1957 Original Construction Plans

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	F-585 (11)

SANDUSKY COUNTY
SAN-20-17.62

FOUNDATION INFORMATION: Foundation design & foundatio quantities are based on a stud of borings made at the site This information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division Office at Toledo, but the State assumes no responsibility for the accuracy thereof.

Porous drains on embankment slopes
3" Gas Line
Existing SR #53
℄ Relocated Existing SR #53
℄ N.Y.C. & St. L. R.R.
Sta. 9+00 El. 605.91 T/R
SANDUSKY RIVER
End Approach Slab Sta. 939+21.25
8" VCP
8" CMP
Critical clearance point
Profile Grade Line
Gas Valve
1 Story Frame Residence
4'0" Bench
15:1
2:1
24'-0"
10'-0"
15'-0"
32'9"
4'0"
30'-0"
70'-6"
3'3"
S 79°17'-44"E
℄ Proposed Construction
U.S. 20 Bypass
36"
15"
Sta. 940+67.70 = Sta. 10+00 El. 604.81 T/R
Dumped Rock
Sta. 11+00 El. 604.06 T/R
Sta. 939+21.25
Bridge Limits 806'-10½"

B.M. #23 - R.R. Spike in 18" elm 225' Rt. Sta. 938+15, El. 618.19
B.M. #24 - R.R. Spike in 18" elm 200' Lt. on E. river bank, El. 578.54

Sta. 939+23.50
Sta. 939+73.50
Sta. 940+02.00
Sta. 940+36.00
Sta. 940+86.00
Sta. 941+96.00
Sta. 943+36.00
+2.5%
-3.0%
El. 622.83
Bench El. 625.83
2:1 Normal
El. 603.7
Pier 1
Pier 2
Pier 3
Pier 4
Pier 5
El. 597.0
El. 532.6
14'-7⅝" Vert. cl.
23'-0⅞" Vert. cl.
P.I. Sta. 941+00.00
El. 641.50
1400' V.C.
Proposed Profile
Clearance Line El. 610.5
65' Required Hor. Clearance
High Water 593.0 (1913 Flood)
Average High Water 587.0
Low Water 570.5
Existing Profile along ℄ Proposed Construction

Piles are to be 12BP53 Steel H
Piling driven to a firm contact with rock. Estimated
Average Pay Length of Piles:
West Abutment - 73'
Pier 1 - 55'
Pier 2 - 46'
Pier 3 - 48'

Sheets 139A Form 1161A replace Sheets 140 thru 174A 6-10-58

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLS

SITE PLAN

BRIDGE NO. SA-20-180
OVER SANDUSKY RIVER, S.R.53, AND N.Y.C. & ST.L.

SANDUSKY CO. U.S. 20
SEC. SAN-20-17.62
SCALE 1" = 20' STA. 939+21.25 TO 94

PRESENT TOPOGRAPHY			PROPOSED WORK			
SURVEYED	DRAWN	TRACED	DESIGNED	DRAWN	CHECKED	REV
CT&A		-	CT&A	JH JDW	CWW	HS

#5055 C

DIVISION 2

SANDUSKY COUNTY
SAN-20-17.62

(49)

Existing SR #53

℄ Relocated Existing SR #53

℄ N.Y.C. & St. L. RR

SANDUSKY RIVER

Porous drains on embankment slopes

3" Gas Line

End Approach Slab
Sta. 939+21.25

Profile Grade Line

Gas Valve

1 Story Frame Residence

8" CMP

5" VC

4'-0" Bench

15'-0"

24'-0"

10'-0"

2:1

12'-0" 12'-0"

Sta. 940+67.70

S 79°17'-44" E

℄ Proposed Construction

U.S. 20 Bypass

3'-3"
30'-0"
4'-0"
70'-6"
30'-0"
3'-3"

FOUNDATION INFORMATION:
Foundation design & foundation quantities are based on a study of borings made at the site. This information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division Office at Toledo but the State assumes no responsibility for the accuracy thereof.

B.M. #23 - R.R. Spike in 18" elm
225' Rt. Sta. 938+15, El. 618.19
B.M. #24 - R.R. Spike in 13" elm
200' Lt. on E. river bank. El. 578.54

Bridge Limits 806'-10½"

Sta. 939+21.25

Sta. 939+23.50

Sta. 939+73.50

Sta. 940+03.00

Sta. 940+36.00

Sta. 940+86.00

Sta. 941+96.00

Sta. 943+36.00

+2.5%

-3.0%

El. 622.77

Bench El. 625.77

2:1 Normal

Pier 1

El. 603.7

5'-0" min. cl.

22'-10⅜" min. cl.

Pier 2

El. 597.0

Pier 3

P.I. Sta. 941+00.00
El. 641.50
1400' V.C.

Proposed Profile

Existing Profile along ℄ Proposed Construction

Clearance Line El. 610.5

65' Required Hor. Clearance

High Water 593.0 (1913 Flood)

Average High Water 587.0

Low Water 570.5

Pier 4

El. 532.6

Pier 5

El. 536.6

Piles are to be 12" BP 53

Estimated Average Pay Length of Piles:
West Abutment - 73'
Pier 1 - 55'
Pier 2 - 46
Pier 3 - 48

Sheets 149 thru 172 superseded by Sheets 149A thru 172A.

CONSOER, TOWNSEND & ASSOC.
CONSULTING ENGINEERS

SITE PLAN

BRIDGE NO. SA - 20 - OVER SANDUSKY RIVER, S.R. 53, and N.Y.C. & St. L. RR.
SANDUSKY CO. U.S. 20
SEC. SAN-20-17.62
SCALE 1" = 20' STA. 9+

PRESENT TOPOGRAPHY

SURVEYED	DRAWN	TRACED	DESIGNED
CT&A	IH GDW	-	C.T.S.

DIVISION 2 | 0410 | F-[illegible]

SANDUSKY COUNTY
SAN-20-17.62

560 565 570 575 580 580

N

Porous drains on embankment slopes

2:1

Approach Slab

25'-0"

24'-0"

℄ Proposed Construction

948

947

U.S 20 Bypass

10'-0"

Profile Grade Line

24'-0"

4:0" Bench

Guard Rail

Begin Approach Slab
Sta. 947+28.13

30'-0"

4'-0"

30'-0"

943 944 945 S 79°17'44" E 946

578

2:1

Sta. 947+28.13

Bridge Limits 806'-10½"

Preliminary Design Date

PROPOSED STRUCTURE

TYPE: Continuous Steel Beam - 3 Spans
Continuous Plate Girder - 5 Spans
with reinforced concrete deck
and substructure.
SPAN: 50'-62.5-50'-110'-140'-140'-140'-110'
℄ Bearings
ROADWAY: 64' f.f. curbs, 4' med., 2' safety ℄
LOAD FREQ. RATING: CF-2000-51
SKEW: 0°
ALIGNMENT: Tangent
WEARING SURFACE: 1" Monolithic ℄
APPROACH SLABS: Flared, Length

Sheets 149 thru 172 superseded by
Sheets 149A thru 172A. 2-10-56
Rev. 5-3
Rev. 3-3

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINO

SITE PLAN

BRIDGE NO SA 20 180
OVER SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & St.L. R.R.
U.S. 20
SANDUSKY CO
SAN-20-17.62
SCALE 1"=20'
STA. 939+21.25 To 947+28.13

PRESENT TOPOGRAPHY			PROPOSED WORK			
SURVEYED	DRAWN	TRACED	DESIGNED	DRAWN	CHECKED	REV
CT&A	IH GDW	-	CT&A	IH GDW	CWW	

560 565 570 575 580 580

Sta. 943+36.00 Sta. 944+76.00 Sta. 946+16.00 Sta. 947+26.00

Proposed Profile

-3.0%

40 30 620 610 600 590 580 570 560 550

Clearance Line El. 610.5

High Water El. 593.0 (1913 Flood)

℄ Av. H.W. El. 587.0

℄ Low Water El. 570.5

Existing Profile along ℄ Proposed Construction

Bench El. 611.63

El. 606.13

2:1 Normal

Pier 5

El. 536.6

Pier 6

El. 574.4

Pier 7

El. 575.9

Piles are to be 12BP53 Steel-H
Piling driven to a firm contact
with rock. Estimated Average
Pay Length:
Pier 7 - 25'
Pier 6 - 25'
East Abutment 66

943 944 945 946 947

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

SANDUSKY COUNTY
SAN-20-17.62

Note: Ditch on south side similar

Porous drains on embankment slopes

Approach Slab

25'-0"

24'-0"

℄ Proposed Construction
U.S. 20 Bypass

10'-0"

Profile Grade Line

24'-0"

4:0" Bench

Guard Rail

Begin Approoch Slab
Sta. 947+28.13

2:1

Sta. 947+28.13

30'-0"

4'-0"

30'-0"

943 944 945 946 947 948

S 79°17'44" E

578

Bridge Limits 806'-10½"

PROPOSED STRUCTURE

TYPE: Continuous Steel Beam - 3 Spans
Continuous Plate Girder - 5 Spans
with reinforced concrete deck
and substructure.
SPAN: 50'-62.5-50'-110'-140'-140'-140'-110'
℄ Bearings
ROADWAY: 64' f.f. curbs, 4' med., 2' safety curb
LOAD FREQ. RATING: CF-2000-51
SKEW: 0°
ALIGNMENT: Tangent
WEARING SURFACE: 1" Monolithic Concrete
APPROACH SLABS: Flared, Length Shown

Sheets 149A thru 172A replace
Sheets 149 thru 172

Sta. 943+36.00 Sta. 944+76.00 Sta. 946+16.00 Sta. 947+26.00

Proposed Profile

-3.0%

Clearance Line El. 610.5

High Water El. 593.0 (1913 Flood)

℄ Av. H.W. El. 587.0

℄ Low Water El. 570.5

Existing Profile along ℄ Proposed Construction

Bench El. 611.55

El. 606.04

2:1 Normal

Pier 5

El. 536.6

Pier 6

El. 574.4

Pier 7

El. 575.9

Piles are to be 12BP53 Steel-H Piling driven to a firm contact with rock. Estimated Average Pay Length:
Pier 7 - 25'
Pier 6 - 25'
East Abutment - 62'

640 630 620 610 600 590 580 570 560 550 540 530

943 944 945 946 947

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, IL

SITE PLAN

BRIDGE NO. SA-20-180
OVER SANDUSKY RIVER, S.R. 53, AND N.Y.C. & ST.L.

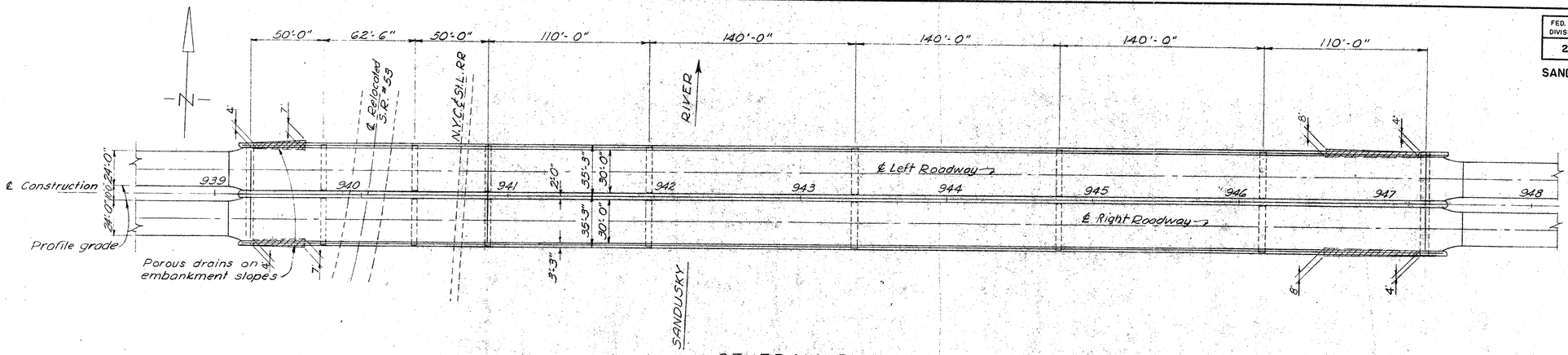
SANDUSKY CO. U.S. 20
SAN-20-17.62
SCALE 1"=20' STA. 939+21.25 To 947+28.1

PRESENT TOPOGRAPHY			PROPOSED WORK			
SURVEYED	DRAWN	TRACED	DESIGNED	DRAWN	CHECKED	REVIE
CT&A	TH GDW	-	CT&A	TK GDW	CWW	HS

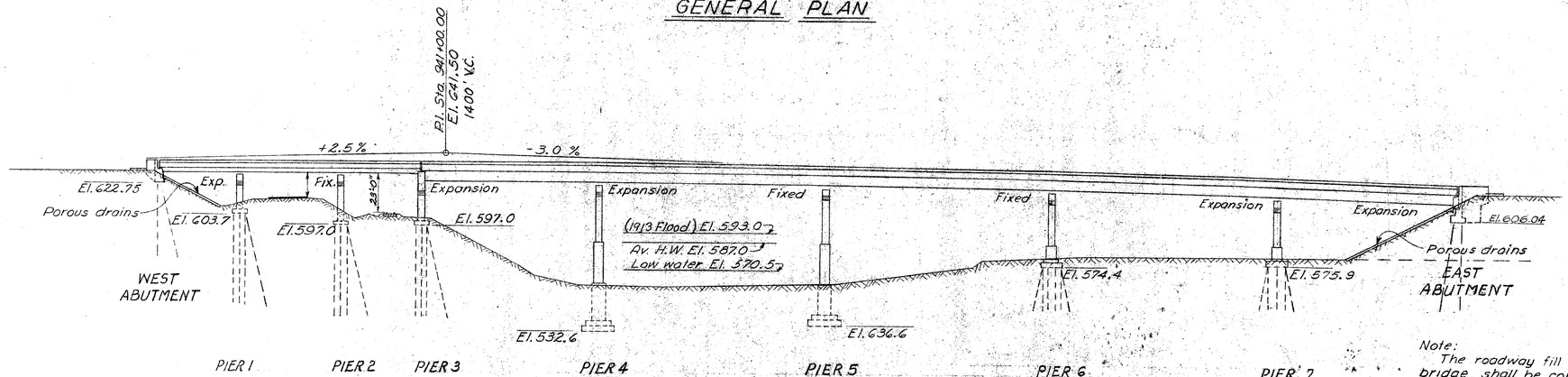
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	F-585(11)

SANDUSKY COUNTY

(151)



GENERAL PLAN



GENERAL ELEVATION

Note:
The roadway fill at the east end of the bridge shall be completed to rough grade before beginning construction of Pier 6 and Construction of the East Abutment shall not begin until the roadway fill has been in place for at least two months.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super	W. Abut.	E. Abut.	PIERS 1	2	3	4	5	6	7	Gen'l
E-2	3251	Cu.yds.	Unclassified excavation											
E-2	391	Cu.yds.	Rock excavation											
E-2	Lump Sum		Cofferdams, cribs and sheeting											
S-1	1,802	Cu.yds.	Class "C" concrete, superstructure, including abutment parapets	1,802										
S-1	440	Cu.yds.	Class "C" concrete, pier caps on all piers											
S-1	211	Cu.yds.	Class "E" concrete, abutments		91	120								
S-1	740	Cu.yds.	Class "E" concrete, pier footings											
S-1	192	Cu.yds.	Class "E" concrete, abutment footings			192								
S-4	703,472	Lbs.	Reinforcing steel	479,512	15,208	208,870	188							
S-7	2,534,182	Lbs.	Structural steel	2,534,182										
S-8	2,534,182	Lbs.	Field painting of structural steel											
S-14	1,608	Lin.ft.	Railing, (aluminum rail & supports and concrete parapet)	1,608										
S-16	Lump Sum		First test pile, steel 12 BP 53											
S-18	11,050	Lin.ft.	Steel piles, 12 BP 53											
S-29	51	Cu.yds.	Porous drains on embankment slopes											
S-1	624	Cu.yds.	Class "E" concrete, shafts of Piers 1, 2, 3, and upper shafts of Piers 4, 5, 6 and 7											
S-1	492	Cu.yds.	Class "E" concrete, lower shafts of Piers 6 and 7 and intermediate shafts of Piers 4 and 5											
S-1	484	Cu.yds.	Class "E" concrete, lower shafts of Piers 4 and 5											

71,050

ELEVATIONS ALONG ℄ ROADWAY

LOCATION	STATION	ELEVATION	LOCATION	STATION	ELEVATION
℄ Brg. West Abut.	939+23.50	631.70	℄ Brg Pier 5	943+36.00	630.19
¼ Pt. Span 1	939+36.00	631.76	¼ Pt Span 6	943+71.00	629.76
½ Pt. Span 1	939+48.50	631.80	½ Pt Span 6	944+06.00	629.27
¾ Pt. Span 1	939+61.00	631.84	¾ Pt Span 6	944+41.00	628.74
℄ Brg Pier 1	939+73.50	631.88	℄ Brg Pier 6	944+76.00	628.16
¼ Pt. Span 2	939+89.13	631.91	¼ Pt. Span 7	945+11.00	627.53
½ Pt. Span 2	940+04.75	631.94	½ Pt. Span 7	945+46.00	626.85
¾ Pt. Span 2	940+20.38	631.95	¾ Pt. Span 7	945+81.00	626.13
℄ Brg Pier 2	940+36.00	631.95	℄ Brg Pier 7	946+16.00	625.36
¼ Pt. Span 3	940+48.50	631.95	¼ Pt. Span 8	946+43.50	624.71
½ Pt. Span 3	940+61.00	631.94	½ Pt. Span 8	946+71.00	624.04
¾ Pt. Span 3	940+73.50	631.93	¾ Pt. Span 8	946+98.50	623.34
℄ Brg Pier 3	940+86.00	631.91	℄ Brg. East Abut.	947+26.00	622.61
¼ Pt. Span 4	941+13.50	631.84			
½ Pt. Span 4	941+41.00	631.74			
¾ Pt. Span 4	941+68.50	631.61			
℄ Brg Pier 4	941+96.00	631.45			
¼ Pt. Span 5	942+31.00	631.21			
½ Pt. Span 5	942+66.00	630.92			
¾ Pt Span 5	943+01.00	630.58			

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-16-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLIN.

GENERAL PLAN & ELEVATION & ESTIMATED QUANTITIES
BRIDGE NO. SA-20-18.80
OVER SANDUSKY RIVER
S.R. 53, AND N.Y.C. & St.L. R.R.

