	SIDE	202 WEARING COURSE REMOVED (PAV'T DET'N)	202 PAV'T REMOVED (MEDIAN)	202 GUARDRAIL REMOVED FOR REUSE	202 CB, REMOVED (INCL. FRAME AND GRATE)	202 PIPE REMOVED 24" & UNDER	202 FENCE REMOVED	603 CONDUIT TYPE 1 707.16 or 707.26	SP603 CATCH BASIN (INCL. FRAME & GRATE)	SP606 GUARDRAIL REBUILT TYPE 5	606 TERMINAL ASSEMBLY TYPE A	607 FENCE TYPE 47	660 TURF ESTABLISHING
			S.Y.	S.Y.	L.F.	EA.	L.F.		L.F.	EA.	L.F.	EA.		S.Y.
1-R	71+96.62 TO 74+71.34	LT.	395	169										
2-R	71+92	LT.				1	13							
3-R	74+42	LT.				1	13							
4-R	71+34.60 TO 74+60.80	LT.			313.2						326.15	2		
5-R	72+17 TO 74+80	LT.			229.4						233.03	2		
6-R	72+11 TO 73+49	L/R						143					143	
7-R	74+92 TO 75+15	L/R						50					50	
8-R	74+60 TO 74+75	LT.						95					90	
9-R	71+07.	LT.						85					80	
1-EC	73+27	LT.												7
1-D	71+92	LT.							7	1				
2-D	74+42	LT.							7	1				
TOTALS			395	169	542.6	2	26	373	14	2	559.18	4	363	7

REF. NO.	STATION TO STATION	SIDE	203 EXCAVATION (NOT INCL. EMBANKMENT)	203 EMBANKMENT	203 SUBGRADE COMPACTION	653 TOPSOIL, FURNISHED & PLACED	659 SEEDING & MULCHING	659 Full Depth Pav't Repairs	SP304 AGGREGATE BASE	SP310 SUBBASE (BAND'N & ASPHALT)	402 ASPHALT CONCRETE AC-20	SP404 ASPHALT CONCRETE AC-20	SP407 TACK COAT	SP408 PRIME COAT	SP414 FOG PATTERN FOR MACHINE SURF. TREAT.	SP414 SAND FOR MACHINE SURF. TREAT.	SP609 ASPHALTIC CURB	SP611 10" REINF. CONC. APP.
			C.Y.	C.Y.	S.Y.	C.Y.	S.Y.	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	GAL.	GAL.	GAL.	S.Y.	L.F.	S.Y.
1-P	72+43.58 TO 74+54.98	LT.			591			171	47	29	90	16	57	210	210	420		
1-AS	71+95.55 TO 72+43.58	LT.			209					35								208
2-AS	74+54.98 TO 74+71.71	LT.			74					13								74
1-C	71+81.23 TO 74+45.22	LT.															258	
2-C	72+80 TO 73+25	LT.															45	
1-E	71+35 to 74+78	L/R	118	63		17	537											
TOTALS			118	63	873	17	537	171	47	77	90	16	57	210	210	420	303	282

Rev	Description	By	Date
1	REV. PAV'T REM'D QUANT	DFC	3-27-85

CONRAIL (WACCONER RD. STA. 71+00 TO 76+00)

PLAN - SKEW ANGLE < 20°
(Strip Seal Shown, Compression Seal Similar)
Scale: 1/4"=1'-0"

PLAN - SKEW ANGLE 20° TO 45°
(Strip Seal Shown, Compression Seal Similar)
Scale: 1/4"=1'-0"

PLAN - SKEW ANGLE > 45° (STRIP SEAL ONLY)
Scale: 1/4"=1'-0"

GENERAL NOTES

ELASTOMERIC COMPRESSION SEALS SHALL BE USED AT FIXED JOINTS ONLY, AND AT SKEWS LESS THAN 45°.

STUD ANCHORS SHALL BE LOW CARBON STEEL ASTM A-108.

ALL WELDING SHALL CONFORM WITH A.W.S. AND AASHTO SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.

ELASTOMERIC COMPRESSION SEAL SHALL BE WABO-ACME J-200, D.S. BROWN D.S. 200 OR APPROVED EQUAL.

CONTINUOUS STRIP SEAL SHALL BE AS MANUFACTURED BY WABO-ACME, D.S. BROWN, GENERAL TIRE OR APPROVED EQUAL, AND SHALL BE THE SIZE AS SPECIFIED

DETAILS AT DIAPHRAGMS SHOWN, DETAILS AT BEAMS OR GIRDERS SIMILAR.