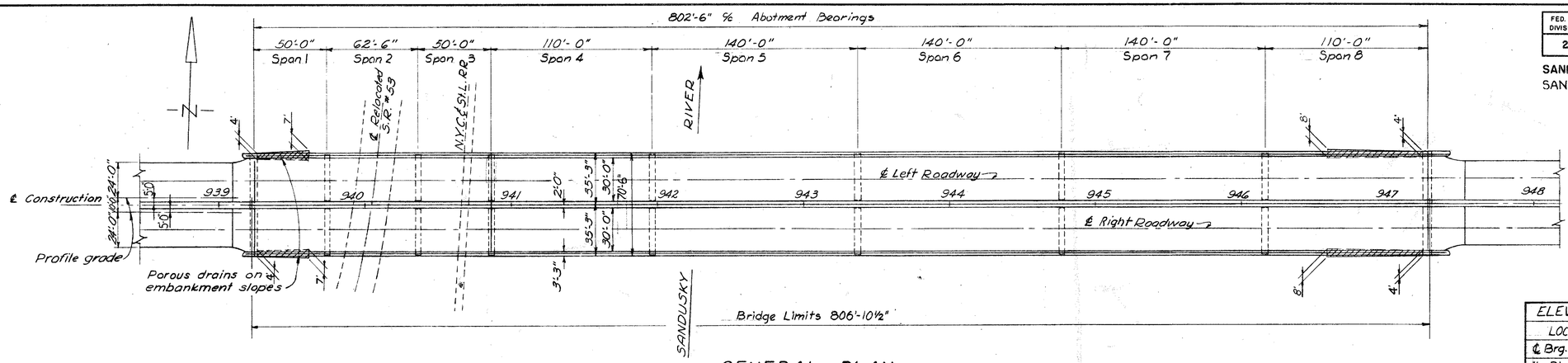
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	ISSUED
WFP & W''	WHS		WJ.I & WFP			

MICROFILMED
DEC 29 1987

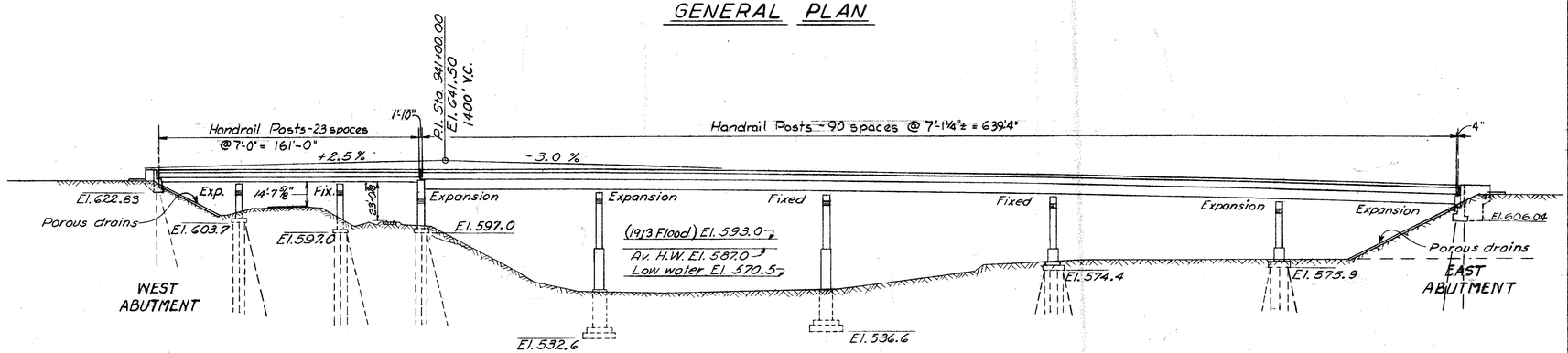
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

151A

SANDUSKY COUNTY
SAN. 20-17.62



GENERAL PLAN



GENERAL ELEVATION

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super	W. Abut.	E. Abut.	PIERS 1	2	3	4	5	6	7	Gen'l.	As Built		
E-2	~~3,203~~ 3,190	Cu.yds	Unclassified excavation		~~62~~	~~785~~	~~78~~	~~747~~	~~73~~	1,240	1,098	~~781~~	~~739~~		C-23, -13	3190	AA
E-2	~~332~~ 90	Cu.yds	Rock excavation							~~187~~	~~145~~				C-23, 242	90	AA
E-2	Lump	Sum	Cofferdams, cribs and sheeting (Pier 4 & 5)											Lump			
E-2	"	"	" " " " " (Pier 1, 2, 3, 6 & 7)											Lump			
S-1	1,911	Cu.yds.	Class "C" concrete, superstructure, including abutment parapets	1,905	2	4									C-15, -109 *		AA
S-1	406	Cu.yds.	Class "C" concrete, pier caps on all piers				47	47	64	62	62	62	62		C-22, -34 *		AA
S-1	190	Cu.yds.	Class "E" concrete, obutments		90	100									C-22, -21 *		AA
S-1	812	Cu.yds.	Class "E" concrete, pier footings				32	36	32	200	200	196	116		C-10, -72 *		AA
S-1	95	Cu.yds.	Class "E" concrete, abutment footings			95									C-22, -97 *		AA
S-1	583	Cu.yds.	Class "E" concrete, shafts of Piers 1, 2, 3 and upper shafts of Piers 4, 5, 6, and 7.				44	66	67	113	107	99	87		C-22, -41 *		AA
S-1	477	Cu.yds.	Class "E" concrete, lower shafts of Piers 6 and 7 and intermediate shafts of Piers 4 and 5							190	190	54	43		C-22, -15 *		AA
S-1	485	Cu.yds.	Class "E" concrete, lower shafts of Piers 4 and 5							265	220						
S-4	~~720,365~~ ~~720,076~~	Lbs.	Reinforcing steel	~~493,062~~ ~~490,967~~	4,428	11,219	7,469	9,212	7,974	~~52,430~~ ~~53,578~~	~~58,337~~ ~~58,547~~	44,741	31,295	~~546~~	C-22, -168	720,365	AA
S-7	~~2,581,490~~ 2,411,619	Lbs.	Structural steel	~~2,581,490~~											C-23-30B	2,411,619	AA
S-8	~~2,581,490~~	Lbs.	Field painting of structural steel	~~2,581,490~~											C-23-30B	2,411,619	AA
S-14	1,608	Lin.ft.	Railing, (aluminum rail and supports and concrete parapet)	1,608													
S-16	Lump	sum	First test pile											Lump			
S-18	~~11,153~~ ~~11,081~~	Lin.ft.	Steel piles, 12 BP 53		~~1314~~	~~1286~~	~~1540~~	~~1472~~	~~1341~~			2,175	~~1500~~		C-12, -72	11153	AA
S-29	~~46~~ 58	Cu.yds.	Porous drains on embankment slopes											~~58~~	C-23-6	46	AA

* These changes were made on the original plans. (Sheet 151). AA

727,847	Plan Quantity	
- 7,482	"As Built" Revisions	AA Revised As-Built
720,365	Proposed Quantity (Revised As-Built Plans)	
703,472	Proposal Quantity	
+ 16,893	Change Order Quantity	

ELEVATIONS ALONG PROFILE GRADE

LOCATION	STATION	ELEVATION
℄ Brg. West Abut.	939 + 23.50	631.70
¼ Pt. Span 1	939 + 36.00	631.76
½ Pt. Span 1	939 + 48.50	631.80
¾ Pt. Span 1	939 + 61.00	631.84
℄ Brg. Pier 1	939 + 73.50	631.88
¼ Pt. Span 2	939 + 89.13	631.91
½ Pt. Span 2	940 + 04.75	631.94
¾ Pt. Span 2	940 + 20.38	631.95
℄ Brg. Pier 2	940 + 36.00	631.95
¼ Pt. Span 3	940 + 48.50	631.95
½ Pt. Span 3	940 + 61.00	631.94
¾ Pt. Span 3	940 + 73.50	631.93
℄ Brg. Pier 3	940 + 86.00	631.91
¼ Pt. Span 4	941 + 13.50	631.84
½ Pt. Span 4	941 + 41.00	631.74
¾ Pt. Span 4	941 + 68.50	631.61
℄ Brg. Pier 4	941 + 96.00	631.45
¼ Pt. Span 5	942 + 31.00	631.21
½ Pt. Span 5	942 + 66.00	630.92
¾ Pt. Span 5	943 + 01.00	630.58
℄ Brg. Pier 5	943 + 36.00	630.19
¼ Pt. Span 6	943 + 71.00	629.76
½ Pt. Span 6	944 + 06.00	629.27
¾ Pt. Span 6	944 + 41.00	628.74
℄ Brg. Pier 6	944 + 76.00	628.16
¼ Pt. Span 7	945 + 11.00	627.53
½ Pt. Span 7	945 + 46.00	626.85
¾ Pt. Span 7	945 + 81.00	626.13
℄ Brg. Pier 7	946 + 16.00	625.36
¼ Pt. Span 8	946 + 43.50	624.71
½ Pt. Span 8	946 + 71.00	624.04
¾ Pt. Span 8	946 + 98.50	623.34
℄ Brg. East Abut.	947 + 26.00	622.61

Sheets 149A thru 172A replaced
Sheets 149 thru 172. void

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

GENERAL PLAN & ELEVATION & ESTIMATED QUANTITIES

BRIDGE NO. SA-20-180
OVER SANDUSKY RIVER, S.R. 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+42.25 TO 947+28.18

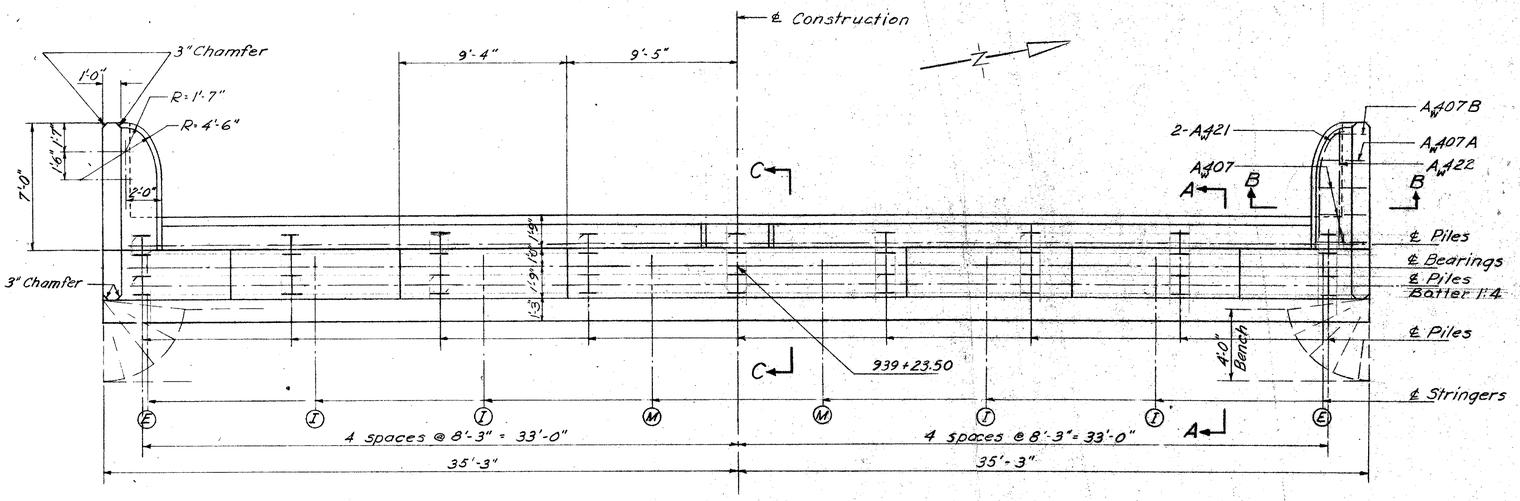
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP & WJJ	WHS	-	WJJ & WFP	HSM	11-30-55	

10-30-58 AA Revised As-Built J.E.R.

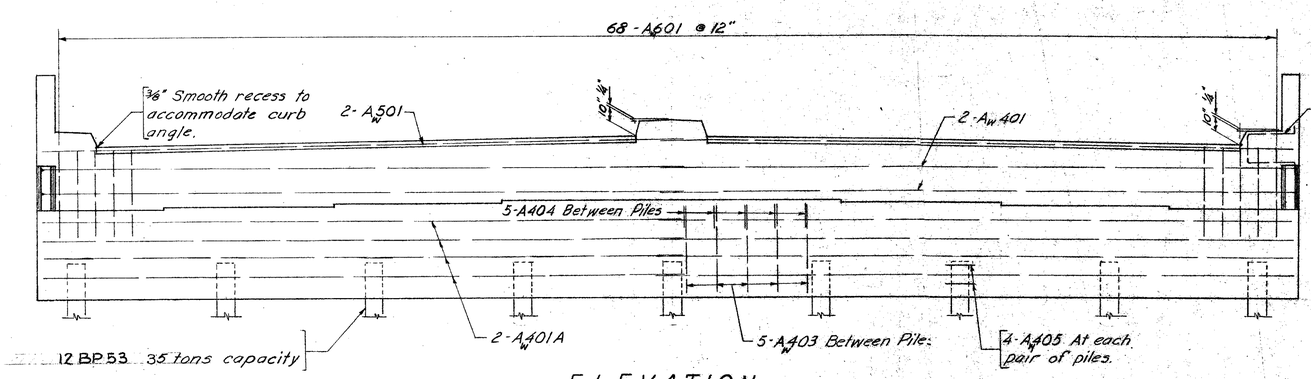
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

152

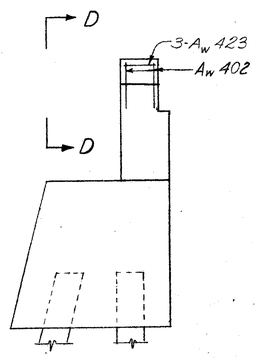
SANDUSKY COUNTY



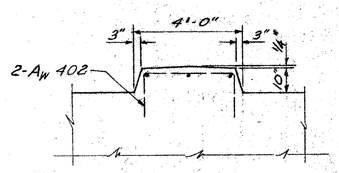
PLAN



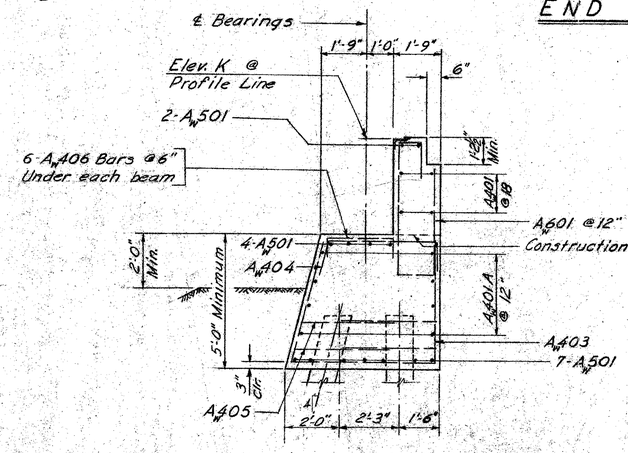
ELEVATION



SECTION C-C



VIEW D-D



SECTION A-A

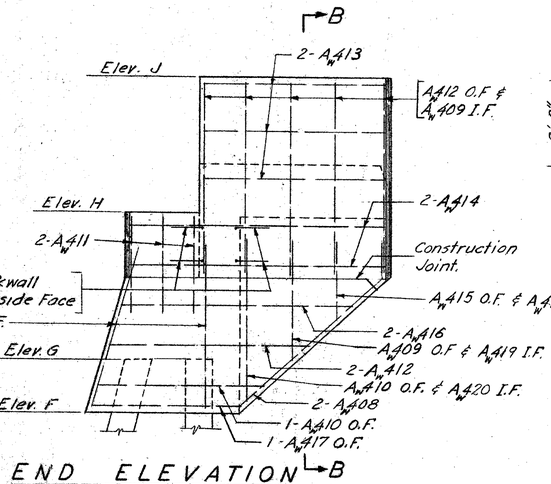
TABLE OF BEAM SEAT ELEVATIONS

Top Of Concrete At ℄ Stringers

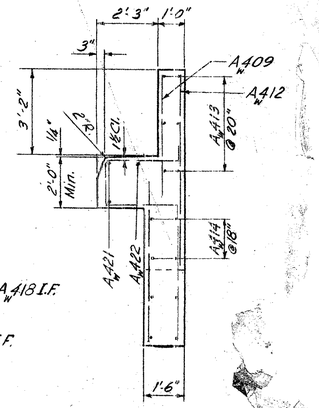
BEAM	E	I	I	M	M	I	I	E
ELEVATION	627.75	627.90	628.04	628.19	628.19	628.04	627.90	627.75

TABLE OF ELEVATIONS

POINT	F	G	H	J	K
ELEVATION	622.75	624.75	630.20	635.27	631.62



END ELEVATION



SECTION B-B

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

WEST ABUTMENT DETAIL

BRIDGE NO. SA-20-180
OVER THE SANDUSKY RIVER,
S.R.53, AND N.Y.C. & St. L. R.R.

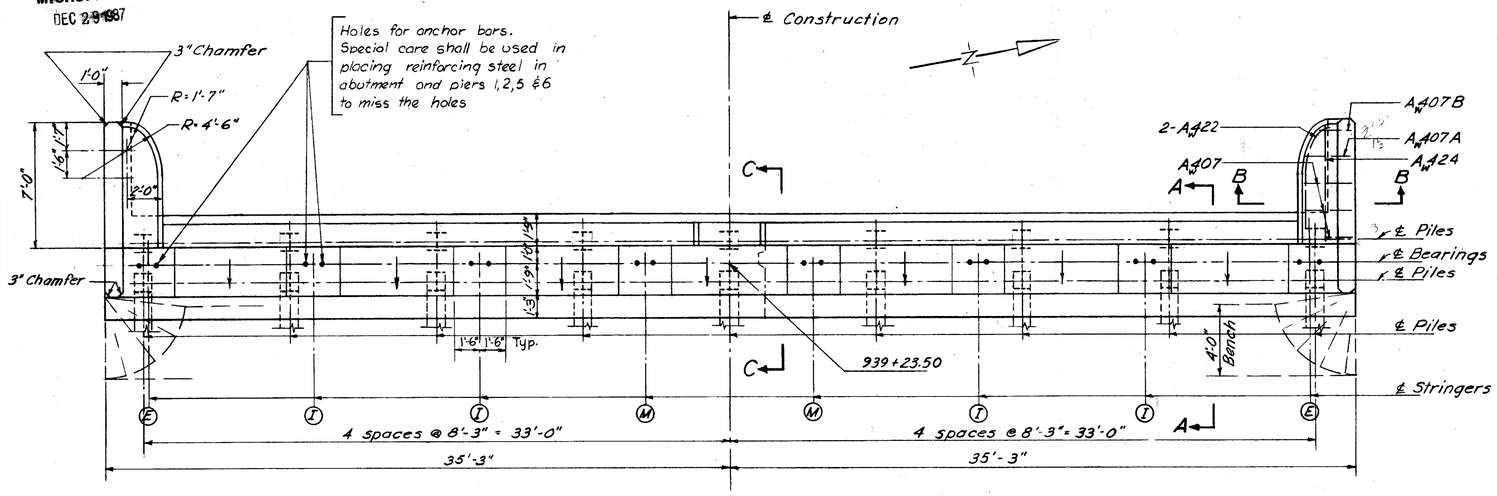
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
WJJ	KCB		WFP		

MICROFILMED
DEC 29 1987

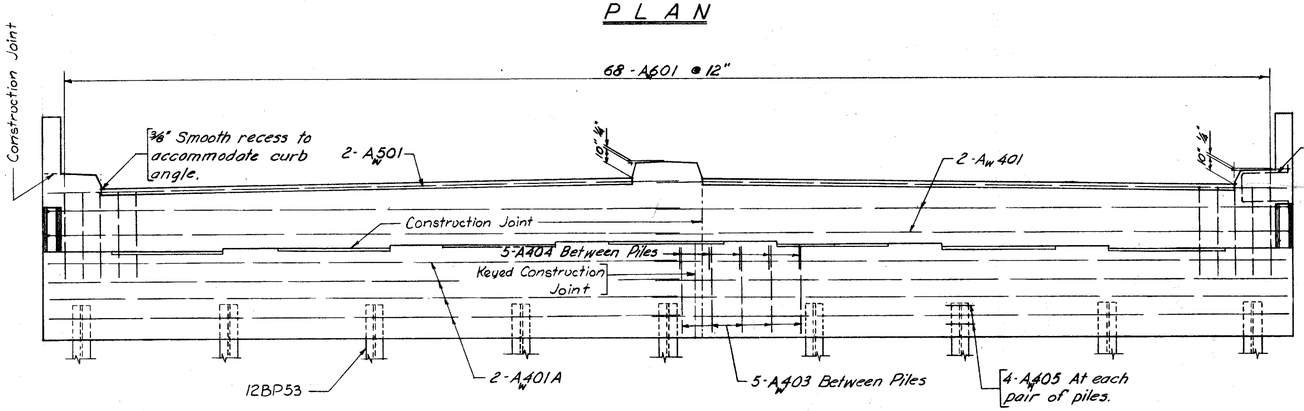
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

152 A

SANDUSKY COUNTY
SAN. 20-17.62

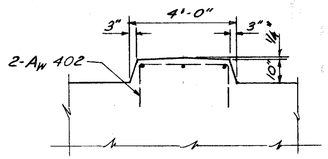


PLAN

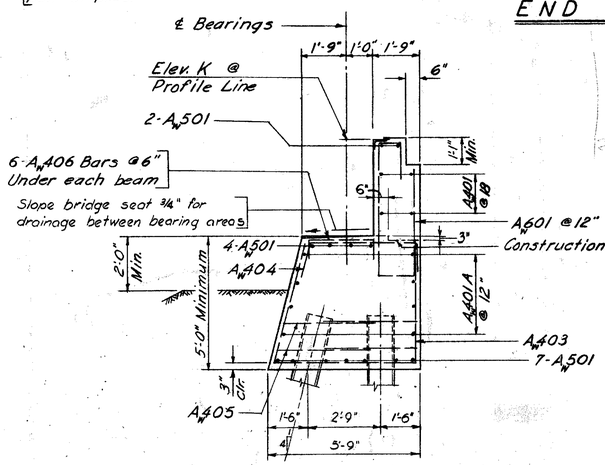


ELEVATION

SECTION C-C

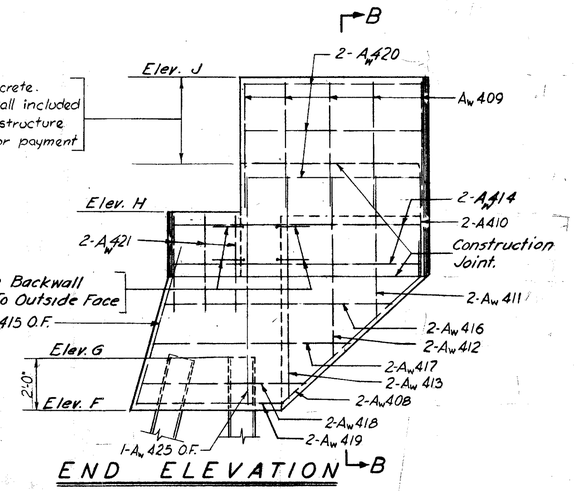


VIEW D-D

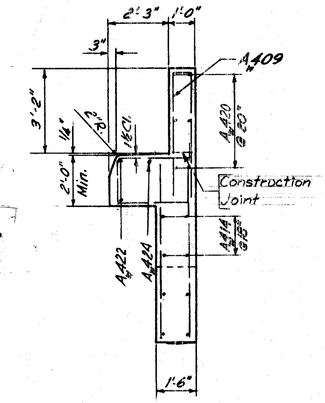


SECTION A-A

Class "C" Concrete. Parapet wall included with superstructure concrete for payment



END ELEVATION



SECTION B-B

TABLE OF BEAM SEAT ELEVATIONS

	Top Of Concrete At ℄ Stringers							
BEAM	E	I	I	M	M	I	I	E
ELEVATION	627.83	627.98	628.13	628.27	628.27	628.13	627.98	627.83

TABLE OF ELEVATIONS

POINT	F	G	H	J	K
ELEVATION	622.83	624.83	630.28	635.34	631.62

Sheets 149A thru 172A replace Sheet 149 thru 172.

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILL.

WEST ABUTMENT DETAILS

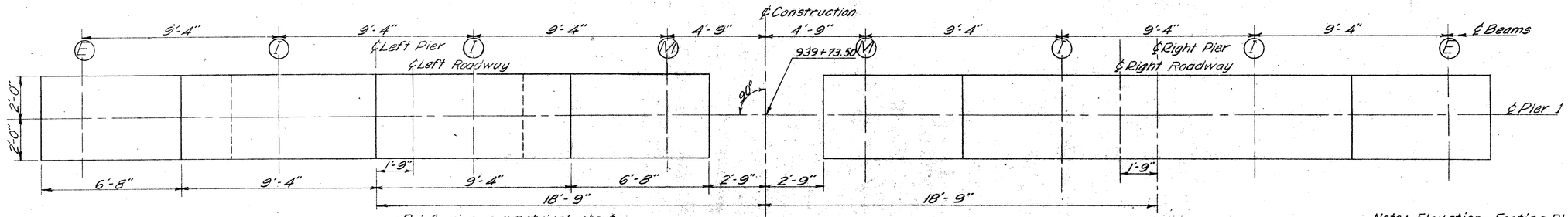
BRIDGE NO. SA-20-180
OVER SANDUSKY RIVER, S.R.53, AND N.Y.C. & ST. L.
SANDUSKY CO. F-585
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
WJJ	KCB	-	WFP	HSM	11-30-55

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

SANDUSKY COUNTY

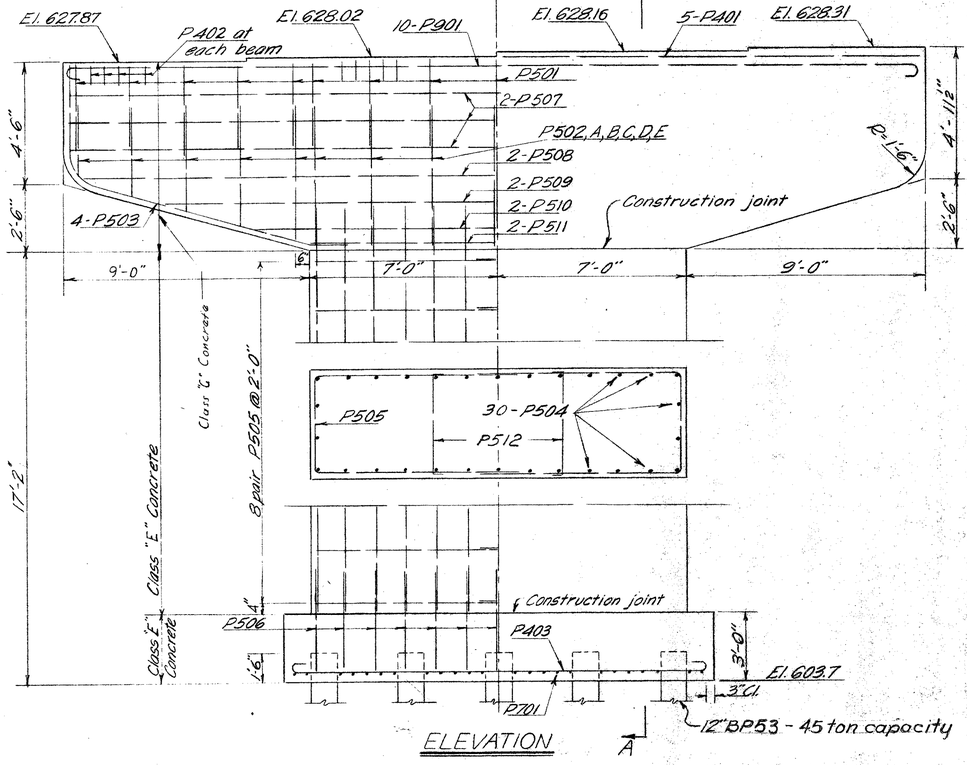
(153)



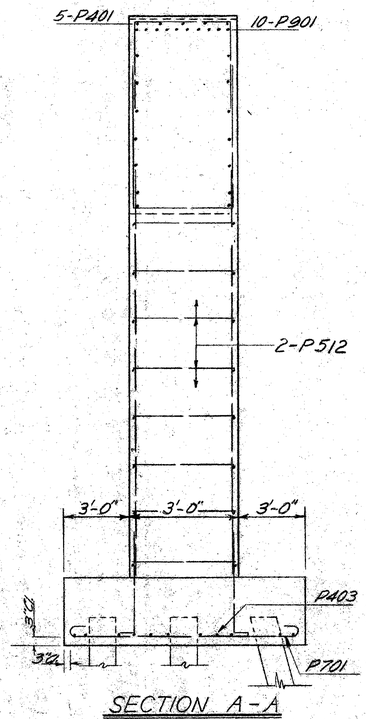
PLAN

Reinforcing symmetrical about ℄ Pier, except as noted.

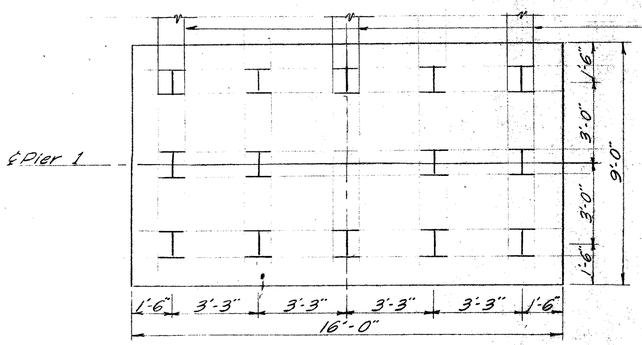
Note: Elevation, Footing Plan and Section A-A shown for Left Pier. Right Pier similar



ELEVATION



SECTION A-A



FOOTING PLAN

Sheets 149 thru 172 superseded by Sheets 149A thru 172A 2-16

CONSOER, TOWNSEND & ASSOCI
CONSULTING ENGINEERS CHICAGO

PIER 1 DETAILS

BRIDGE NO SA-20-180 OVER THE SANDUSKY RIVE
S.R. 53, AND N.Y.C. & ST.L. R.R.

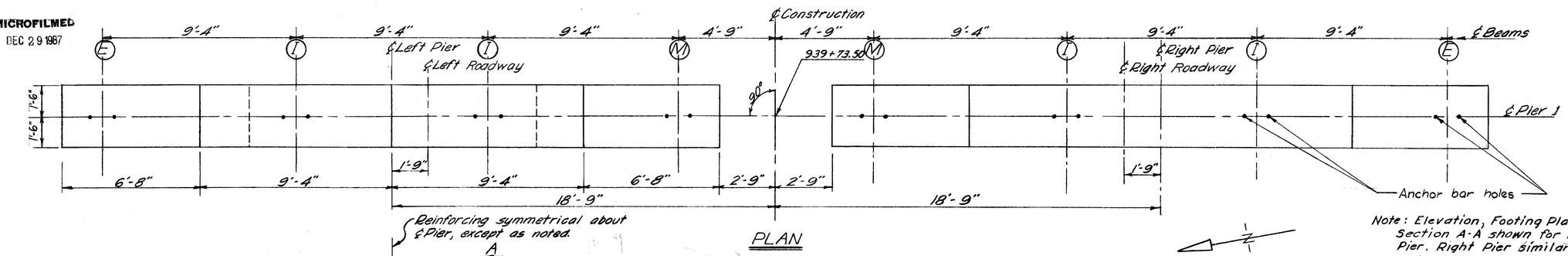
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
MJJ	DRH		WFP		

MICROFILMED
DEC 29 1987

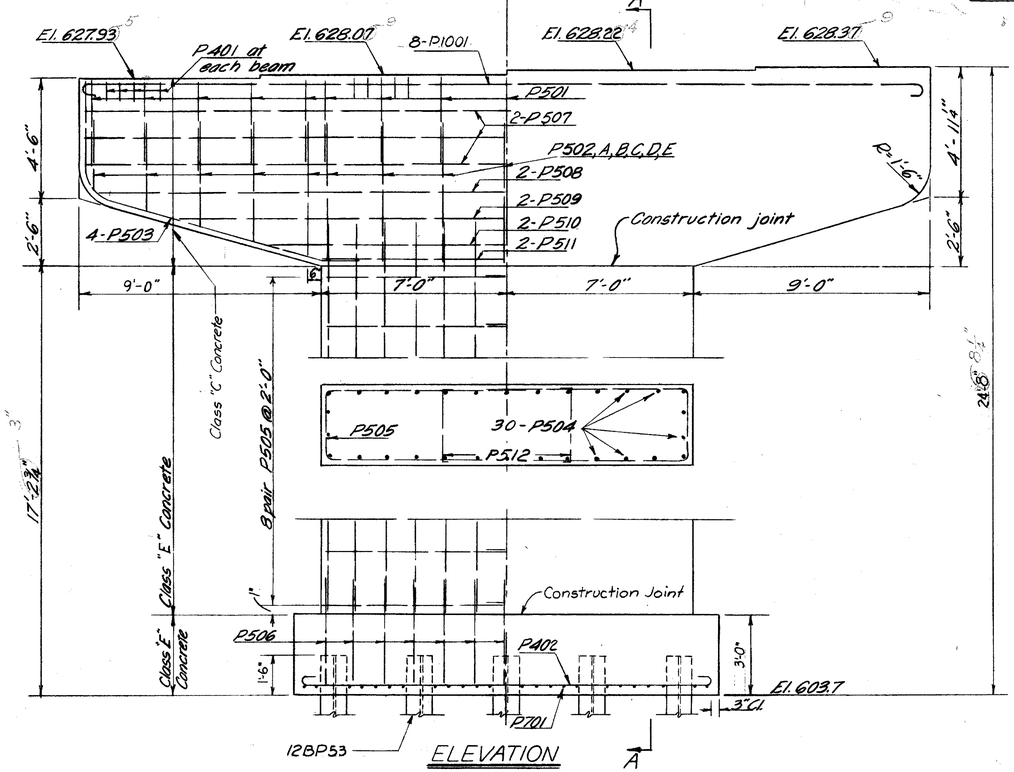
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

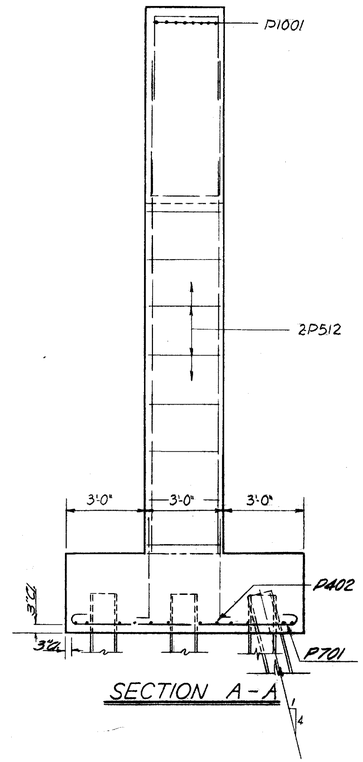
153A

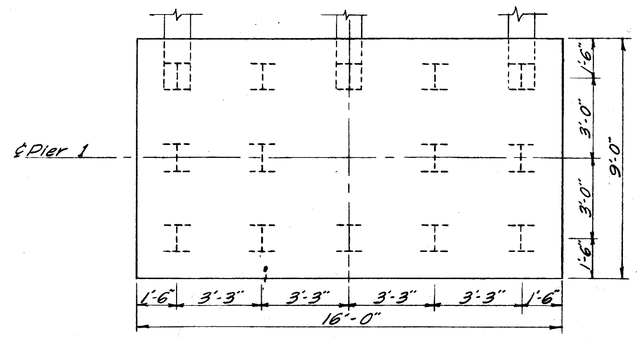
SANDUSKY COUNTY
SAN. 20-17.62



Note: Elevation, Footing Plan and Section A-A shown for Left Pier. Right Pier similar.
Special care shall be taken in placing reinforcing steel in the bridge seat to clear anchor bolts.







Sheets 149A thru 172A replace Sheets 149 thru 172 4-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

PIER 1 DETAILS

BRIDGE NO SA-20-180

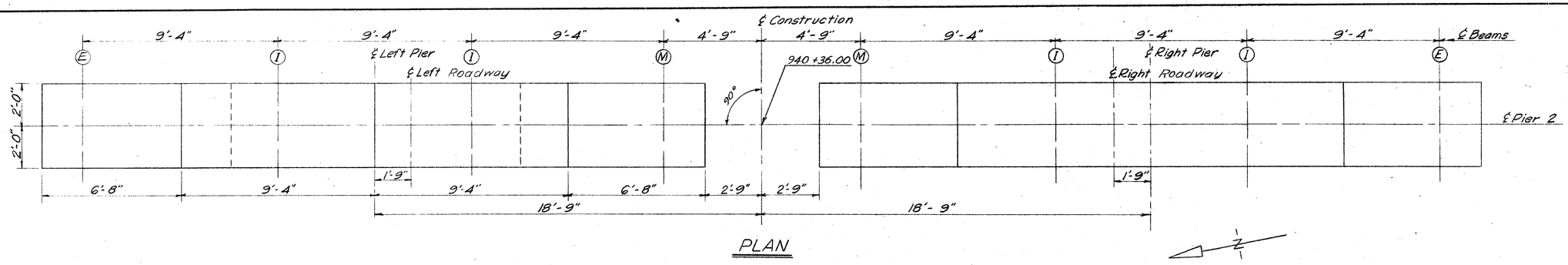
OVER SANDUSKY RIVER, S.R.53, A.V.D. N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC SAN 20-17.62 STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WJJ	DRH	—	WFP	HSM	11-30-55	4-17-56

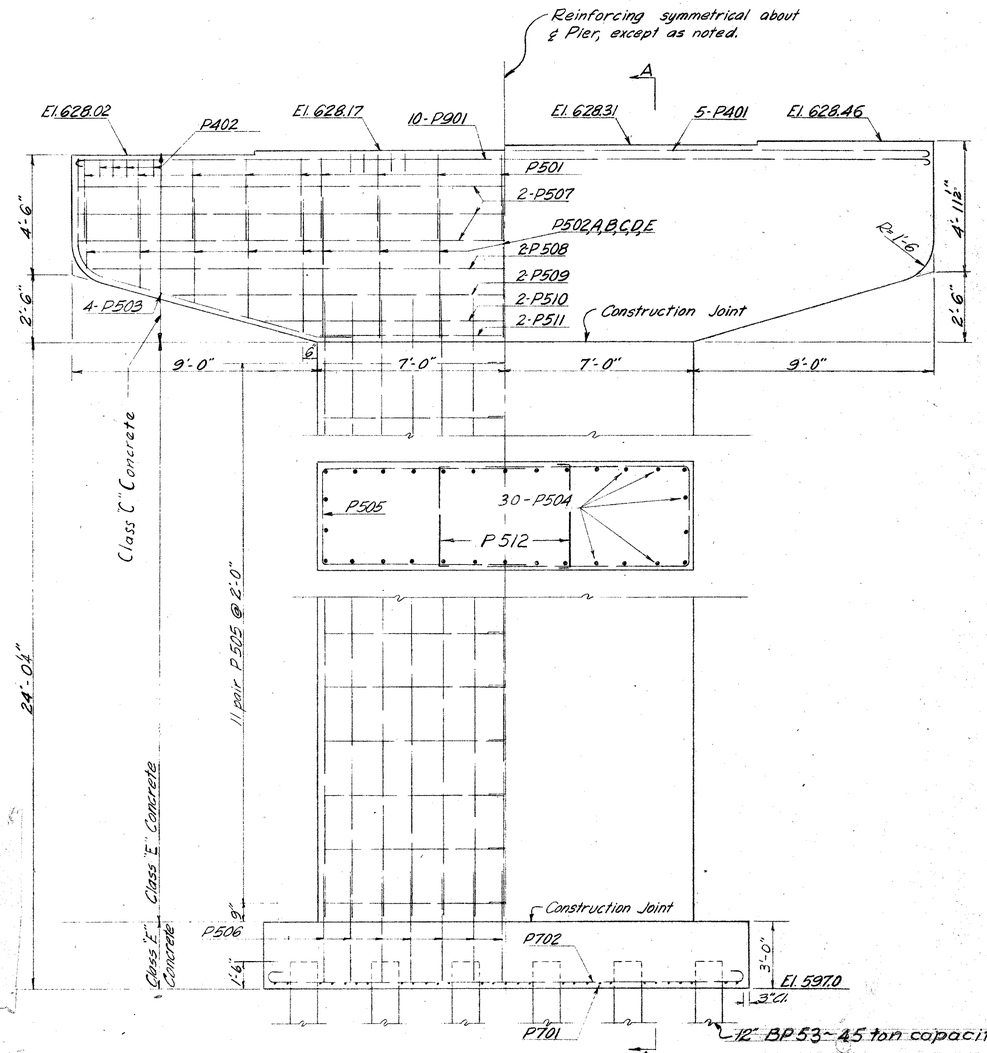
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FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

SANDUSKY COUNTY (154)

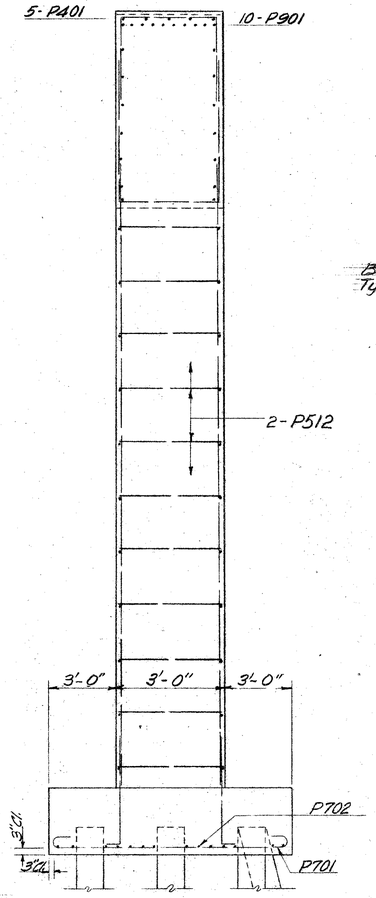


PLAN

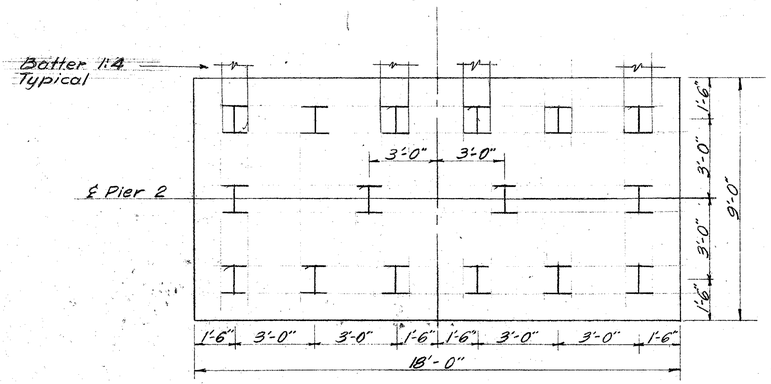


ELEVATION

Special care shall be taken in placing reinforcing steel in the bridge seat to clear anchor bolts.



SECTION A-A



FOOTING PLAN

Note: Elevation, Footing Plan & Sect shown for left bridge - Righ similar.

Sheets 149 thru 172 supes
Sheets 149A thru 172A. 2

CONSOER, TOWNSEND & ASS
CONSULTING ENGINEERS CHICAG ILLINOIS

PIER 2 DETAILS

BRIDGE NO. SA-20-1.80
OVER THE SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & ST. L. R.R.