TABLE A

STRIP SEAL SIZE	STRIP SEAL JOINT OPENING INSTALLATION CHART						
	TEMPERATURE °F						
	40	40	50	60	70	80	90
3"	2-1/4"	2-1/8"	2"	1-7/8"	1-3/4"	1-5/8"	1-1/2"
4"	2 5/8"	2 1/2"	2 1/2"	2 3/8"	2 1/4"	2 1/8"	2"
5"	2 7/8"	2 3/4"	2 3/4"	2 5/8"	2 5/8"	2 1/2"	2 3/8"

SECTION A-A (COMPRESSION SEAL)
Scale: 3"=1'-0"

SECTION A-A (STRIP SEAL)
Scale: 3"=1'-0"

SECTION B-B (STRIP SEAL)
Scale: 1 1/2"=1'-0"

SECTION B-B (COMPRESSION SEAL)
Scale: 1 1/2"=1'-0"

SECTION C-C
No Scale

SECTION D-D
Scale: 1 1/2"=1'-0"

SECTION E-E
No Scale

OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS

DATE: JANUARY 1985	SCALE: AS NOTED
FIP:	SHEET 35 OF 84

GENERAL PLAN N. BRIDGE

GENERAL PLAN S. BRIDGE

VERTICAL CURVE DATA

NORTH BRIDGE	SOUTH BRIDGE
P.V.I. Sta. 71+75.00	P.V.I. Sta. 72+50.00
Elev. = 651.32	Elev. = 649.50
V.C. = 1200'	V.C. = 800'
G_1 = +1.02 %	G_1 = +0.52 %
G_2 = -1.12 %	G_2 = -1.00 %

1/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1520 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 16

OVER CONRAIL R.R.

GENERAL PLAN

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.E.		9-8-87	

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	N. BRG.	S. BRG.
SP202	Lump	Sum	Portions of structure removed (See Note A)	L.S.	L.S.
503	Lump	Sum	Coffordams, cribs and sheeting	L.S.	L.S.
203	309	Cu. Yd.	Unclassified excavation	130	179
503	315	Cu. Yd.	Abutment backfill, as per 503.10	113	202
505	Lump	Sum	Pile driving equipment mobilization	L.S.	L.S.
507	950	Lin. Ft.	Steel piles HP10×42	440	510
507	100	Lin. Ft.	Steel piles HP12×53	50	50
509	21,078	Lbs.	Reinforcing steel, grade 60	10,148	10,930
510	115.5	Lin. Ft.	Dowel holes, using SP853 grout anchoring	56	59.5
SP511	206	Cu. Yd.	Class C concrete, abutments	98	108
SP511A	336	Cu. Yd.	Class S concrete, abutment slab & barriers using shrinkage compensation cement.	148	238
SP511A	4	Cu. Yd.	Class S concrete, abutment bearing pads, high early strength	2	2
SP511	74	Cu. Yd.	Class C concrete, piers	37	37
SP511A	1,034	Cu. Yd.	Class S concrete, superstructure deck & barriers using shrinkage compensating cement		
513	255,000	Lbs.	Structural steel A36 (AISC certification not required)	127,500	127,500
SP513	300	Ea.	Welded stud shear connectors	150	150
SP514	3990	Sq. Ft.	Surface Preparation Top Flange Exist. Beam	1995	1995
SP514	255,000	Lbs.	Field painting of new structural steel	127,500	127,500
SP514	Lump	Sum	Field painting of exist. structural steel	L.S.	L.S.
516	465.2	Lin. Ft.	STRUCTURAL STEEL EXPANSION JOINTS	232.6	232.6
518	16	Ea.	Scuppers, including supports	8	8
SP519	40	Sq. Ft.	Patching concrete structure (See Note C)	20	20
SP527	Lump	Sum	Falsework temporary bracing & protective structures	L.S.	L.S.
SP536	6,445	Sq. Yd.	concrete weatherproofing	3,012	3,433
601	1,750	Sq. Yd.	Crushed aggregate slope protection (See Note B)	875	875
SP624	326,788	Lbs.	Epoxy coated reinforcing steel, grade 60	141,604	185,184
Special	16	Ea.	Replacing exist. abutment bearing with rockers	8	8

NOTE "A" Removal of portions of structure shall include approximately 365 cu. yds. of concrete on the N. Bridge and 665 cu. yds. of concrete on the S. Bridge.

NOTE "B" Removal and/or all new existing aggregate slope protection along with additional material as required to provide at least a 1'-0" thickness of Item 601, crushed aggregate slope protection.

NOTE "C" Areas to be repaired shall be determined by the Engineer in the field. Estimated 10 sq. ft. at each abutment.

Change Order #1 - Revised pile lengths.

2/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

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STRUCTURE No. 16

OVER CONRAIL R.R.

ESTIMATED QUANTITIES

SANDUSKY COUNTY STA. 70+90.93

Rev.	Description	By	Date
1	ADDED ITEM 516	DFC	3-27-86

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.L.			

PLAN

SKETCH

Dowel (A601) location at North side of abutment extension. Dowels shall be set 6" deep in existing abutment.

ELEVATION

(Piles not shown)

SECTION 1-1 SECTION 2-2 SECTION 3-3

NOTES: (Typical for all four abutments.)