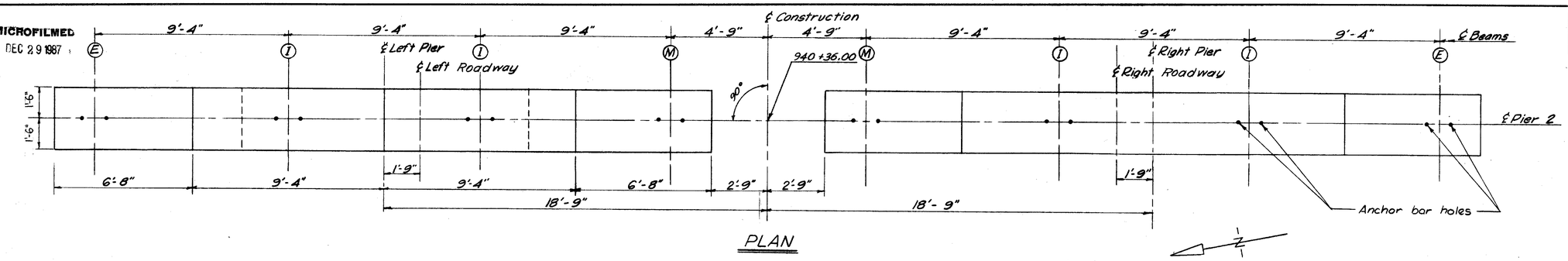
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.J.J.	D.R.H.		W.F.P.		1	

MICROFILMED
DEC 29 1987

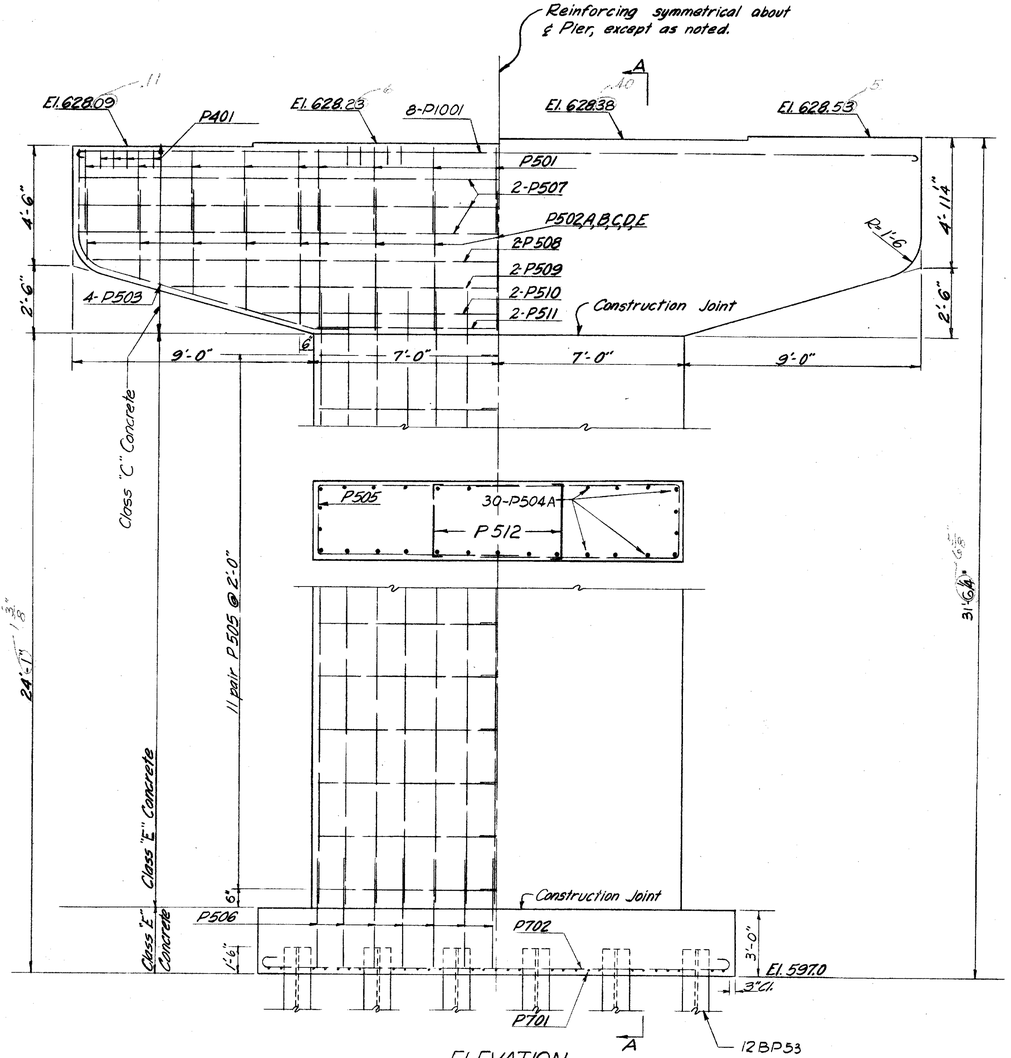
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

154 A

SANDUSKY COUNTY
SAN. 20-17.62

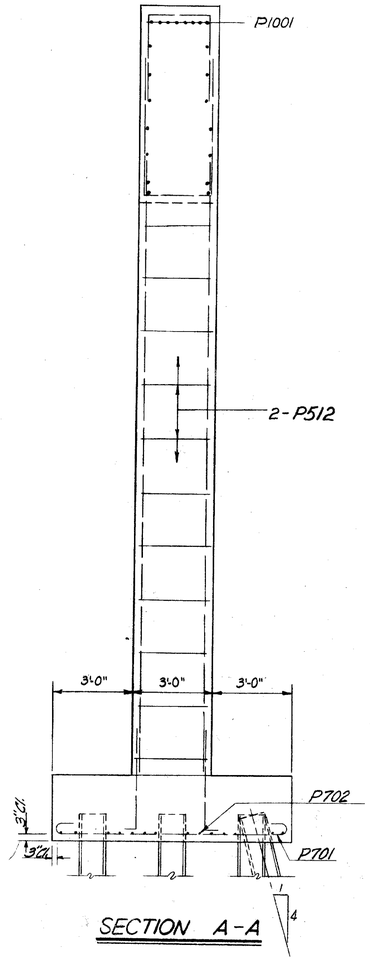


PLAN

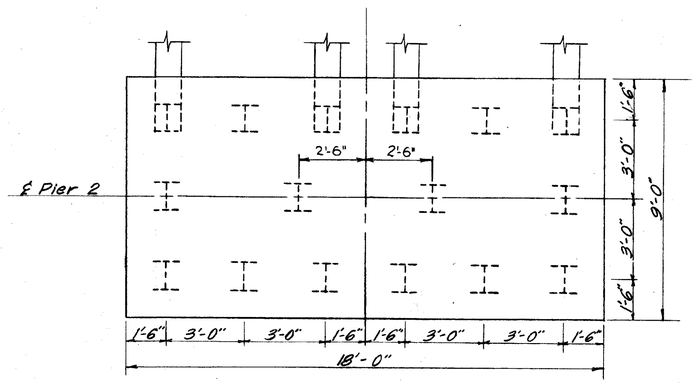


ELEVATION

Special care shall be taken in placing reinforcing steel in the bridge seat to clear anchor bolts.



SECTION A-A



FOOTING PLAN

Note: Elevation, Footing Plan & Section A-A shown for left bridge - Right Bridge similar.

Sheets 149A thru 172A replace Sheets 149 thru 172. 3-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

PIER 2 DETAILS

BRIDGE NO. SA-20-180

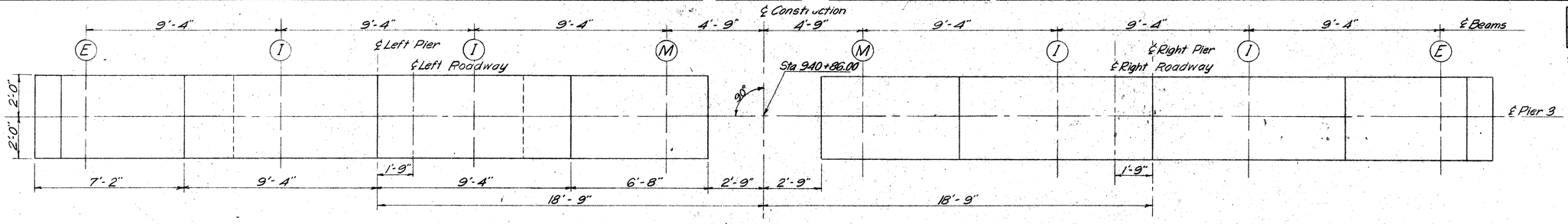
OVER SANDUSKY RIVER, S.R.53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WJJ	DRH	-	WFP	HSM	11-30-55	4-17-56

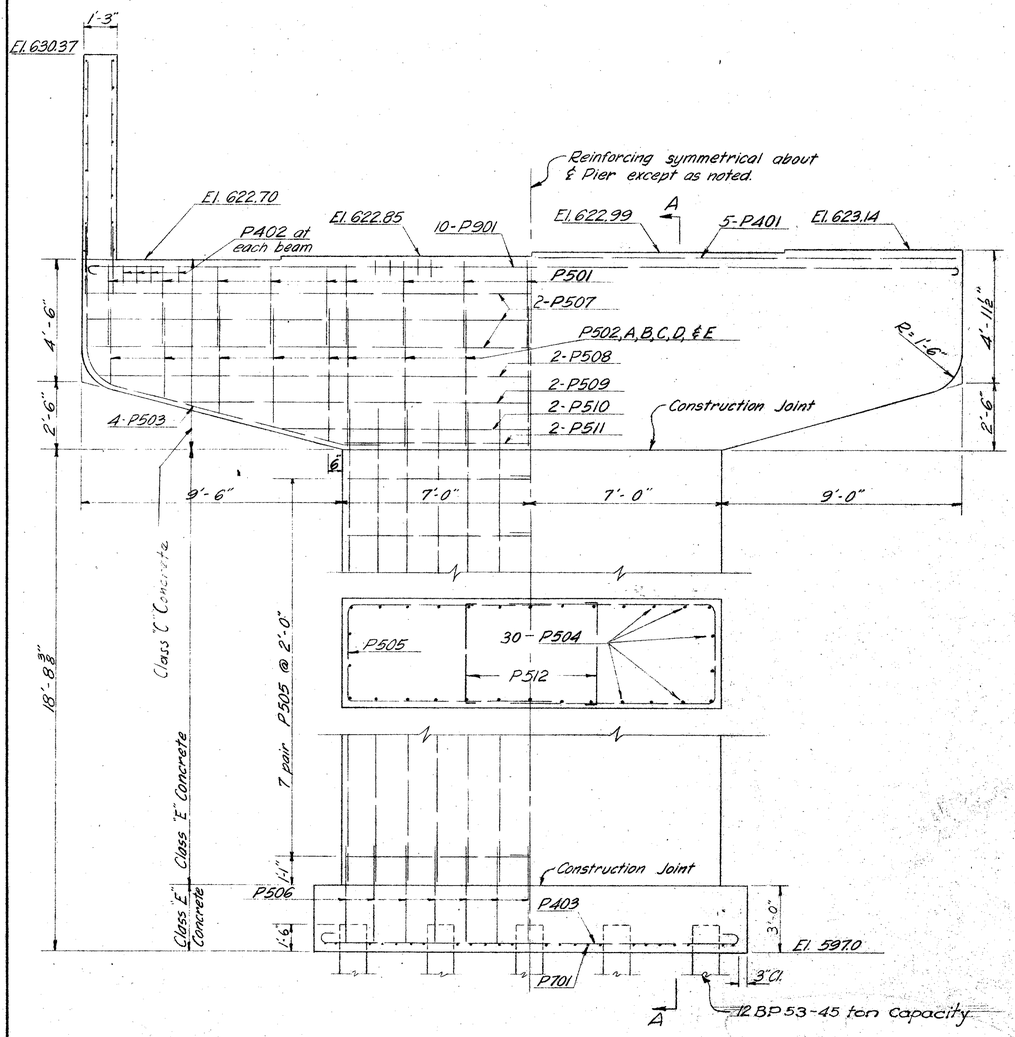
54-448

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
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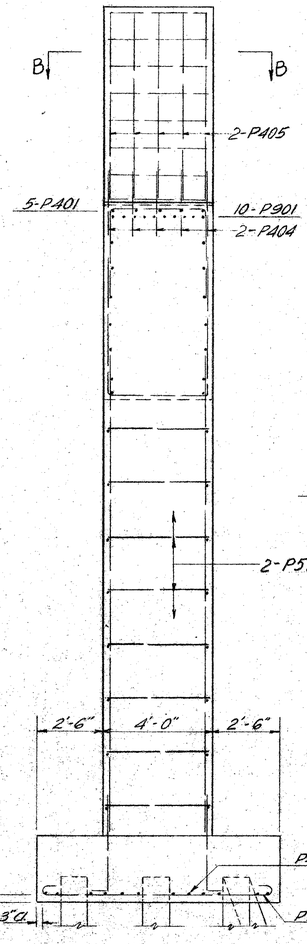
SANDUSKY COUNTY



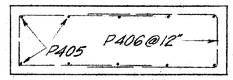
PLAN



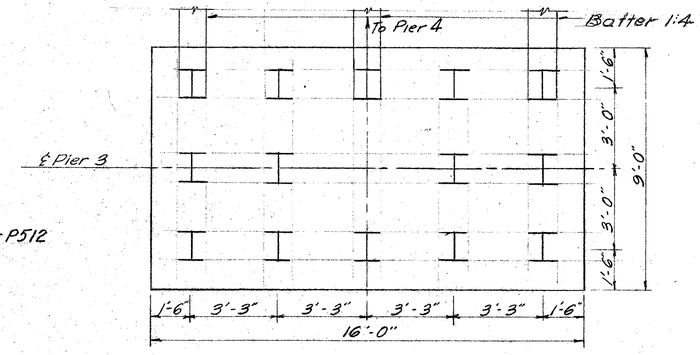
ELEVATION



SECTION A-A



SECTION B-B



FOOTING PLAN

Note: Elevation, Footing Plan, & Section A-A shown for Left Bridge - Right Bridge similar.

Indicates battered pile on 1:4 batter.

Sheets 149 thru 172 superseded
Sheets 149A thru 172A.
2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLIN

PIER 3 DETAILS

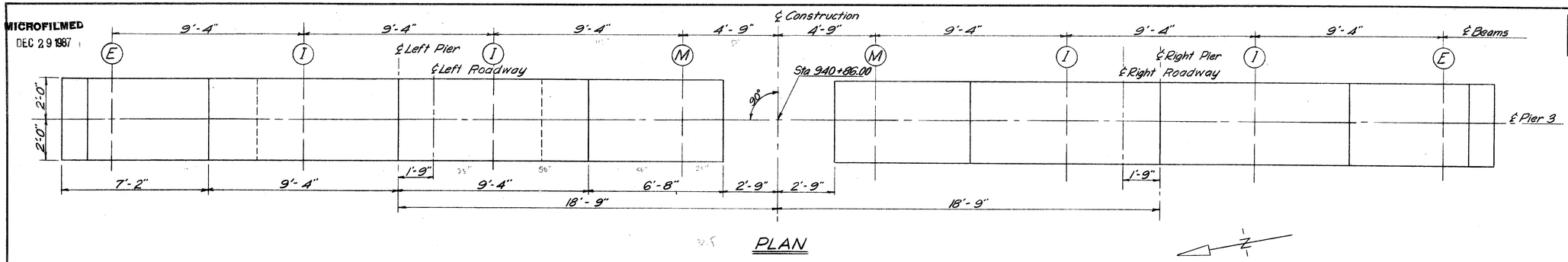
BRIDGE NO. SA-20-180
OVER THE SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & ST.L.R.R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
WJJ	SAM		WEP	

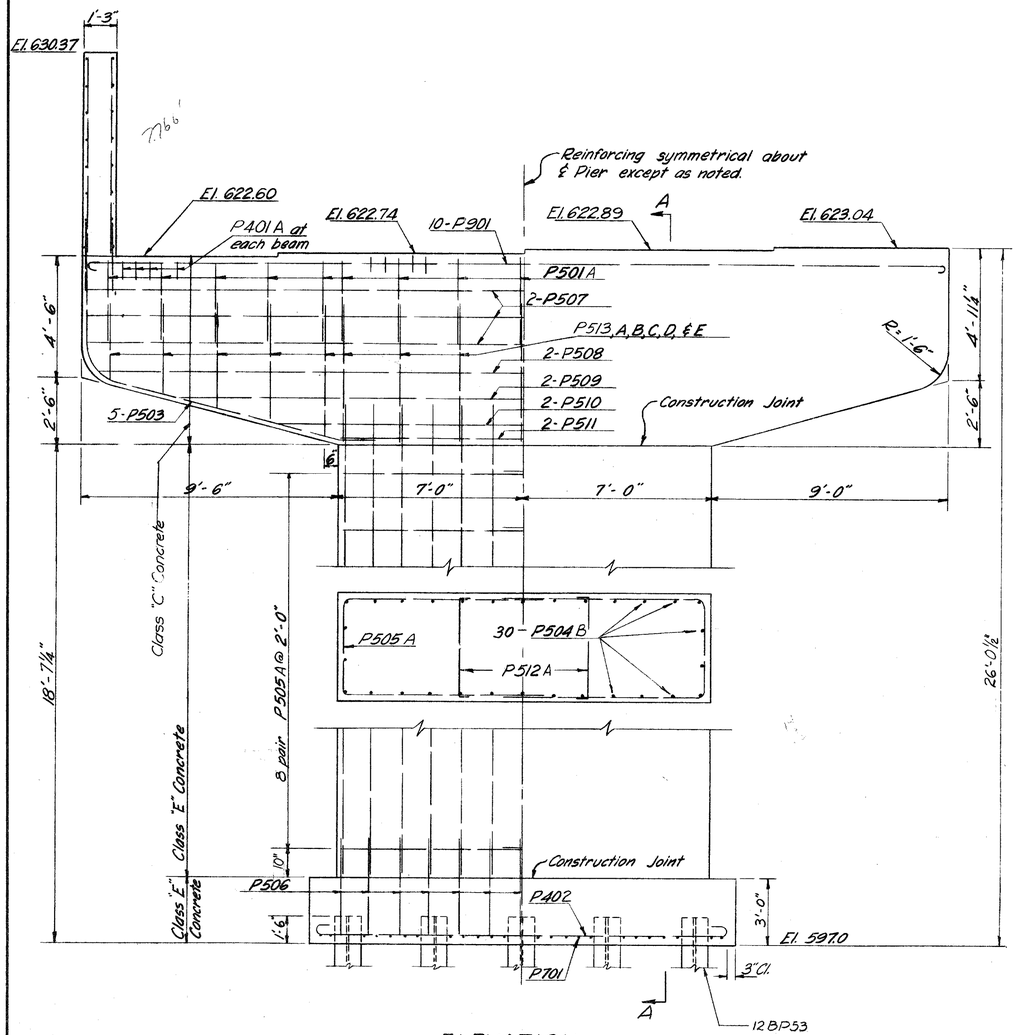
MICROFILMED
DEC 29 1967

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

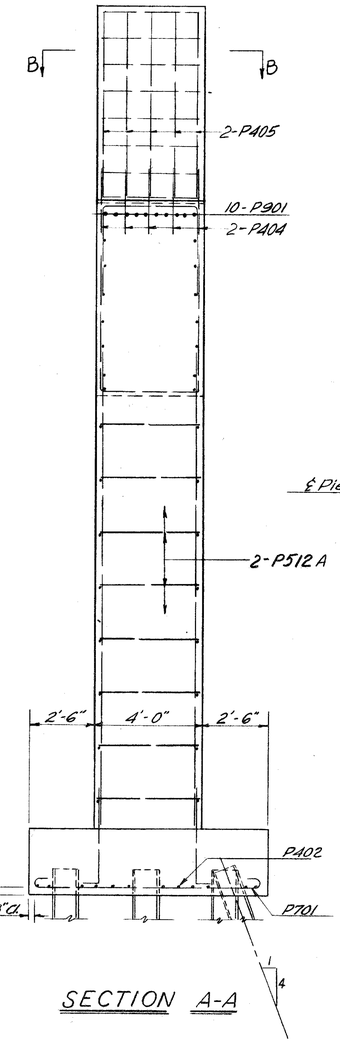
SANDUSKY COUNTY
SAN. 20-17.62



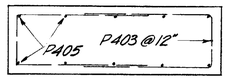
PLAN



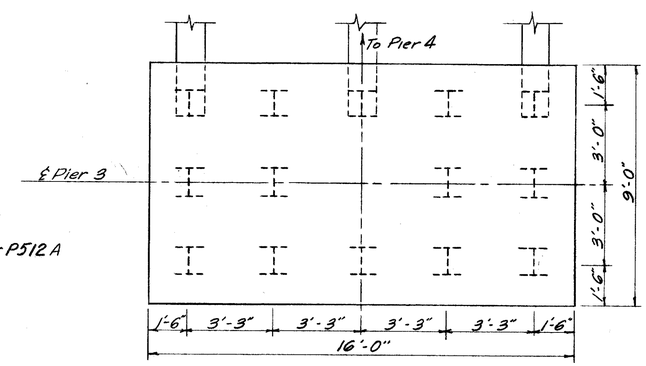
ELEVATION



SECTION A-A



SECTION B-B



FOOTING PLAN

Note: Elevation, Footing Plan, & Section A-A shown for Left Bridge - Right Bridge similar.

Sheets 149A thru 172A replace Sheets 149 thru 172 5-10-56.

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

PIER 3 DETAILS

BRIDGE NO. SA-20-180
OVER SANDUSKY RIVER, S.R.53, AND N.Y.C. & ST. L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WJJ	SAM	—	WFP	HSM	11-30-55	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-58.5(11)	

156

SANDUSKY COUNTY

PLAN

SECTION A-A

ELEVATION

FOOTING PLAN

℄ Construction

℄ Right Pier

℄ Left Pier

℄ Pier 4

℄ Beams

Sta 941+96.00

Symmetrical

11- P1101

2- P513

3- P513A

2- P513B

5- P401

2- P1101

P801

P901

Approx. rock line

NOTE: Elevation, Footing Plan, Section AA shown for left pier, right pier similar.

Construction Joint

18 pairs P512 @ 18"c/c

17 pairs P514 @ 18"c/c

16 pairs P512A @ 18"

2- P1101

11- P1101

26- P1102 dowels

28- P1102A dowels

28- P1103

28- P1104

28- P1105 dowels

P512 @ 18"c/c

P513A @ 18"c/c

P513B

P514 @ 18"c/c

P513A

22- P801 @ 11"c/c

39- P901 @ 8 1/2"c/c

El. 587.6

El. 562.1

El. 532.6

Elev. 622.14

Elev. 621.99

Elev. 621.85

Elev. 621.70

For reinforcement and details not shown for pier cap, see "PIER 1 DETAILS"

Class "C" Concrete

Class "E" Concrete

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

PIER 4 DETAILS

BRIDGE NO. SA-20-180
OVER THE SANDUSKY RIVER,
S.R. 53, AND N.Y.C & ST.L. R.R.

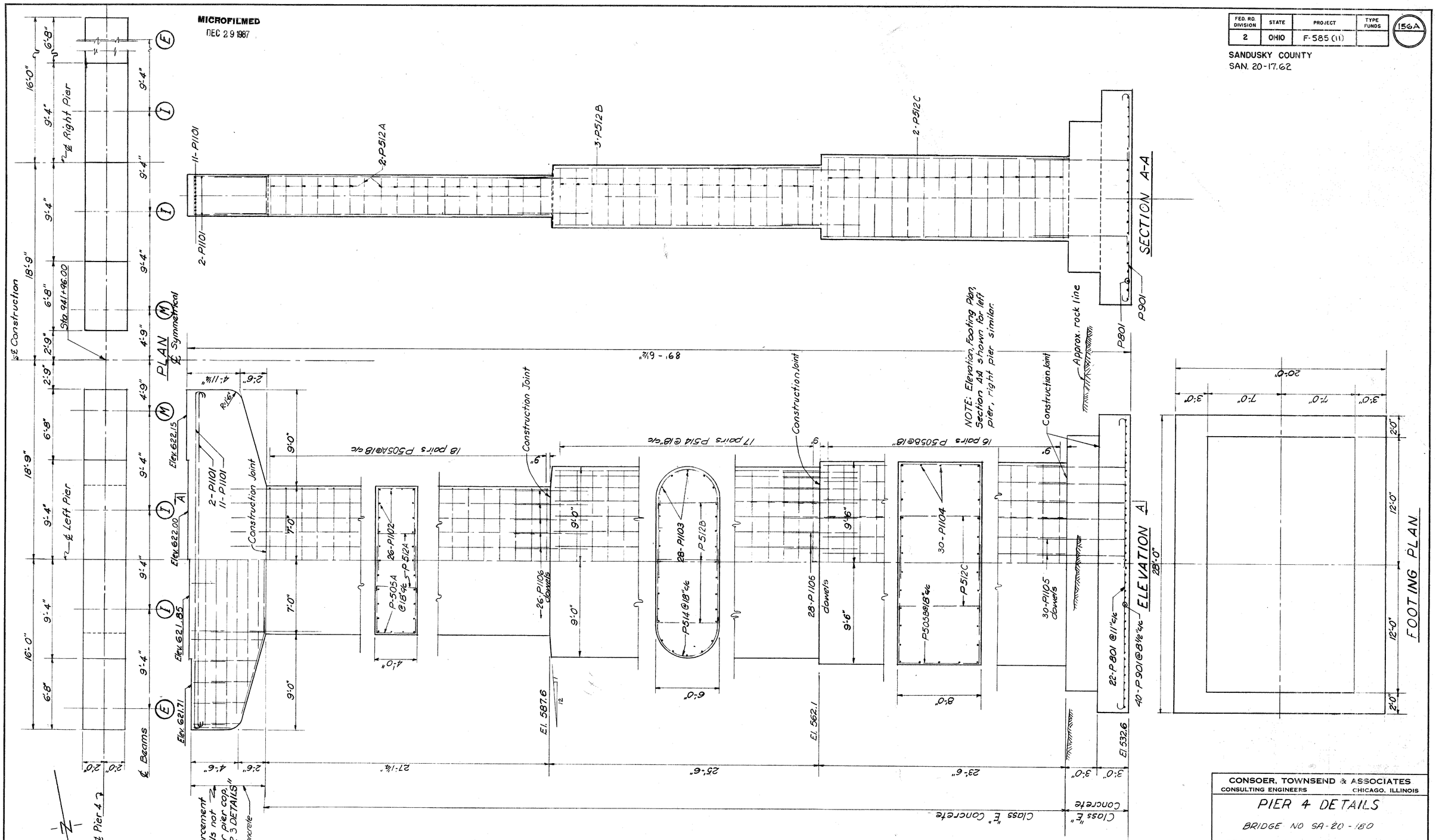
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVI
WFP	JN OY		WJJ			

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585 (11)	

156A

SANDUSKY COUNTY
SAN. 20-17.62



Sheets 149A thru 172A replace Sheets 149 thru 172. 5-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

PIER 4 DETAILS

BRIDGE NO SA-20-180

OVER SANDUSKY RIVER, S.R.53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN 20-17.62 STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	JN OY	-	WJJ	KSM	11-30-55	

54-4141

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

SANDUSKY COUNTY

15

157

PLAN

SECTION A-A

ELEVATION

FOOTING PLAN

Special care shall be taken in placing reinforcing steel in the bridge seat to clear anchor bolts.

11-P1101
2-P1101
2-P501
2-P513
3-P5134
2-P5138
P801
P901

℄ Right Pier
℄ Left Pier
℄ Piers
℄ Beams
Sta 941+36.00

Elev 620.88
Elev 620.73
Elev 620.59
Elev 620.44

Construction Joint

40-P1102A dowels
40-P1102 dowels
P5123@3½"c
P513
35 pairs P512@9"c/c
9'-0"
7'-0"

28-P1103
P5146@18"c
P5134
17 pairs P514@18"c/c
6'-0"
El. 587.6

28-P1102A dowels
NOTE: Elevation, footing plan and Section A-A shown for left pier, right similar.
9'-6"
28-P1104
P5138
P512A@18"c
13 pairs P512A@18"c/c
8'-0"
El. 562.1

22-P801 @ 11"c/c
39-P901@8½"c
28-P1105 dowels
El. 536.6

Class "E" Concrete

For reinforcement and details not shown for pier cap, see "PIER 1 DETAILS"
Class "C" Concrete

20'-0"
3'-0"
7'-0"
12'-0"
28'-0"
2'-0"

Sheets 149 thru 172 superseded
Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILL.

PIER 5 DETAILS

BRIDGE NO. SA-20-180
OVER THE SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & St. L. R.R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	JN DP		WJJ			

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585 (11)	

157A

SANDUSKY COUNTY
SAN. 20-17.62

PLAN

SECTION A-4

ELEVATION

FOOTING PLAN

Special care shall be taken in placing reinforcing steel in the bridge seat to clear anchor bolts.

11-P1101
2-P1101
2-P512A
3-P512B
2-P512C
P801
P901
84'-3 3/8"
3" clear
Sta 943+36.00
℄ Right Pier
℄ Left Pier
℄ Pier 5
℄ Beams
Elev 620.88
Elev 620.74
Elev 620.59
Elev 620.44
Anchor bar holes
For reinforcement and details not shown for pier cap, see "PIER 3 DETAILS"
Class "C" Concrete
Construction Joint
40-P1106 dowels
NOTE: Elevation, Footing Plan and Section A-4 shown for left pier, right similar.
40-P1102A
P512A
35 pairs P505A@9" c/c
17 pairs P514@18" c/c
28-P1103
P514@18"c
P512B
6'-0"
30-P1104A
P512C
13 pairs P505B @18" c/c
P505B@18"c
8'-0"
22-P801 @ 11"c/c
40-P901@8½"c/c
30-P1105 dowels
El. 597.6
El. 562.1
El. 536.6
Class "E" Concrete
20'-0"
3'-0"
7'-0"
12'-0"
25'-0"

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

PIER 5 DETAILS

BRIDGE NO SA-20-1.80

OVER SANDUSKY RIVER, SR 53 AND NYC & STL R.R.

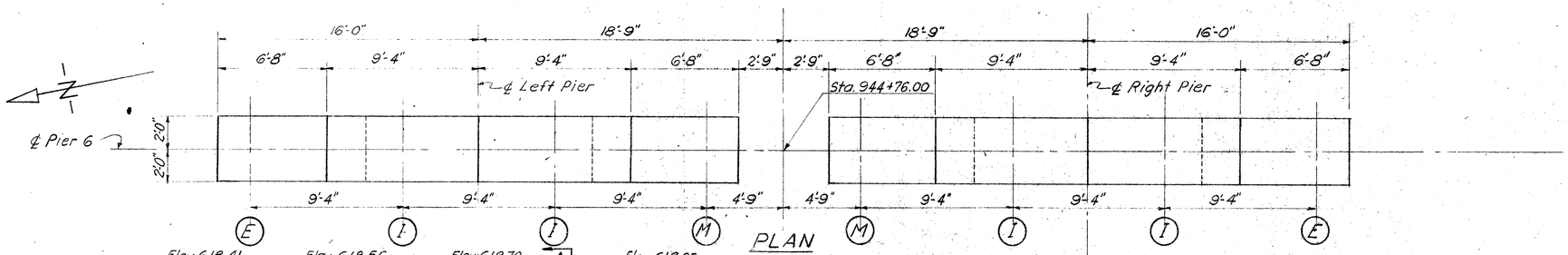
SANDUSKY CO. F-585(11)
SEC SAN 20-17.62 STA 939+21.25 TO 941+28.13

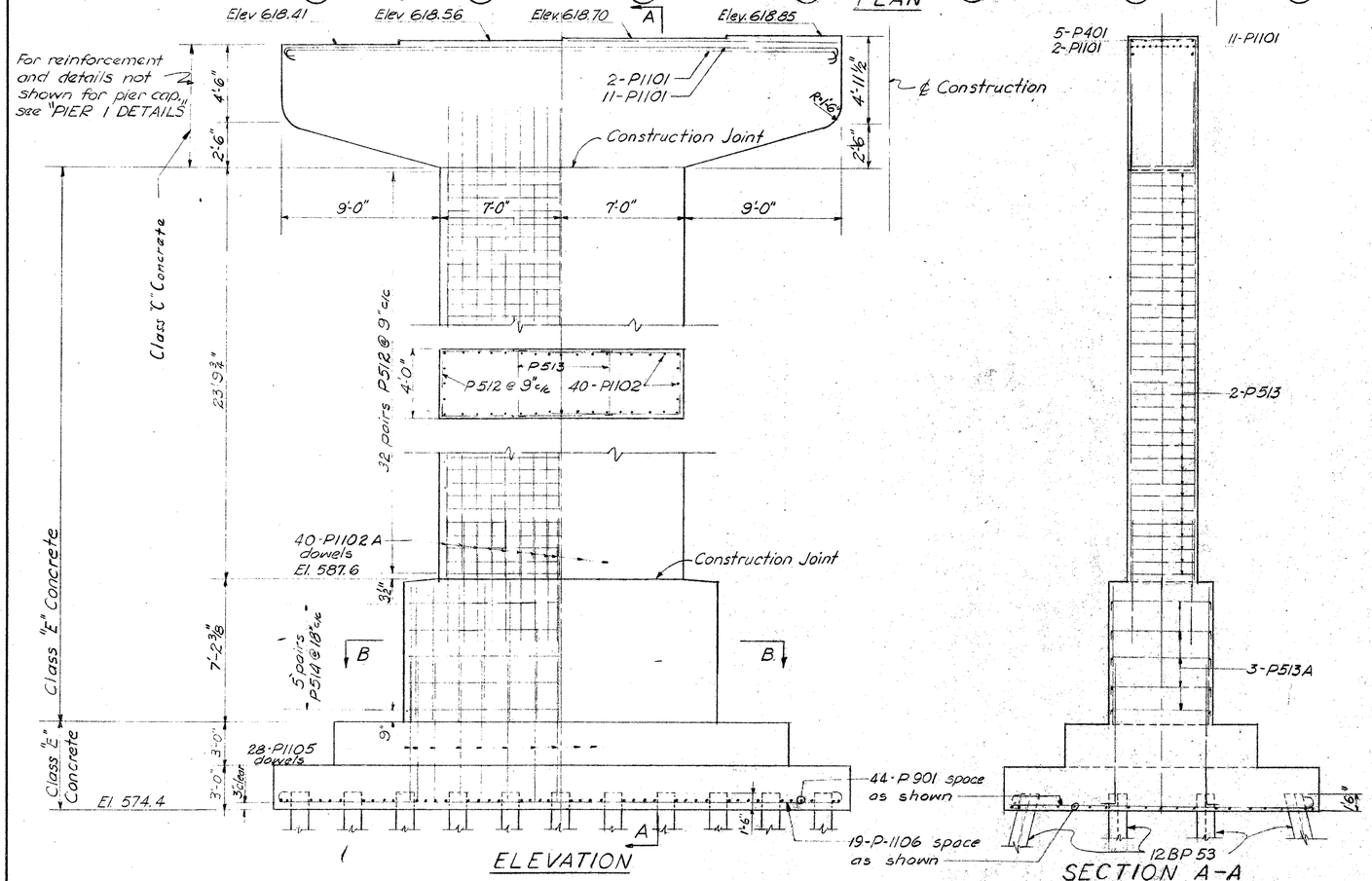
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	JN DY		WJJ	H.S.M.	11-30-55	

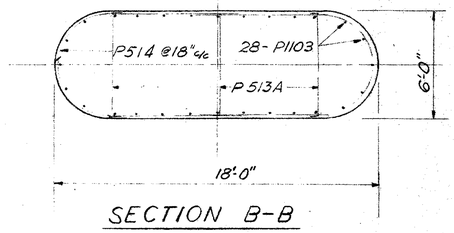
Sheets 149A thru 172A replace Sheets 149 thru 172 2-10-56

FED. RD. DIVISION	STATE	PROJECT	TYPE FYDS	158
2	OHIO	F-585(11)		

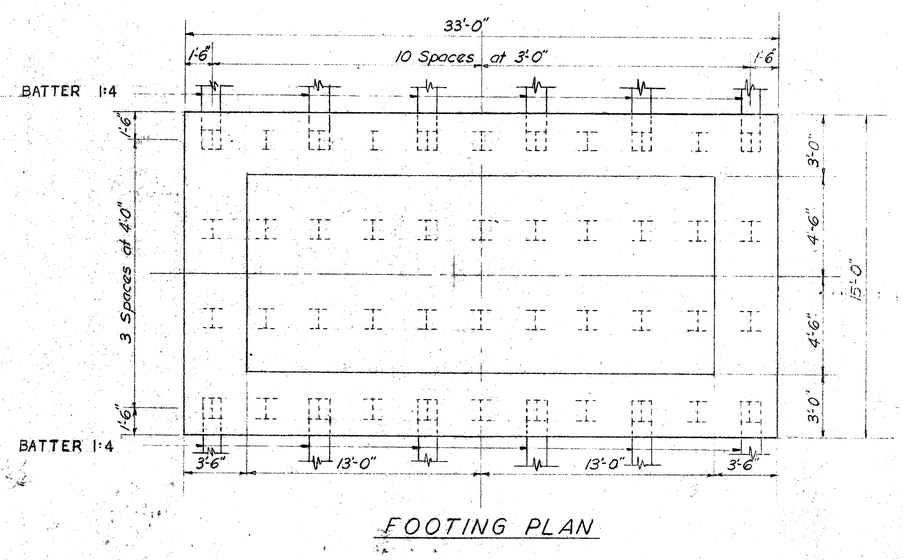
SANDUSKY COUNTY







Special care shall be taken in placing reinforcing steel in the bridge seat to clear anchor bolts.



NOTE: Elevation, Footing Plan and Section A-A shown for left pier, right pier similar.

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

PIER 6 DETAILS

BRIDGE NO. SA-20-180
OVER THE SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & ST.L. R.R.

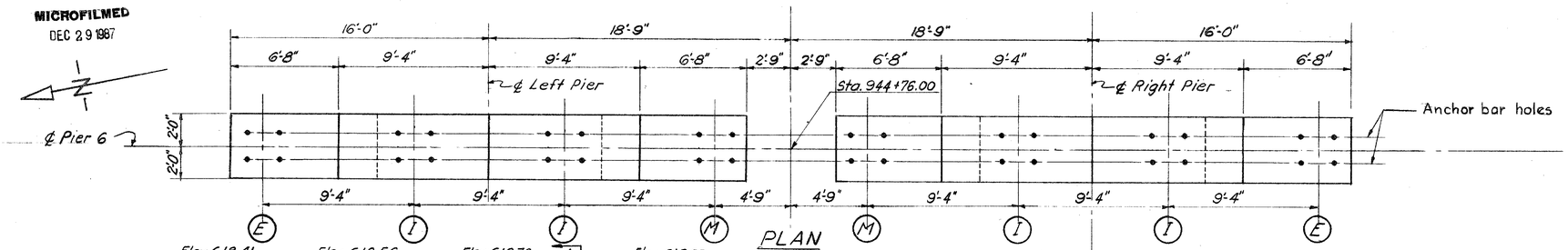
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
WFP	IN DY		WJJ		

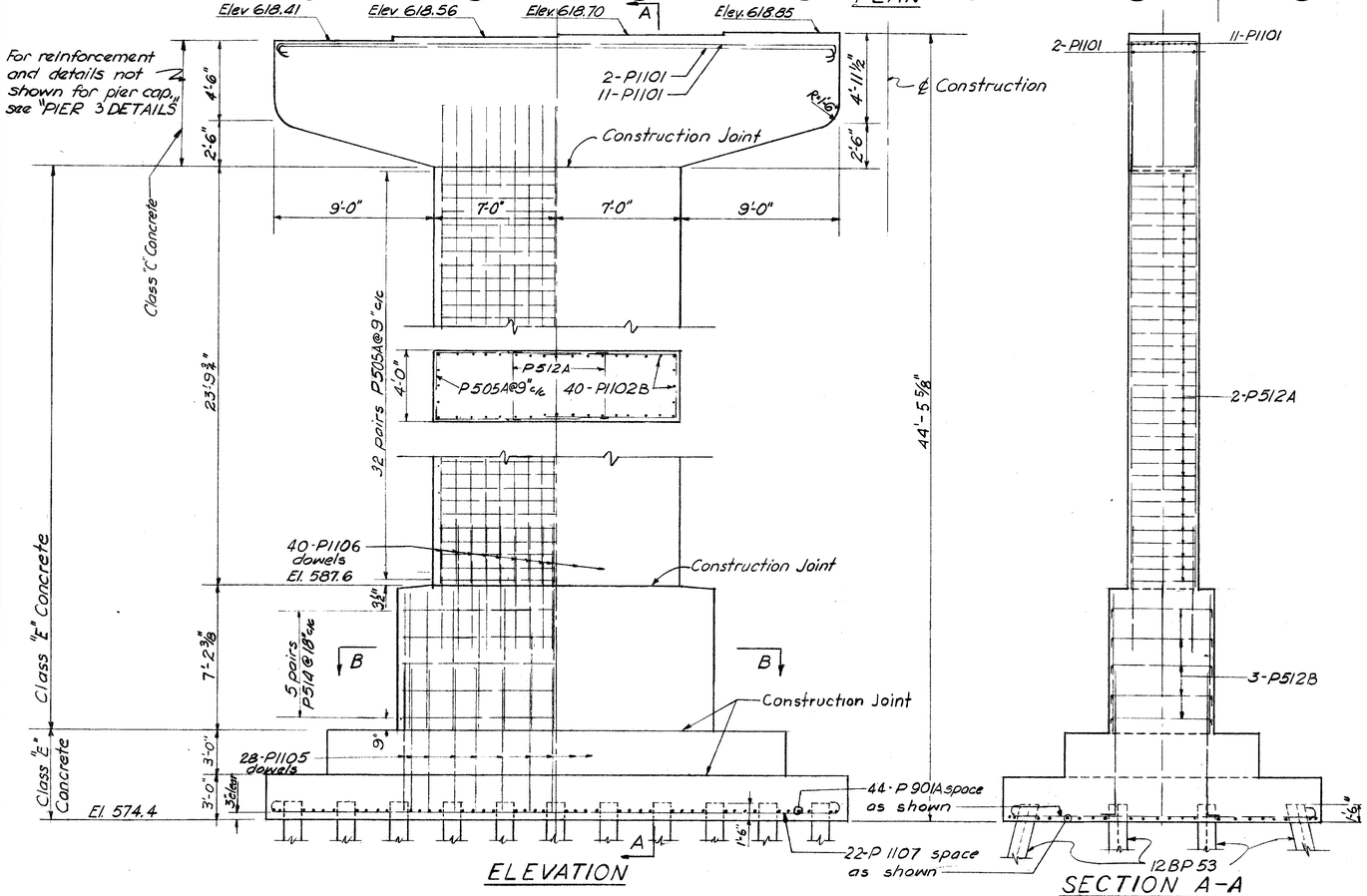
MICROFILMED
DEC 29 1987

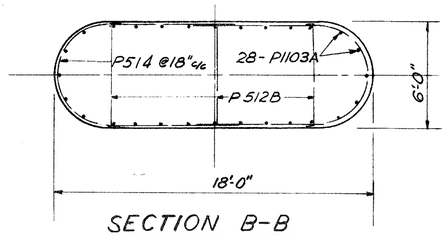
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585 (11)	

156A

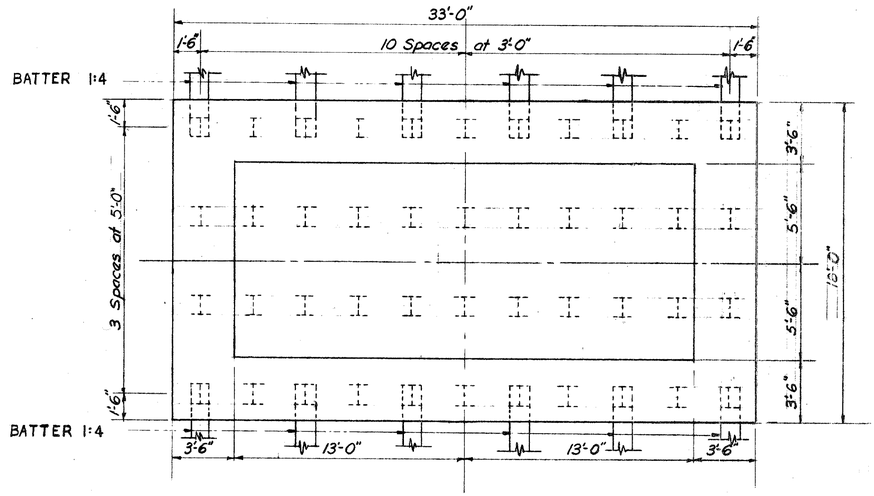
SANDUSKY COUNTY
SAN. 20-17.62







Special care shall be taken in placing reinforcing steel in the bridge seat to clear anchor bolts.



NOTE: Elevation, Footing Plan and Section A-A shown for left pier, right pier similar.