Removal of abutment slabs shall be performed in such a manner leaving reinforcing steel dowels and remaining concrete undamaged. Dowels must be carefully cleaned before any concrete of new abutment slabs shall be placed.

All piles are HP10×42 steel piles. The estimated average pay-length is 34 ft. per pile. The design load is 40 tons per pile.

BACKFILL shall be placed in accordance with Item 503 between the existing wingwalls and the new wingwalls, extending from the existing ground line to the bottom of the deck slab.

The contractor shall provide and place backfill between existing wingwalls as required to bring the fill to the level of the proposed slab prior to placing the new deck slab. Include with Item 503, Abutment Backfill, as per 503.10 for payment.

For detail of Section "A-A", See Sheet 4/18.

Lap No. 5 bars 1'-8" min.

3/18

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
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STRUCTURE No. 16
OVER CONRAIL R.R.
WEST ABUTMENT
NORTH BRIDGE
SANDUSKY COUNTY STA. 70+ 90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.C.			

PLAN - ABUTMENT N. SIDE EXTENSION

SECTION B-B

SECTION C-C

ELEVATION

SECTION D-D

SECTION A-A

SECTION E-E

SECTION F-F

SECTION 1-1

SECTION 2-2

For location of Section "A-A", See Sheet 3/19.

4/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

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STRUCTURE No. 16

OVER CONRAIL R.R.

WEST ABUTMENT

NORTH BRIDGE

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.E.		3-2-85	

5/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

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STRUCTURE No. 16

OVER CONRAIL R.R.

E. ABUTMENT N. BRIDGE

W. ABUTMENT S. BRIDGE

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	MFG	C.E.	[illegible]	5-5-85	

PLAN OF ABUTMENT EXTENSION

SECTION B-B

ELEVATION

SECTION A-A

SECTION C-C

SECTION D-D

SECTION E-E

6/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

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STRUCTURE No. 16

OVER CONRAIL R.R.

E. ABUTMENT N. BRIDGE

W. ABUTMENT S. BRIDGE

SANDUSKY COUNTY STA. 70+ 90.95

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		G.E.			

PLAN

SKETCH

Dowel (A601) location at South side of abutment extension. Dowels shall be set 6" deep in existing abutment.

ELEVATION

(Piles not shown)

SECTION A-A

(Existing bearing anchor bolts should be cut 2" below bridge seat elevation and cleaned before new bridge seat concrete could be placed.)

7/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

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STRUCTURE No. 16

OVER CONRAIL R.R.

EAST ABUTMENT

SOUTH BRIDGE

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		A.L.		2 8 85	

62
64
A
A
℄ Beam
℄ Bearing
1'-3" (typ.)
3-A505
1×2-A501 @ 1'-6" Along Front Face
3-A504
1'-6" (t)
6×2-A501 @ 1'-4"
6'-0"
℄ Beam
2-A501
9"
4'-0"
2'-8 5/8"
B
B
1 1/4"
1"
SECTION A-A
5 spaces @ 11'-3" = 56'-3" (pile spacing)
29'-10"
29'-10"
2'-1 5/8"
1'-6"
C
C
PLAN - ABUTMENT S. SIDE EXTENSION
6-A507
A506
℄ Bearings
Slope 3/4" between bridge seals
1'-4"
1'-5"
1'-3"
A504 & A505
A503
A501
6-A602 @ 12"
A502
A503
A502
A503
2"
2'-0"
2'-0"
4'-0"
SECTION B-B
42-(A520 & A521) @ 1'-6"
2-A527
2-A527
2-A525
2-A524
2-A514
2-A514
12×2-A510 @ 1'-5" (t)
1'-6"
6-A511 @ 1'-6" (t) Each Face
29×2-A509 @ 1'-6"
6-A511 @ 1'-6" (t) Each Face
5-A514 Front Face
A515 Front Face
2-A513
2-A512
A508 (typ.)
ELEVATION
40'-4"
2"
9"
2"
16'-6"
22'-0"
2"
9"
2"
A521
A526
A522 or A523
A517, A518, or A519 @ 12" (t)
℄ Existing Roadway
Profile Grade
A701, A702, or A703 @ 6"
3/16"/ft.
3/16"/ft.
A527
A521
A524 or A525
A520
A520
Save existing Re-bars
A603 or A604 @ 12" (t)
Save existing Re-bars
A601, A602, or A603 @ 6"
A511
A509
9"
1'-6"
9"
A508 (typ.)
1'-6"
TRANSVERSE SECTION
For details, See Sheet A 1/12 of Structure No. 16
2-A507
A516
4-A600 (dowels)
4-A509
1'-6"
1'-6"
1'-6"
12"
A508
1'-6"
1'-6"
3'-0"
SECTION C-C
8/16
OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1985 Crossborough Avenue • Columbus, Ohio 43212 • 614/488 0791
STRUCTURE No. 16
OVER CONRAIL R.R.
EAST ABUTMENT
SOUTH BRIDGE
SANDUSKY COUNTY
STA. 70+ 90.93
Designed V.K.
Drawn
Checked C.E.
Reviewed
Date 3.2.65
Revised

PLAN

PIER No. 1 NORTH BRIDGE

PLAN

PIER No. 1 SOUTH BRIDGE

ELEVATION

VIEW A-A

SECTION C-C

SECTION B-B

ELEVATION

VIEW A-A

NOTE:

Dimensions & elevations shown in ( ) have been obtained from plans of the existing structure.