Sheets 143A thru 172A replace Sheets 143 thru 172. 2-10-56

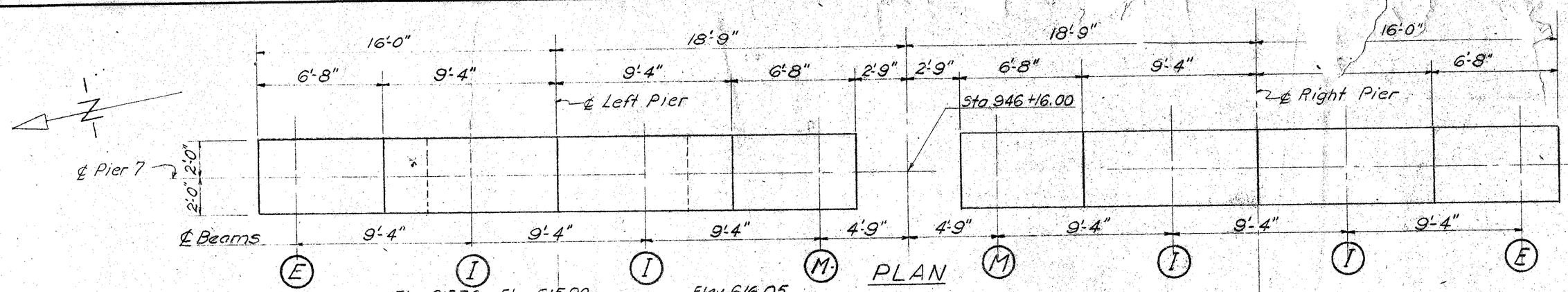
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

PIER 6 DETAILS

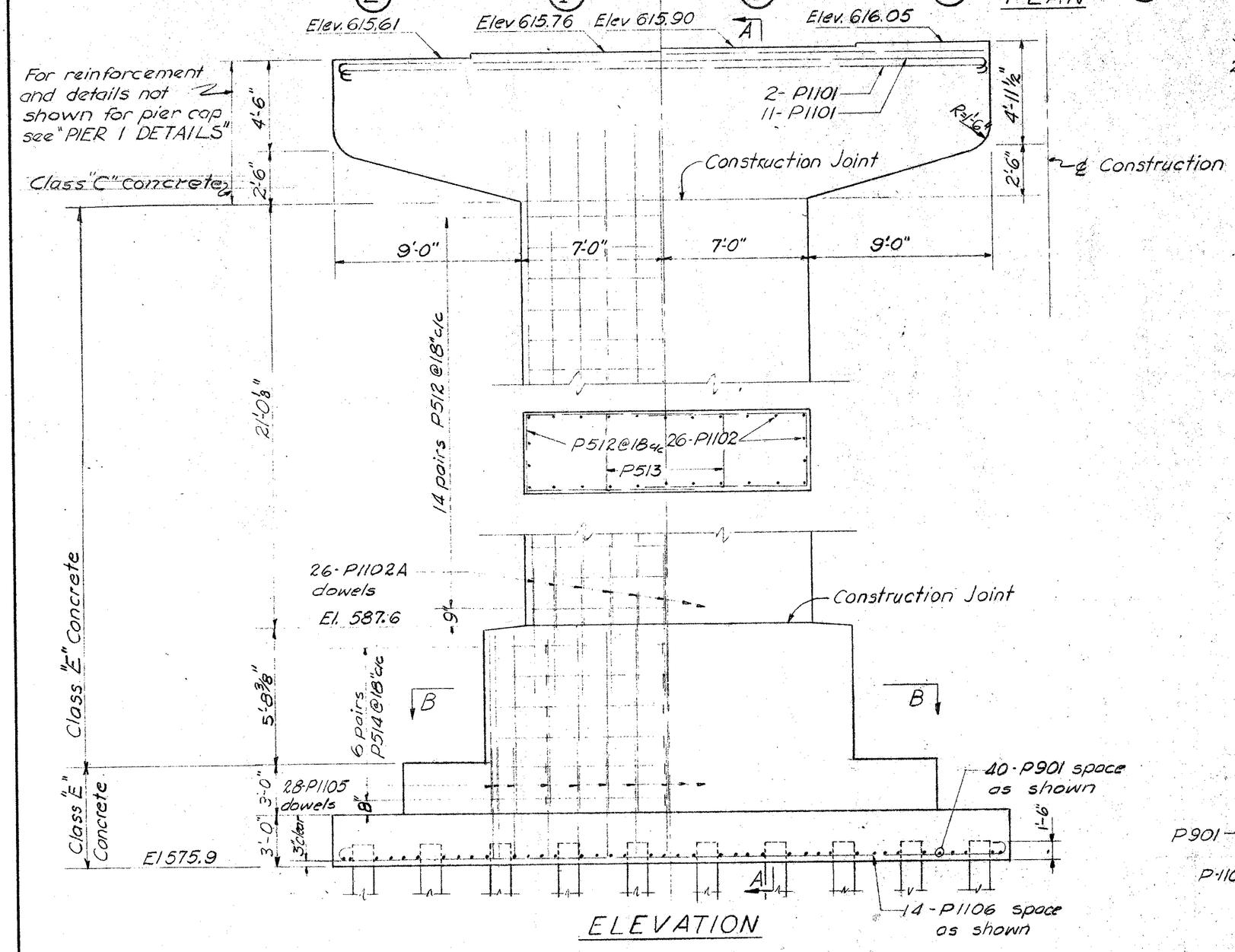
BRIDGE NO SA-20-180

OVER SANDUSKY RIVER, SR 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA 939+21.25 TO 941+28.13

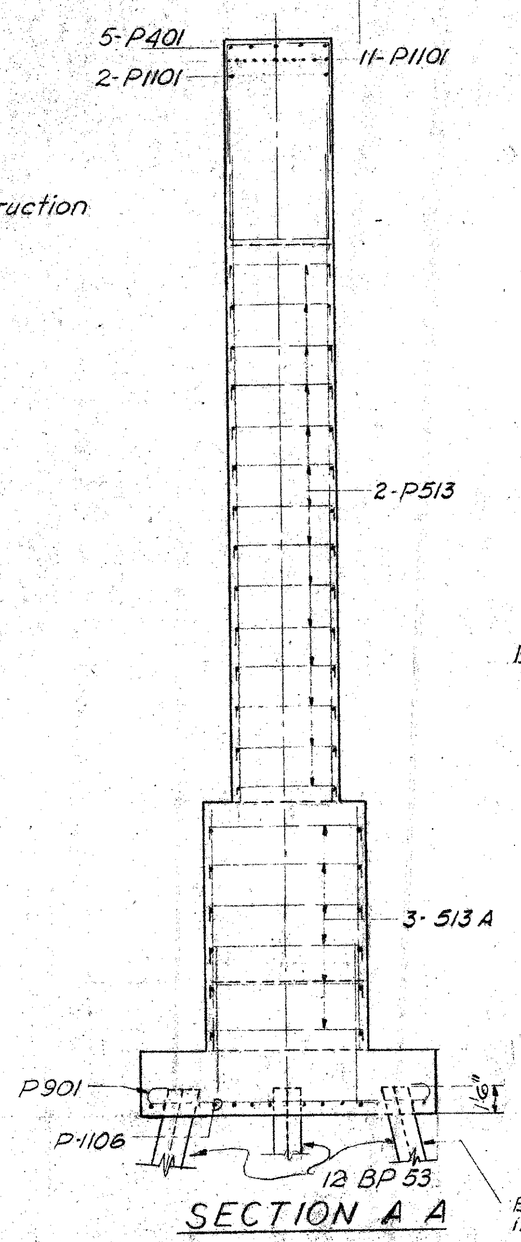
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	JN DY	—	WJJ	H.S.M	11-30-55	



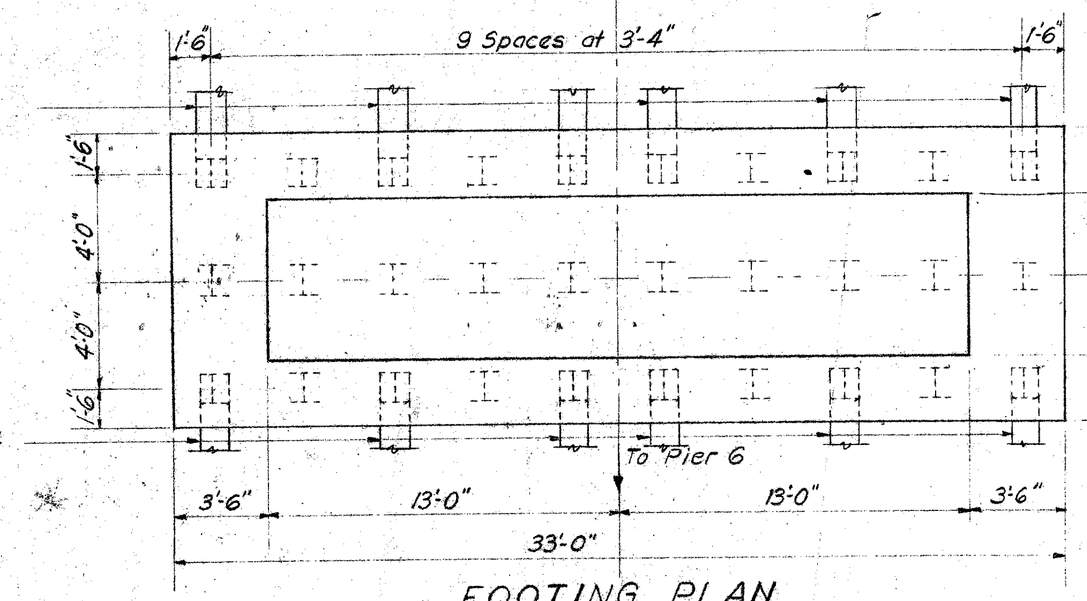
PLAN



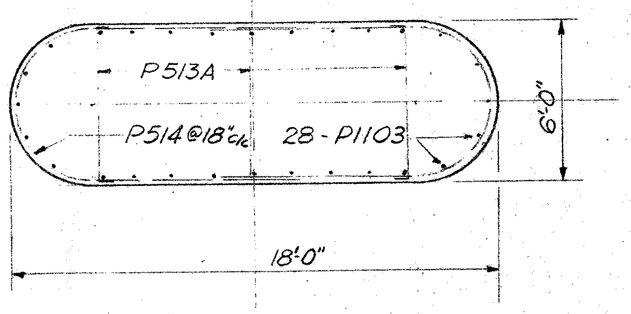
ELEVATION



SECTION A A



FOOTING PLAN



SECTION B-B

Sheets 149 thr
by Sheets 149.

CONSOER, TOWN
CONSULTING ENGINEERS

PIER

0'

S.R.

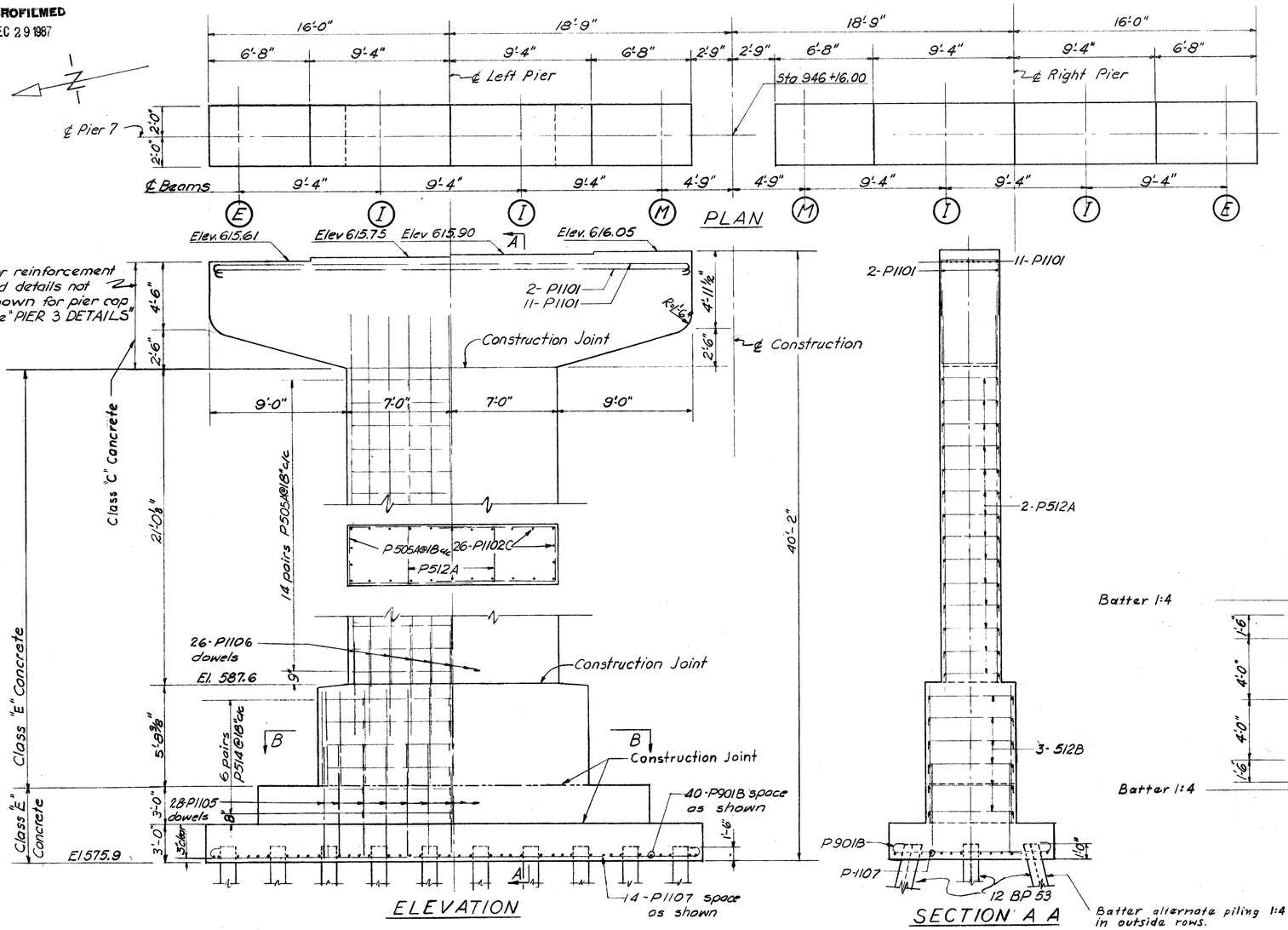
DESIGNED
WFP

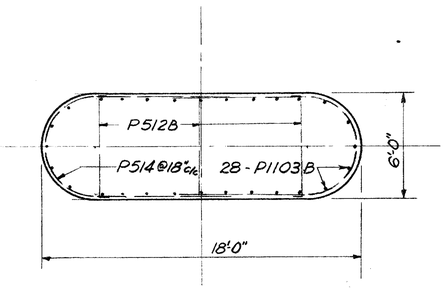
MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585 (11)	

169A

SANDUSKY COUNTY
SAN. 20-17.62





SECTION B-B

Sheets 149A thru 172A replace
Sheets 149 thru 172. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

PIER 7 DETAILS

BRIDGE NO. SA-20-18.0

OVER SANDUSKY RIVER, S.R.53, AND N.Y.C. & ST. L. R.R.

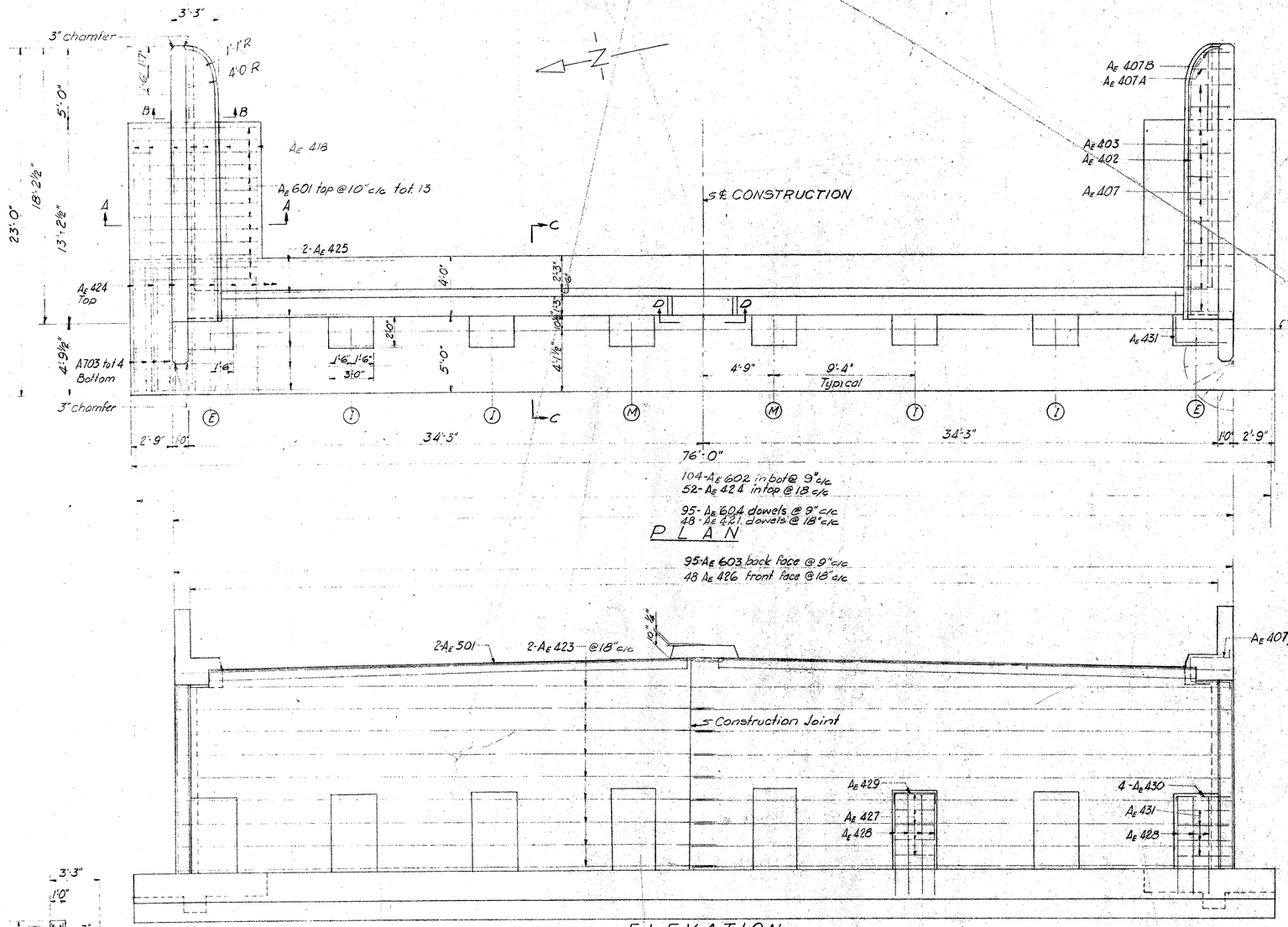
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

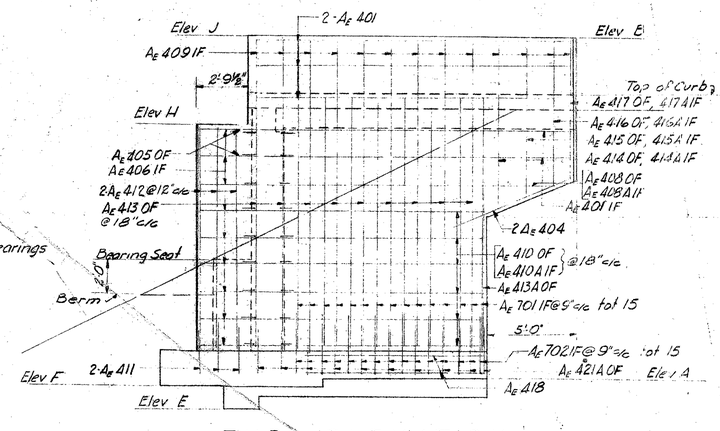
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	JN DY	-	WJJ	H.S.M.	11-30-55	

5-4-4

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNC
2	OHIO	F-585(11)	

SANDUSKY COUNTY



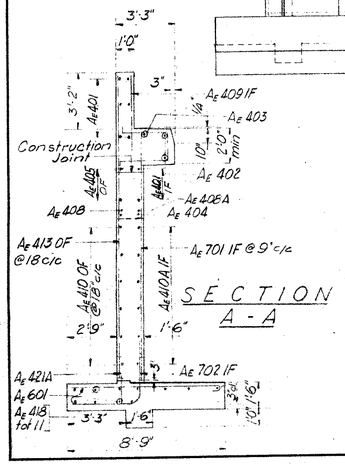


END ELEVATION

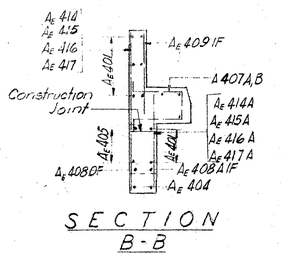
TABLE OF ELEVATIONS									
Point	A	B			E	F	H	J	K
Elev.	606.54	625.57			604.79	606.04	621.09	626.16	632.56

PROCEDURE: The embankment shall be placed and compacted to the height of the earth bench, after which excavation shall be made for the abutment and side walls. Pour toe of footings against neat lines.

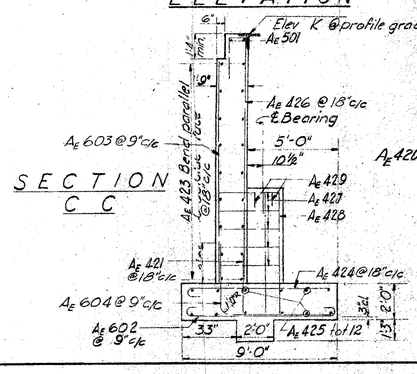
This sheet will be revised redesign of the footing of piling.



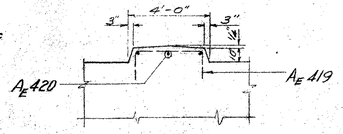
SECTION A-A



SECTION B-B



SECTION C C



VIEW D-D

TABLE OF BEAM SEAT ELEVATIONS								
Top of Concrete @ ℄ Stringer								
Beam	E	I	I	M	M	I	I	
Elev.	613.54	613.69	613.83	613.98	613.98	613.83	613.69	6

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOW
CONSULTING ENGINEER

EAST ABUT

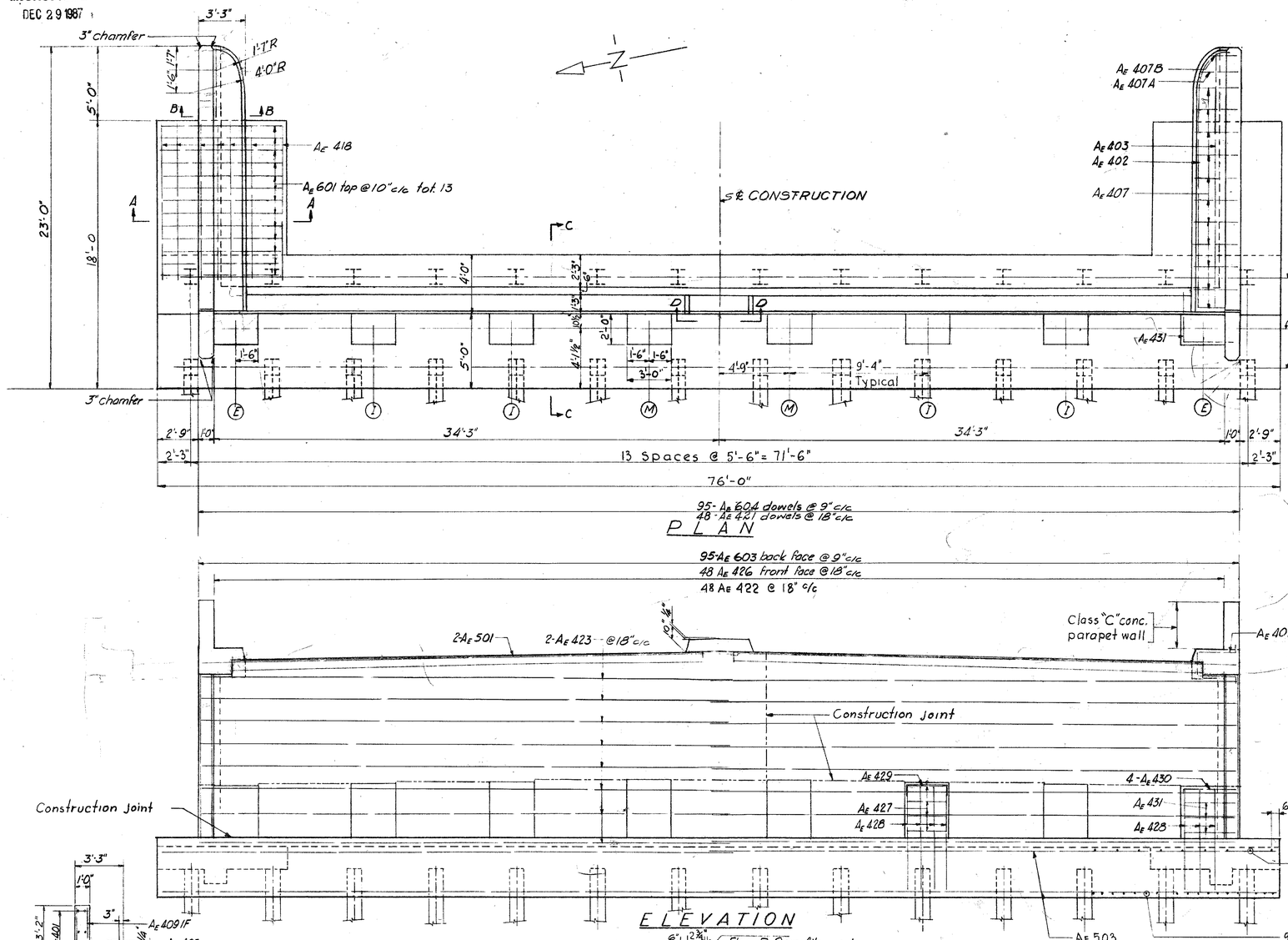
BRIDGE I
OVER THE S
S.R. 53, AND N.Y.

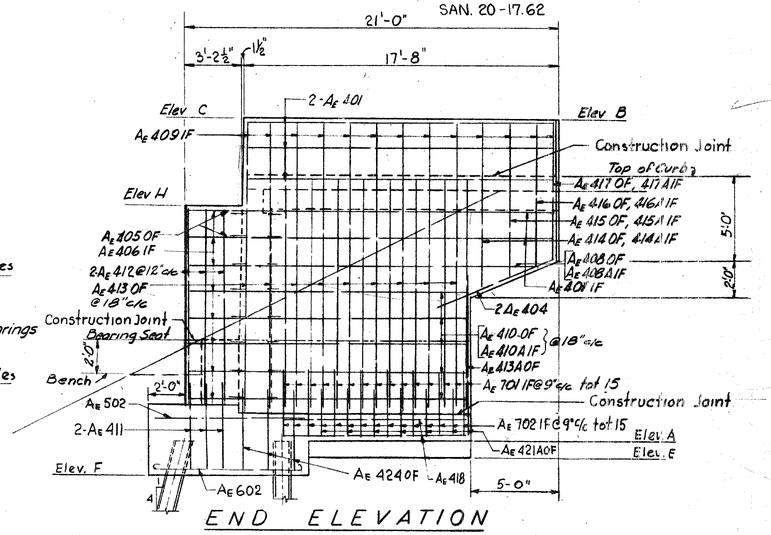
DESIGNED	DRAWN	TRACED
DY	DY	

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

SANDUSKY COUNTY
SAN. 20-17.62





END ELEVATION

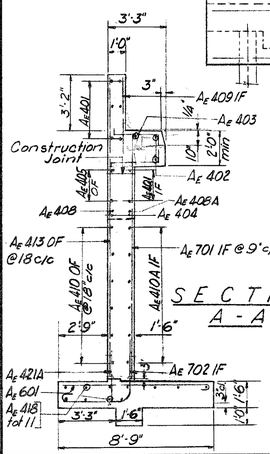
PROCEDURE: The embankment shall be placed and compacted to the height of the earth bench, after which excavation shall be made for the abutment and side walls.

TABLE OF ELEVATIONS

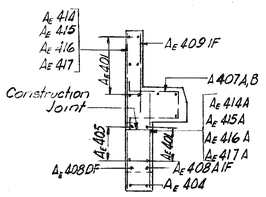
Point	A	B	C	D	E	F	H
Elev.	608.04	625.68	626.16	622.58	607.04	606.04	621.09

TABLE OF BEAM SEAT ELEVATIONS

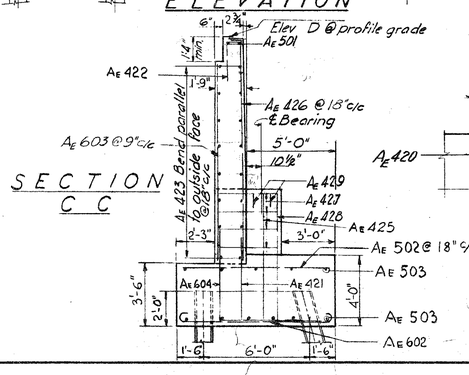
	Top of Concrete @ ℄ Stringer							
Beam	E	I	I	M	M	I	I	E
Elev.	613.55	613.70	613.85	613.99	613.99	613.85	613.70	613.55



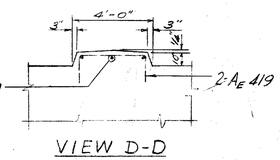
SECTION A-A



SECTION B-B



SECTION C C



VIEW D-D

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

EAST ABUTMENT DETAILS

BRIDGE NO SA 20-180

OVER SANDUSKY RIVER, SR 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

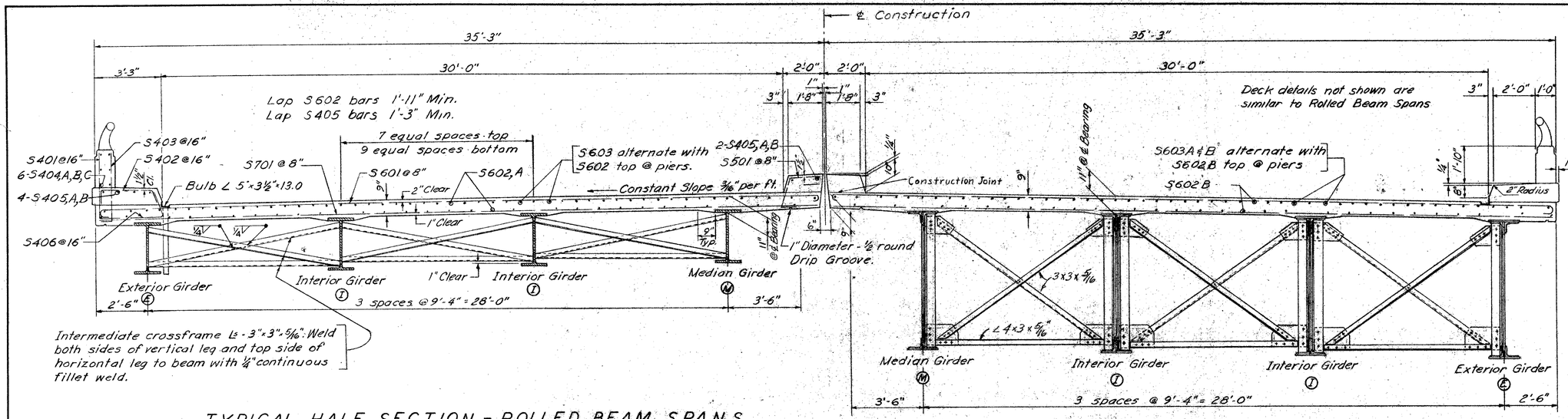
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DY	DY	-	C.W.W.	H.S.H.	11-30-55	

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-26-56

54-44B

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

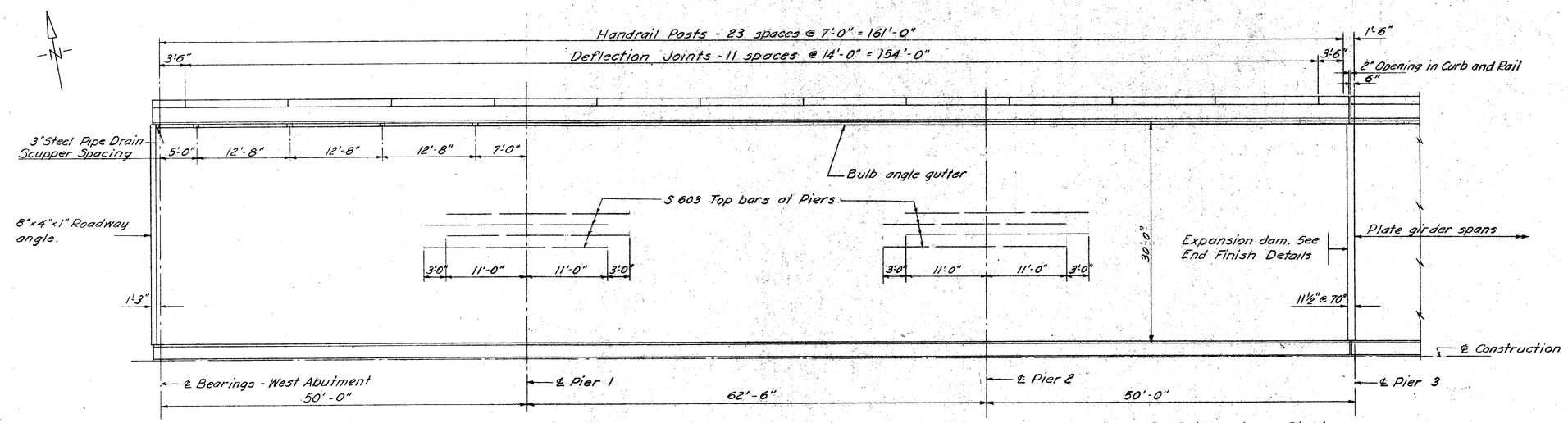
SANDUSKY COUNTY



TYPICAL HALF SECTION - ROLLED BEAM SPANS

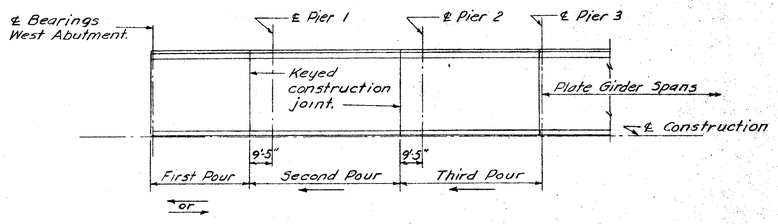
TYPICAL HALF SECTION - PLATE GIRDER SPANS

Note: Deck details are symm. about ℄ Construction. Slab thickness shown i 1" for monolithic wearing s Reinforcing steel in para be paid for under Item 5.4.



FLOOR PLAN - SPANS 1 THRU 3

Note: Left Bridge shown Right Bridge similar.



CONCRETE POURING SEQUENCE - SPANS 1 THRU 3

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

TYPICAL SECTIONS AND FLOOR PLAN - SPANS 1 THRU 3

BRIDGE NO. SA-20-180
OVER THE SANDUSKY RIVER,
S.R.53 AND N.Y.C. & ST. L. R.R.

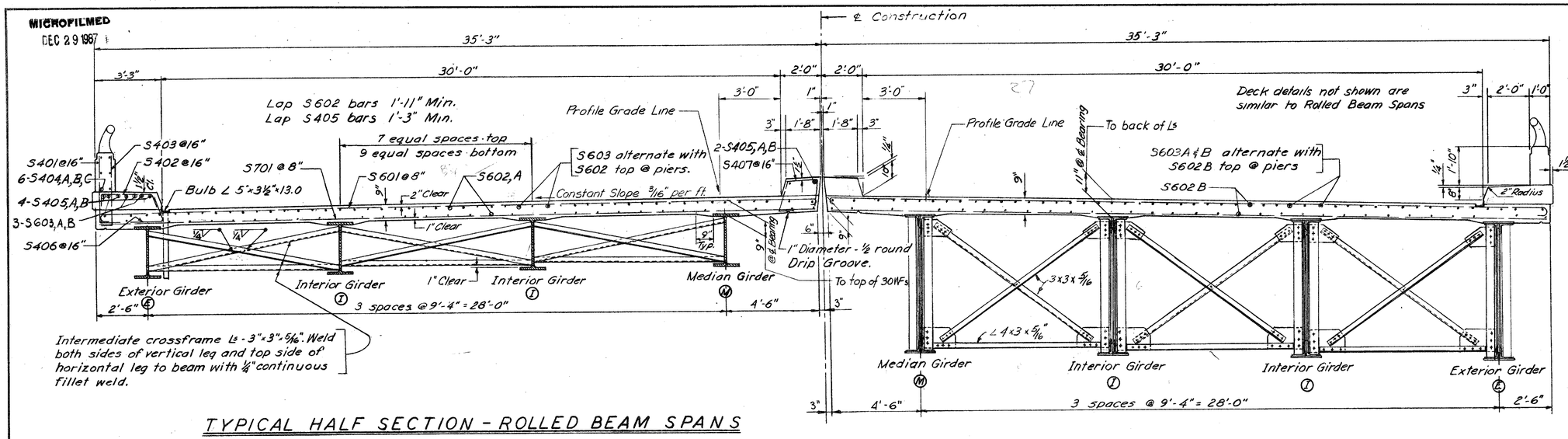
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.J.J	K.C.B		W.F.P			

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585 (11)	

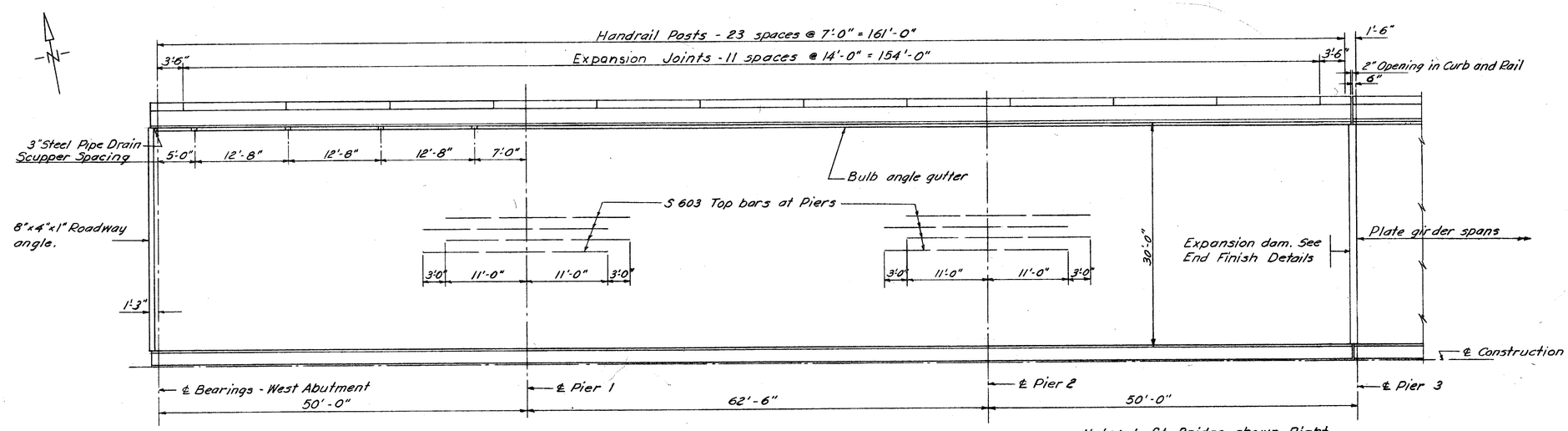
161A

SANDUSKY COUNTY
SAN. 20-17.62



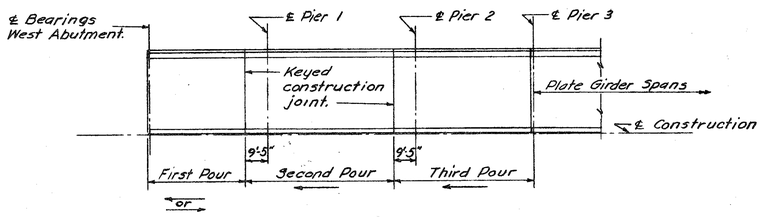
TYPICAL HALF SECTION - ROLLED BEAM SPANS

TYPICAL HALF SECTION - PLATE GIRDER SPANS



Note: Left Bridge shown Right Bridge similar.

FLOOR PLAN - SPANS 1 THRU 3



CONCRETE POURING SEQUENCE - SPANS 1 THRU 3

Sheets 149A thru 172A replace Sheets 149 thru 172 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

TYPICAL SECTIONS AND FLOOR PLAN - SPANS 1 THRU 3

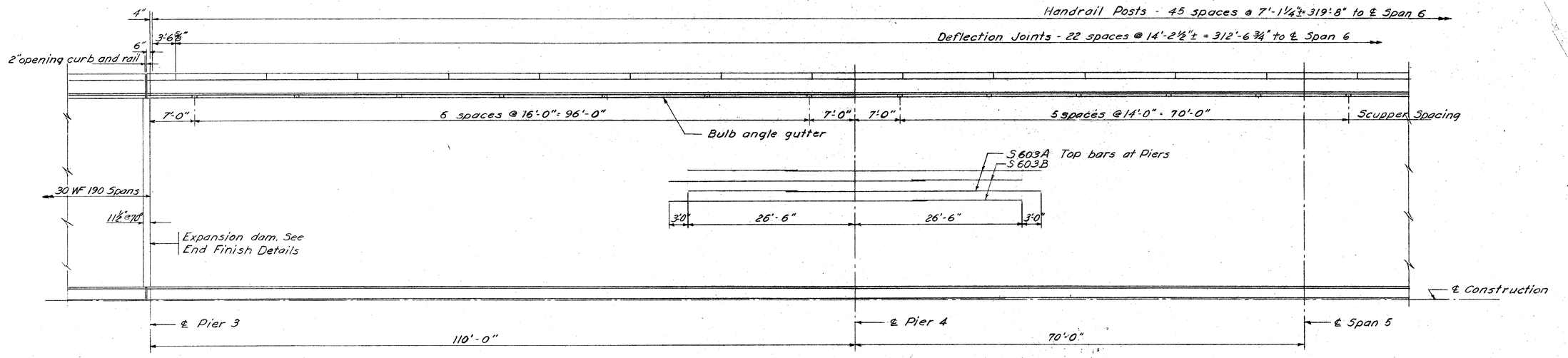
BRIDGE NO SA-20-180
OVER SANDUSKY RIVER, SR 53, AND I.N.C. & ST.L.R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

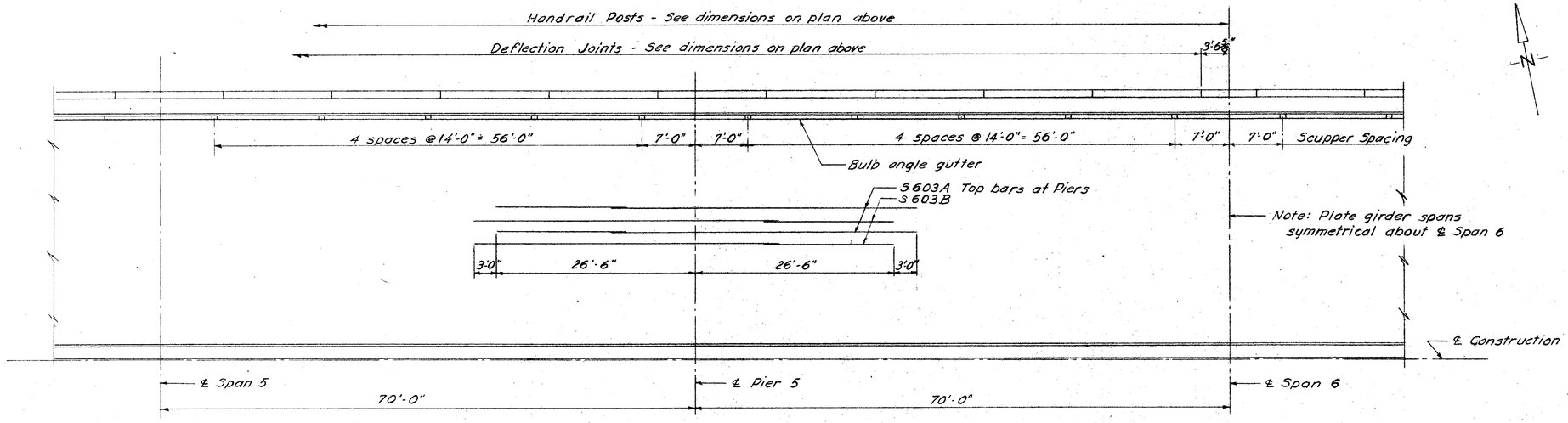
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WJJ	KCB	-	WFP	H.S.M.	11-30-55	

54-441

FED. RD. DIVISION	STATE
2	OHIO

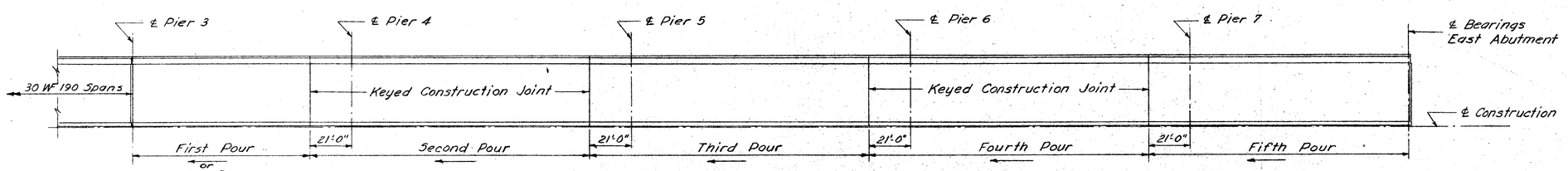
SANDUSKY COUN





FLOOR PLAN - SPANS 4 THRU 8

Note: Left Bridge shown Right Bridge similar.