9/16

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1922 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 16

OVER CONRAIL R.R.

PIER No. 1

SANDUSKY COUNTY STA. 70+ 90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	MKG	C.E.		3-8-85	

PLAN

PIER No. 2 NORTH BRIDGE

ELEVATION

VIEW A-A

SECTION D-D

SECTION C-C

SECTION B-B

NOTES:

Piles are HP 12x53 steel piles and the estimated average pay length is 24 feet.

PILES shall be driven to refusal on bedrock. Refusal shall be considered as attained by penetrating soft bedrock with a minimum resistance of 20 blows per inch, or refusal shall be considered as attained after the pile has contacted hard bedrock and the pile has then received at least 20 blows.
The design load is 45 tons per pile.

PLAN

PIER No. 2 SOUTH BRIDGE

ELEVATION

10/16

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STRUCTURE No. 16
OVER CONRAIL R.R.
PIER No. 2

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.H.		C.E.			

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE

PLAN

PIER No. 3 NORTH BRIDGE

PLAN

PIER No. 3 SOUTH BRIDGE

ELEVATION

VIEW A-A

SECTION C-C

SECTION B-B

ELEVATION

VIEW D-D

11/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

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STRUCTURE No. 16

OVER CONRAIL R.R.

PIER No. 3

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.E.		5-5-93	

ELEVATION HALF STRINGER

FRAMING PLAN N. BRIDGE

FRAMING PLAN S. BRIDGE

CAMBER DIAGRAM

NOTES:

In order to meet established roadway grades, to assure the construction of the required thickness of deck slabs, and to assure the proper location of the reinforcing steel in the deck slabs, the contractor shall obtain the elevations of the top of existing steel beams after the complete removal of existing deck slab at the locations shown in the table for the final pavement elevations, and compute the deck thickness over existing beams. If the computed deck thickness is found to be less than minimum thickness required, the top of final pavement elevations shall be adjusted as directed by the Engineer. The Contractor shall also compute the deck screed elevations, utilizing the dead load deflections. Payment for the above mentioned work shall be included with the lump sum price for Item SP 623. The quantity of deck concrete to be paid shall be based upon 9 1/4" thick concrete outside the haunch area and 10" thick concrete over existing and new beams at the haunches.

Where a shape or plate is labeled "CVN" the material shall meet minimum notch toughness requirements in accordance with 711.01.

For details of Section "A-A", See Sheet 13/18.

For Scupper details & notes, See Sheet 8/18 Structure No. 15.

N. BRIDGE
TOP OF PAVEMENT ELEVATIONS (FINISHED)

BEAM	SPAN No. 1			SPAN No. 2		SPAN No. 3		SPAN No. 4	
	ABUT. BRNG.	℄ SPAN	PIER #1	℄ SPAN	PIER #2	℄ SPAN	PIER #3	℄ SPAN	ABUT. BRNG.
"A"	646.22	646.53	646.80	647.06	647.28	647.46	647.60	647.70	647.76
"B"	646.45	646.74	647.00	647.25	647.45	647.62	647.74	647.82	647.87
"C"	646.80	647.07	647.26	647.33	647.71	647.85	647.95	648.01	648.04
"D"	646.99	647.24	647.45	647.65	647.80	647.92	648.00	648.03	648.04
"E"	647.01	647.24	647.43	647.60	647.73	647.82	647.87	647.89	647.87

S. BRIDGE
TOP OF PAVEMENT ELEVATIONS (FINISHED)

BEAM	SPAN No. 1			SPAN No. 2		SPAN No. 3		SPAN No. 4	
	ABUT. BRNG.	℄ SPAN	PIER #1	℄ SPAN	PIER #2	℄ SPAN	PIER #3	℄ SPAN	ABUT. BRNG.
"A"	647.80	647.81	647.78	647.71	647.59	647.44	647.24	647.02	646.77
"B"	647.88	647.90	647.89	647.83	647.74	647.60	647.42	647.21	646.97
"C"	648.00	648.04	648.05	648.02	647.95	647.84	647.69	647.51	647.29
"D"	647.95	648.02	648.05	648.05	648.00	647.92	647.79	647.63	647.44
"E"	647.73	647.82	647.88	647.90	647.88	647.82	647.72	647.59	647.42

DEAD LOAD DEFLECTIONS

BEAMS	℄ SPANS #1 or #4	℄ SPANS #2 or #3
"A" thru "E"	3/4"	1/2"

DEFLECTION AND CAMBER

	"A"	"B"
Deflection due to weight of steel.	0.28"	0.14"
Deflection due to remaining dead load.	0.75"	0.61"
Adjustment required for vertical curve.	0.20"	0.24"
Required shop camber	1.23"	0.99"

12/18

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
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STRUCTURE No. 16
OVER CONRAIL R.R.
SUPERSTRUCTURE DETAILS
SANDUSKY COUNTY STA. 70+90.93

Designed	Dwn.	Checked	Reviewed	Date	Revised
V.K.		C.E.			

SPLICE DETAILS

(1"ϕ dia. High Strength Bolts)

SECTION A-A

(For location, See Sheet 12/18.)

STRINGER END DETAILS

(Typical for all stringers, new & existing)

STRUCTURAL STEEL ROCKER

(See Table below for dimensions)

ELEVATION OF FIXED BEARING AT PIER No. 2

BEARING PIN DETAIL

Pins shall be made from stock meeting the requirements of 711.04 of the construction and material specifications of The Ohio Department of Transportation and shall be painted in accordance with Item SP 514.

DOWEL DETAIL

TOP BEARING DETAIL

All existing bearings at abutments shall be replaced by rockers, 20 required.

ROCKER LOCATION	DIMENSIONS (Inches)												
	A	B	C	D	F	G	H	K	L	M	R	T	Y
AT ABUTMENTS	2 1/2	10	2 1/2	2	1/2	7 1/2	9 5/8	13	18	16	5 1/2	1 1/2	1 3/16
AT PIERS #1 & #3	3 1/2	18	3 1/2	2 3/4	3/4	10	22 3/4	13	26	23	16 5/8	2 1/2	1 11/16

13/18

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED
1583 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 16
OVER CONRAIL R.R.
SUPERSTRUCTURE DETAILS

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.E.			

STRUCTURAL STEEL EXPANSION JOINT

(Typical at West Abutment, N. Bridge & East Abutment, S. Bridge)

STRUCTURAL STEEL EXPANSION JOINT

(Typical at East Abutment, N. Bridge & West Abutment, S. Bridge)

SECTION A-A

* Instead of field-welding L clips to W27x102 could use 7/8" ø H.S. bolts.

DETAIL "A"

SECTION B-B

DETAIL "B"

SECTION C-C

DETAIL "C"

SECTION D-D

STRUCTURAL STEEL EXPANSION JOINTS, above end diaphragm (27 WF 102), shall be removed and replaced with new ones in accordance with details shown. Materials: A588 or A36 steel unless otherwise indicated and shall be painted according to SP514.

MEASUREMENT for pay purposes shall be based on the length of joints measured horizontally along the face of abutment backwalls. Payment per linear foot of Item 516 "Structural Steel Expansion Joints" includes all labor, materials, and equipment necessary to complete the joints in place.

Dimensions in ( ) are obtained from plans of existing structure.

14/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

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STRUCTURE No. 16

OVER CONRAIL R.R.

SUPERSTRUCTURE DETAILS

SANDUSKY COUNTY STA. 70+ 90.93

Designed	Drawn	Checked	Reviewed	Date	Reviewed
V.K.		C.E.			

TRANSVERSE SECTION

NOTES:

A typical haunch width of 9" shall be used for computing quantity of concrete. However the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.

The deflection joints in the barrier curb may be either ¼" gray sponge rubber or ¼" gray cellular polyvinyl chloride (PVC) sponge. Either material shall meet the requirements of AASHTO M-153, Type I, except the density of the PVC sponge shall not be less than 20 lbs. per cu. ft.

Include with Item SP511A, Class S Concrete, superstructure, for payment.

All reinforcing steel shown shall be epoxy coated.

SECTION C-C

DEFLECTION JOINT

DECK PLAN - NORTH BRIDGE

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITE
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STRUCTURE No. 16
OVER CONRAIL R.R.
DECK DETAILS
NORTH BRIDGE
SANDUSKY COUNTY STA. 70+ 90.

Designed	Drawn	Checked	Reviewed	Date	Revisions
V.K.	C.G.				

TRANSVERSE SECTION

DECK PLAN - SOUTH BRIDGE

16/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

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STRUCTURE No. 16

OVER CONRAIL R.R.

DECK DETAILS

SOUTH BRIDGE

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.H.		C.G.		3.8.85	

REINFORCING STEEL LIST

71/84

BENDING DIAGRAMS

Dimensions shown are out to out.

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
			WEST ABUTMENT						
A501	26	12-0	325	2	3-8	4-3½	4-3½		
A502	5	20-0	104	4	18-6	1-6	0-5		
A503	5	14-6	76	4	12-6	2-0	1-9		
A504	10	15-0	156	5					
A505	26	9-0	244	2	2-8	3-3½	3-3½		
A506	18	12-0	225	5					
A508	8	11-3	94	7	2-8	2-8			
A509	6	4-8	28	5					
A510	38	7-5 to 13-5	413	2	1-2	3-3 to 6-3	3-3 to 6-3		Vary "B & C" by 2"
A511	4	9-6	40	5					
A512	9	4-0	38	5					
A513	14	20-0	292	5					
A514	1	6-0	6	5					
A515	2	15-0	31	5					
A516	4	10-0 to 14-0	50	5					2 sets of 2, vary by 4'-0"
A517	4	21-0	88	5					
			2,210 Lbs.						
A507	15	3-6	55	1	1-6	2-1½			
A518	82	10-8	912	5					
A519	36	3-0 to 12-0	438	5					2 sets of 28, vary by 4"
A520	100	30-0	3,129	5					
A521	25	16-0	391	5					
A522	8	20-6	171	5					
A523	8	20-0	167	5					
A524	8	19-6	163	5					
A525	8	19-0	159	5					
A526	8	18-5	154	5					
A527	8	18-1	151	5					
A528	42	5-0	219	5					
A529	42	5-3	220	9					
A530	10	2-0	21	1	0-7½	1-6			
A531	16	2-2	36	5					
A532	16	3-6	58	5					
A533	12	15-0	188	5					
A534	40	2-0	83	5					
A601	12	2-6	45	4	1-10	0-8	0-7½		Dowels
A602	12	13-1	236	2	0-11	6-3	6-3		
A603	181	10-8	2,900	5					
A604	47	3-0 to 18-8	482	5					Vary by 2"
A605	23	10-8 to 3-4	242	5					Vary by 4"
A606	2	3-0	9	10					
A607	2	2-11	9	10					
A608	2	2-10	9	10					
A609	2	2-9	9	10					
A610	2	2-8	8	10					
A611	16	2-8	64	6	2-0				
A612	6	4-0	36	2	0-8	1-10	1-10		
			10,773 Lbs. epoxy coated						
			EAST ABUTMENT						
A501	24	12-9	319	2	3-8	4-8	4-8		
A502	34	11-0	390	5					
A504	26	7-6	203	2	2-8	2-6½	2-6½		
A505	9	20-0	188	5					
A507	8	11-3	94	7	2-8	2-8			
A508	8	4-8	22	5					
A509	5	12-4	64	5					
A510	3	11-1	35	5					
A511	9	5-0	47	5					
A512	12	30-0	375	5					
A513	2	14-0	29	4	10-0	4-0	1-0		
A514	2	10-0	21	4	6-0	4-0	1-0		
A515	2	18-0 to 24-0	44	5					2 sets of 2, vary by 6'-0"
A516	2	9-0	19	5					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
A517	6	18-0	113	5					
A518	44	7-11 to 14-11	524	2	1-2	3-6 to 7-0	3-6 to 7-0		2 sets of 22, vary "B & C" by 4"
			2,467 Lbs						
A603	6	16-6	103	5					
A606	13	3-6	47	1	1-6	2-1½			
A614	69	12-9	918	5					
A520	37	15-0 to 3-0	347	5					Vary by 4"
A621	41	16-2 to 2-10	406	5					Vary by 4"
A522	32	30-0	1,627	5					
A523	13	15-0	203	5					
A524	36	5-0	302	8					
A525	36	5-3	318	9					
A526	16	23-0	384	5					
A527	16	27-0	451	5					
A528	8	21-9	181	5					
A529	8	25-11	216	5					
A530	10	2-0	21	1	0-7½	1-6			
A531	16	2-2	36	5					
A532	24	3-6	88	5					
A533	40	2-0	83	5					
A600	12	2-8	45	5					Dowels
A601	13	13-7	306	2	0-11	6-6	6-6		
A602	64	30-0	2,884	5					
A603	16	16-0	385	5					
A604	16	2-8	64	6	2-0				
A605	6	4-0	36	2	0-8	1-10	1-10		
A606	2	3-0	9	10					
A607	2	2-11	9	10					
A608	2	2-10	9	10					
A609	2	2-9	9	10					
A610	2	2-8	8	10					
A701	175	12-9	4,361	5					
A702	30	13-0 to 3-0	491	5					Vary by 4"
A703	27	12-3 to 4-0	460	5					Vary by 4"
			15,006 Lbs. epoxy coated						
			PIER NO. 1						
P601	8	6-0	72	2	3-2	1-7	1-7		
P901	3	3-6	107	5					
P902	8	11-3	230	5					
P903	5	6-0	102	5					
P904	14	12-2	579	5					
Spiral			288						
			1,358 Lbs.						
			PIER NO. 2						
P621	6	18-4	83	5					
P622	11	14-0	161	7	3-3	3-2			
P621	5	3-9	20	5					
P622	7	5-0	35	2	2-6	1-5	1-5		
P623	12	6-4	150	2	3-2	2-9	2-9		
P821	4	5-8	93	5	6-6				
P822	12	6-6	208	1	1-6	5-2½			
P823	12	13-4	427	5					
P824	8	23-4	498	5					
P421	12	6-3	255	6	5-0				
P822	12	11-5	466	5					
Spiral			224						
			2,676 Lbs.						
			PIER NO. 3						
P631	8	6-0	72	2	3-2	1-7	1-7		

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
P831	9	8-6	107	5					
P932	8	11-3	230	5					
P933	5	6-0	102	5					
P934	14	13-0	619	5					
Spiral			287						
			1,417 Lbs.						
			SUPERSTRUCTURE						
S401	720	30-0	14,409	5					
S402	60	22-0	882	5					
S403	318	20-0	4,243	5					
S501	576	30-0	10,023	5					
S502	48	27-0	1,352	5					
S503	470	40-0	18,606	5					
S504	204	2-0 to 38-0	4,255	5					Vary by 2 1/8" (±)
S505	193	38-0 to 4-6	4,322	5					Vary by 2 1/8" (±)
S506	486	5-0	2,534	8					
S507	486	5-3	2,661	9					
S508	72	12-0	901	5					
S509	143	7-2	1,106	5					
S510	72	12-2	914	5					
S601	470	40-0	25,238	5					
S602	204	2-0 to 30-0	6,128	5					Vary by 2 1/8" (±)
S603	193	38-0 to 4-6	6,224	5					Vary by 2 1/8" (±)
			115,825 Lbs. epoxy coated						

—Refer to C.M.S. Sections 106.03, 700, 709.01 through 709.05 and 709.06. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.06.

MARK	NO.	LENGTH (HEIGHT)	WEIGHT	SHAPE
SP401	1	12-0	288	Bt.
SP421	1	11-4	254	Bt.
SP431	1	12-11	287	Bt.

Spirals - core diam. 38" o/c
- pitch 4 1/2" o/c
other details in accordance with C.R.S.I Standard practice.

17/18

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1900 E Dublin-Granville Rd., at I-71, Columbus OH 43229 (614) 888-6037

STRUCTURE No. 16
OVER CONRAIL R.R.
REINF. STEEL LIST
NORTH BRIDGE
SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K	D.H.			64-2	

REINFORCING STEEL LIST

72/84

BENDING DIAGRAMS

Dimensions shown are out to out.

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
			WEST ABUTMENT						
A501	24	12 - 9	319	2	3-8	4-8	4-8		
A502	34	11 - 0	390	5					
A504	26	7 - 6	203	2	2-8	2-6½	2-6½		
A505	9	20 - 0	188	5					
A507	8	11 - 3	94	7	2-8	2-8			
A508	5	4 - 3	22	5					
A509	5	12 - 4	64	5					
A510	3	11 - 1	35	5					
A511	9	5 - 0	47	5					
A512	12	30 - 0	375	5					
A513	2	14 - 0	29	4	10-0	4-0	1-0		
A514	2	10 - 0	21	4	6-0	4-0	1-0		
A515	2	10-0 to 24-0	44	5					2 sets of 2, vary by 6'-0"
A516	2	9 - 0	19	5					
A517	6	18 - 0	113	5					
A518	44	7-11 to 14-11	524	2	1-2	3-6 to 7-0	3-6 to 7-0		2 sets of 22, vary "B & C" by 4"
			2,487 Lbs.						
A503	6	16 - 6	103	6					
A506	13	3 - 6	47	1	1-6	2-1½			
A514	69	12 - 9	918	5					
A520	37	13-0 to 3-0	347	5					Vary by 4"
A521	41	12-6 to 2-10	406	5					Vary by 4"
A522	52	30 - 0	1,627	5					
A523	13	15 - 0	203	3					
A524	58	5 - 0	302	8					
A525	58	5 - 5	318	9					
A526	16	23 - 0	384	5					
A527	16	27 - 0	451	5					
A528	8	21 - 9	181	5					
A529	8	25 - 11	218	5					
A530	10	2 - 0	21	1	0-7½	1-6			
A531	16	2 - 2	36	5					
A532	24	3 - 6	88	5					
A533	40	2 - 0	83	5					
A600	16	2 - 6	60	5					
A601	18	13 - 7	306	2	0-11	6-6	6-6		Dowels
A602	64	30 - 0	2,884	5					
A603	18	16 - 0	345	3					
A604	16	2 - 8	64	6	2-0				
A605	6	4 - 0	36	2	0-8	1-10	1-10		
A606	2	3 - 0	9	10					
A607	2	2 - 11	9	10					
A608	2	2 - 10	9	10					
A609	2	2 - 9	8	10					
A610	2	2 - 8	8	10					
A701	175	12 - 9	4,561	5					
A702	80	18-0 to 5-0	491	5					Vary by 4"
A703	27	12-8 to 4-0	460	5					Vary by 4"
			18,021 Lbs. epoxy coated						
			EAST ABUTMENT						
A501	32	12 - 0	401	2	3-8	4-3½	4-3½		
A502	5	18 - 0	94	5					
A503	7	12 - 0	88	5					
A504	8	15 - 0	47	5					
A505	3	13-0 to 18-0	44	5					Vary by 1'-0"
A508	14	11 - 3	164	7	2-8	2-8			
A509	66	11 - 3	774	2	1-2	5-2	5-2		
A510	24	11-5 to 14-2	320	2	1-2	5-3 to 6-7½	5-3 to 6-7½		2 sets of 12, vary "B & C" by 1½"
A511	24	30 - 6	763	5					
A512	2	19 - 0	40	5					Bend in field
A513	2	8 - 0	17	5					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
A514	17	4 - 6	80	5					
A515	2	6 - 0	13	5					
A516	12	6 - 6	81	5					Bend in field
			2,996 Lbs.						
A506	6	11 - 9	74	5					
A507	20	23 - 0	480	5					
A517	131	30 - 0	4,099	5					
A518	27	27-0 to 7-0	479	5					3 sets of 9, vary by 2'-6"
A519	8	12 - 0	100	5					
A520	146	5 - 0	756	6					
A521	145	5 - 3	794	9					
A522	20	30 - 0	626	9					
A523	4	12 - 0	50	5					
A524	4	30 - 0	125	5					
A525	4	31 - 4	131	5					
A526	20	30 - 3	631	5					
A527	8	29 - 6	246	5					
A528	40	2 - 0	83	5					
A601	15	2 - 6	56	4	1-10	0-8	0-7½		Dowels
A602	8	12 - 7	151	2	0-11	6-0	6-0		
A603	127	30 - 0	5,723	5					
A604	27	27-0 to 7-0	889	5					3 sets of 9, vary by 2'-6"
A701	61	40 - 0	6,623	5					
A702	36	38-0 to 3-0	1,508	5					Vary by 1'-0"
A703	205	38-0 to 4-0	8,799	5					Vary by 2"
A601	61	40 - 0	8,651	5					
A602	36	38-0 to 3-0	1,970	5					Vary by 1'-0"
A603	205	38-0 to 4-0	11,494	5					Vary by 2"
			54,338 Lbs. epoxy coated						
			PIER NO 1						
P601	8	6 - 0	72	2	3-2	1-7	1-7		
P901	9	3 - 6	107	5					
P902	6	11 - 3	230	5					
P903	5	6 - 0	102	5					
P904	14	13 - 2	627	5					
Spiral			201						
			1,429 Lbs.						
			PIER NO. 2						
P521	6	13 - 4	83	5					
P522	11	14 - 0	161	7	3-8	3-2			
P621	5	5 - 9	28	6					
P622	7	5 - 0	33	2	2-6	1-5	1-5		
P623	12	8 - 4	120	2	3-2	2-9	2-9		
P821	4	8 - 8	93	5	8-6				
P822	12	6 - 6	208	1	1-6	5-2½			
P823	12	19 - 4	427	5					
P824	8	23 - 4	496	5					
P921	12	8 - 3	255	6	5-0				
P922	12	11 - 9	479	5					
Spiral			261						
			2,696 Lbs						
			PIER NO. 3						
P831	8	6 - 0	72	2	3-2	1-7	1-7		
P931	9	3 - 6	107	5					
P932	6	11 - 3	230	5					
P933	5	6 - 0	102	5					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
P884	14	12 - 8	603	5					
Spiral			279						
			4,392 Lbs.						
			SUPERSTRUCTURE						
S401	720	30 - 0	14,429	5					
S402	60	22 - 0	882	5					
S403	316	20 - 0	4,246	5					
S501	576	30 - 0	18,023	5					
S502	48	27 - 0	1,352	5					
S503	470	40 - 0	19,608	5					
S504	204	2-0 to 38-0	4,255	5					Vary by 2 1/8" (±)
S505	195	38-0 to 4-6	4,322	5					Vary by 2 1/8" (±)
S506	486	5 - 0	2,534	6					
S507	486	5 - 3	2,681	9					
S508	72	12 - 0	901	5					
S509	148	7 - 2	1,106	5					
S510	72	12 - 2	914	5					
S601	470	40 - 0	20,238	5					
S602	204	2-0 to 38-0	6,128	5					Vary by 2 1/8" (±)
S603	195	38-0 to 4-6	6,224	5					Vary by 2 1/8" (±)
			115,825 Lbs. epoxy coated						

MARK	NO.	LENGTH (HEIGHT)	WEIGHT	SHAPE
SP401	1	13 - 1	291	Bt.
SP421	1	11 - 8	261	Bt.
SP431	1	12 - 6	279	Bt.

Spirals - core diam. 38" ϕ
- pitch 4½" ϕ
other details in accordance with C.R.S.I Standard practice.

18/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1922 Chesapeake Avenue · Columbus, Ohio 43212 · (614) 488-0781

STRUCTURE No. 16

OVER CONRAIL R.R.

REINF. STEEL LIST

SOUTH BRIDGE

SANDUSKY COUNTY STA. 70+ 90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	D.H.	M.F.	[illegible]	8-8-81	