CONCRETE POURING SEQUENCE - SPANS 4 THRU 8

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS · CHICAGO, ILLINOIS

FLOOR PLAN - SPANS 4 THRU 8
BRIDGE NO. SA-20-180
OVER THE SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & ST. L. R.R.

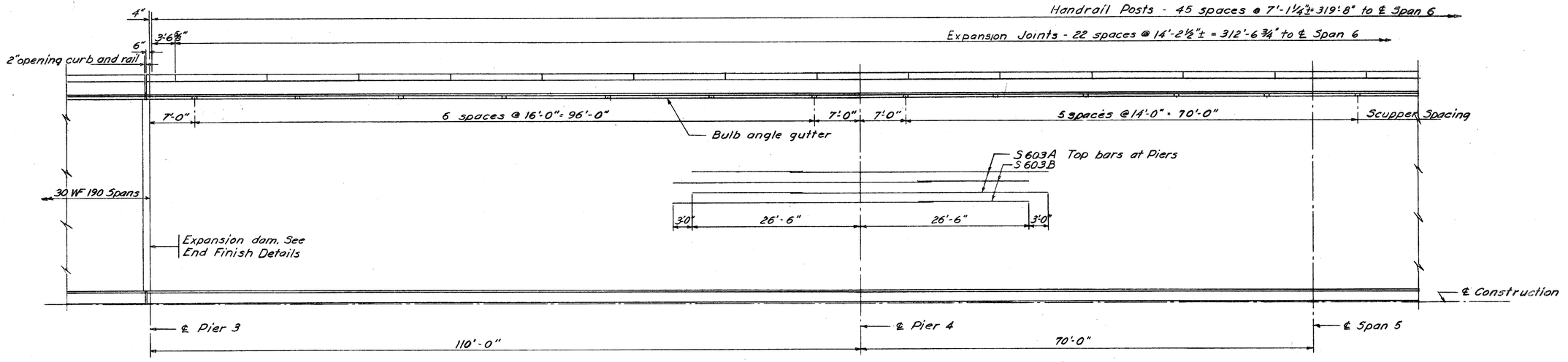
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WJJ	HCB		WFP			

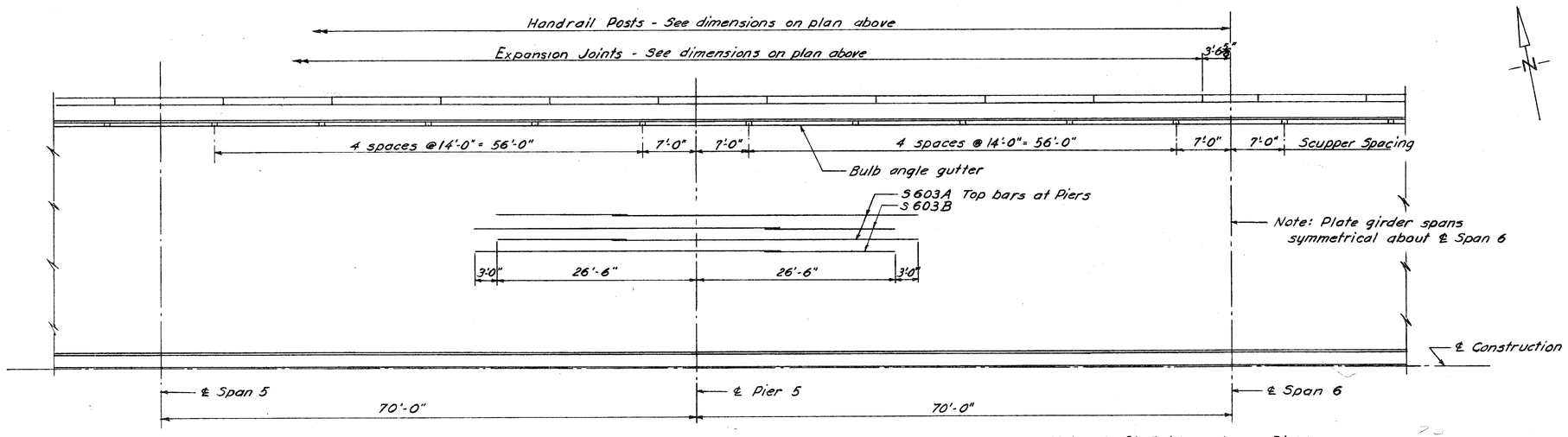
MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

162A

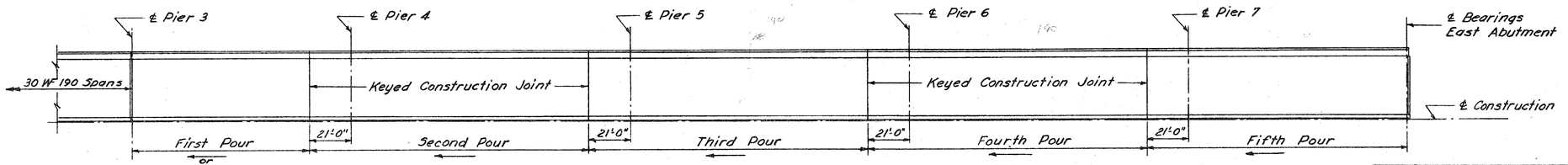
SANDUSKY COUNTY
SAN. 20-17.62





Note: Left Bridge shown Right Bridge similar.

FLOOR PLAN - SPANS 4 THRU 8



CONCRETE POURING SEQUENCE - SPANS 4 THRU 8

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

FLOOR PLAN - SPANS 4 THRU 8

BRIDGE NO. SA-20-1.80

OVER SANDUSKY RIVER, S.R.53 AND N.Y.C. & ST.L. R.R.

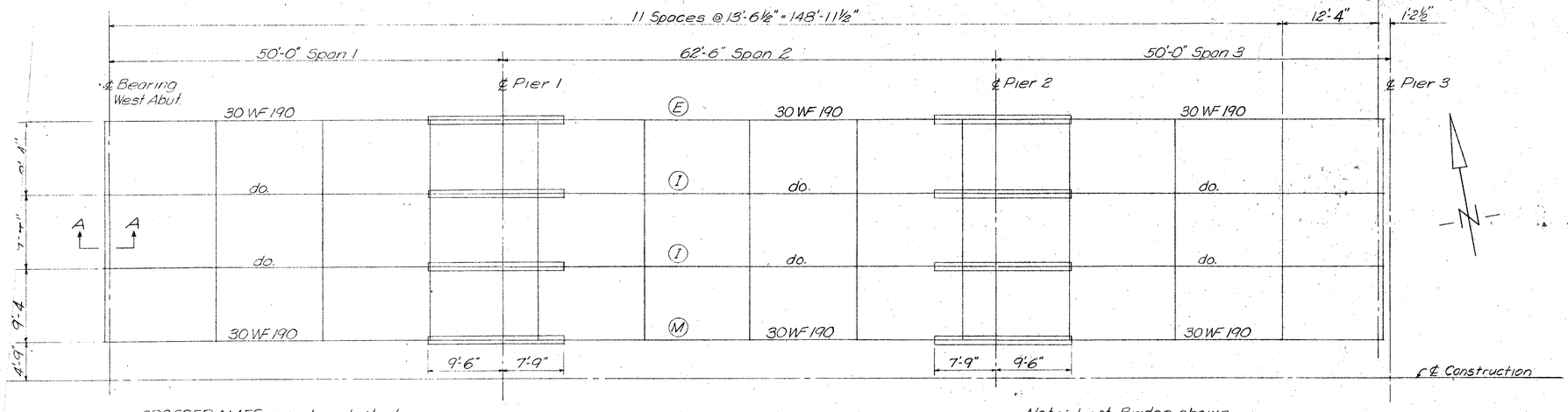
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 933+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WJJ	KCB	–	WFP	HSM	11-30-55	

FED RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(10)	

SANDUSKY COUNTY

163



CROSSFRAMES may be shifted a few inches to miss butt welds in beam splices.

Note: Left Bridge shown - Right Bridge similar.

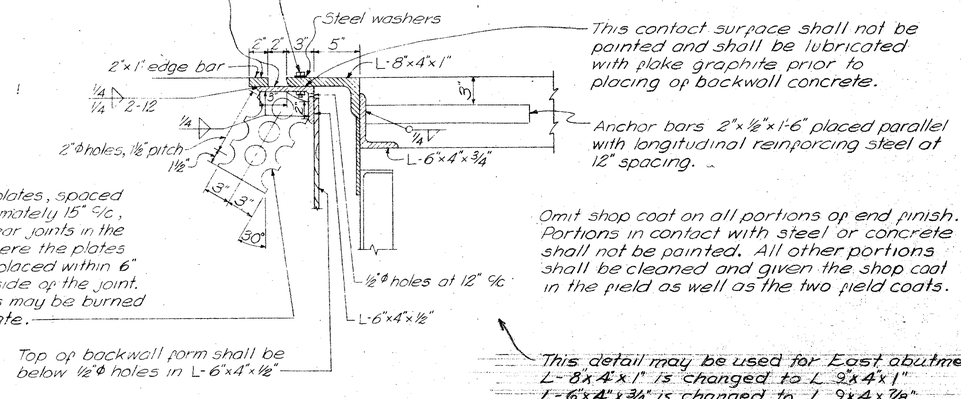
FRAMING PLAN

MOMENT PLATE SIZES	
LOCATION	PIERS 1 & 2
TOP	13½" x 9/16" x 17'-3"
BOTTOM	16½" x 7/16" x 17'-3"

BEAM SPLICE WELDING PROCEDURE:
1. Raise the abutment and Pier 3 ends of the beams 1".
2. Butt weld the beam flanges and web.
3. Weld the bottom and top moment plates.
4. Lower the beam ends to final position.

Provide a joint in the edge bar and in the angle on the center line of the roadway. Additional joints may be provided in them at a minimum spacing of 6'-0". (Joints shall not be welded.)

⅝" x 2" bolts at not more than 2'-0" c/c, with nuts tack-welded to under side of lower angle. 1" holes in upper angle. Center ⅝" bolts in 1" holes. Apply flake graphite between washers and angle. Turn bolt tight and release one-half turn. Remove bolts as soon as concrete has been reasonably set, preferably within two hours, to avoid effect of temperature expansion or contraction of superstructure. Fill holes with bituminous material.



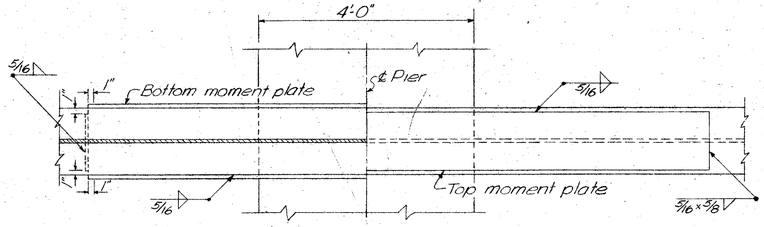
This contact surface shall not be painted and shall be lubricated with flake graphite prior to placing of backwall concrete.

Anchor bars 2" x ½" x 1'-6" placed parallel with longitudinal reinforcing steel at 12" spacing.

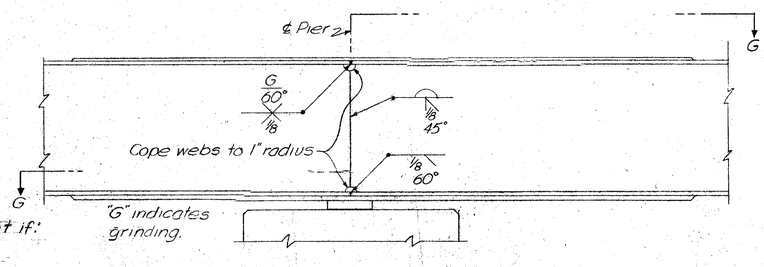
Omit shop coat on all portions of end finish. Portions in contact with steel or concrete shall not be painted. All other portions shall be cleaned and given the shop coat in the field as well as the two field coats.

This detail may be used for East abutment if:
L-8" x 4" x 1" is changed to L 9" x 4" x 1"
L-6" x 4" x ¾" is changed to L 9" x 4" x ⅞"
L-6" x 4" x ½" is changed to L 8" x 4" x ½"
3" Bearing of 1" L is changed to 4" at 70°F

SECTION A-A



SECTION G-G



BEAM SPLICE DETAILS

NO CAMBERING of beams is required but the beams shall be so fabricated that any curved beams will be placed with the convex flange up.

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

FRAMING PLAN
SPANS 1, 2 & 3
BRIDGE NO. SA-20-180
OVER SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & ST. L. R.R.

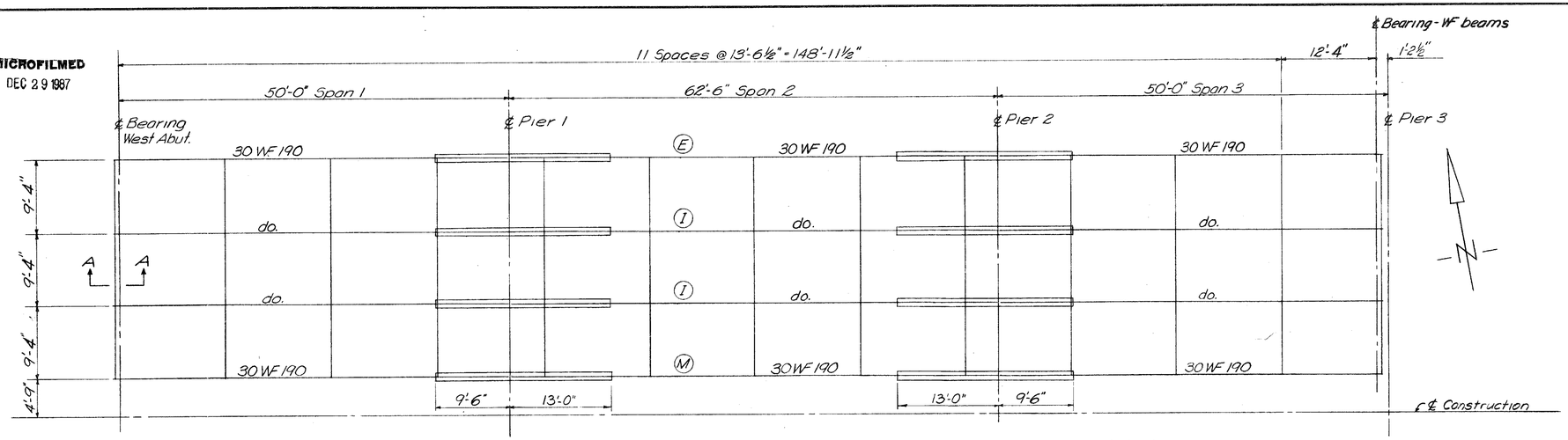
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISE
WJJ	DMF		WFP			

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

163A

SANDUSKY COUNTY
SAN. 20-17.62



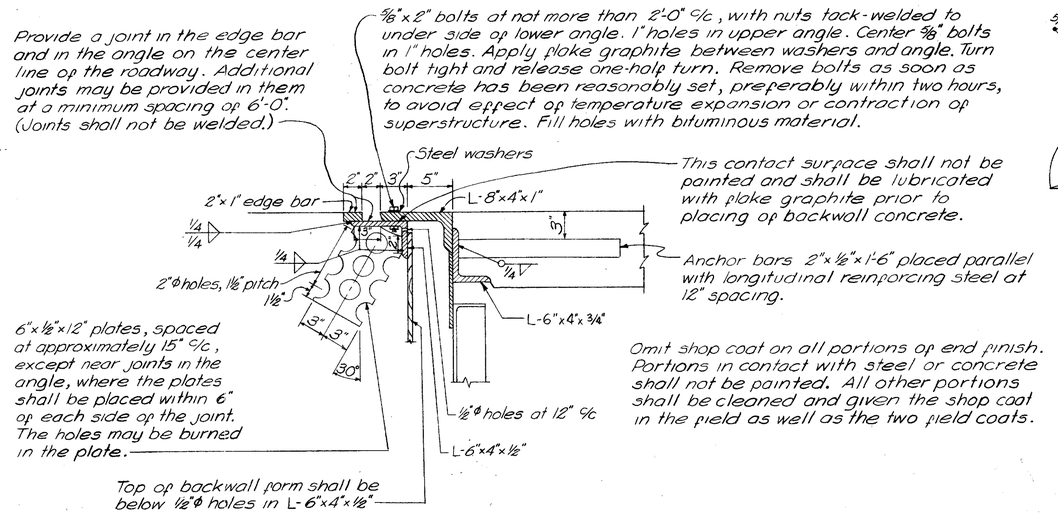
CROSSFRAMES may be shifted a few inches to miss butt welds in beam splices.

Note: Left Bridge shown - Right Bridge similar.

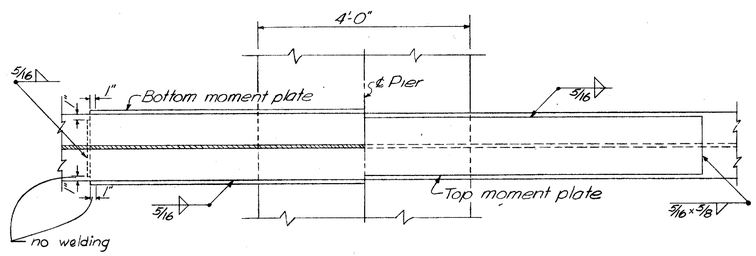
FRAMING PLAN

MOMENT PLATE SIZES	
LOCATION	PIERS 1 & 2
TOP	13½" x 9/16" x 22'-6"
BOTTOM	16½" x 7/16" x 22'-6"

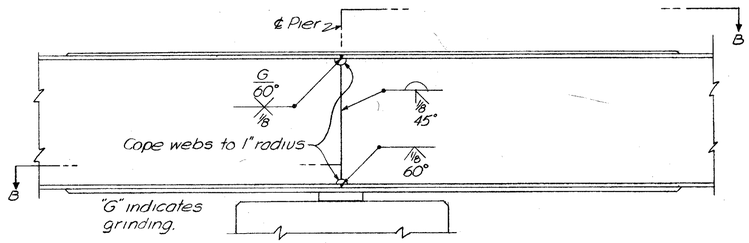
BEAM SPLICE WELDING PROCEDURE:
1. Raise the abutment and Pier 3 ends of the beams 1".
2. Butt weld the beam flanges and web.
3. Weld the bottom and top moment plates.
4. Lower the beam ends to final position.



SECTION A-A



SECTION B-B



BEAM SPLICE DETAILS

DEFLECTION AND CAMBER				
Location	Outside Beams		Inside Beams	
	End Span	Middle Span	End Span	Middle Span
Deflection due to weight of steel	1/16"	1/16"	1/16"	1/16"
Deflection due to remaining dead load	1/4"	1/4"	3/16"	3/16"
Convexity required for vertical curve	1/8"	1/4"	1/8	1/4"
Sum of Deflection and Convexity	7/16"	9/16"	3/8"	1/2"
Required Camber	none	none	none	none

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

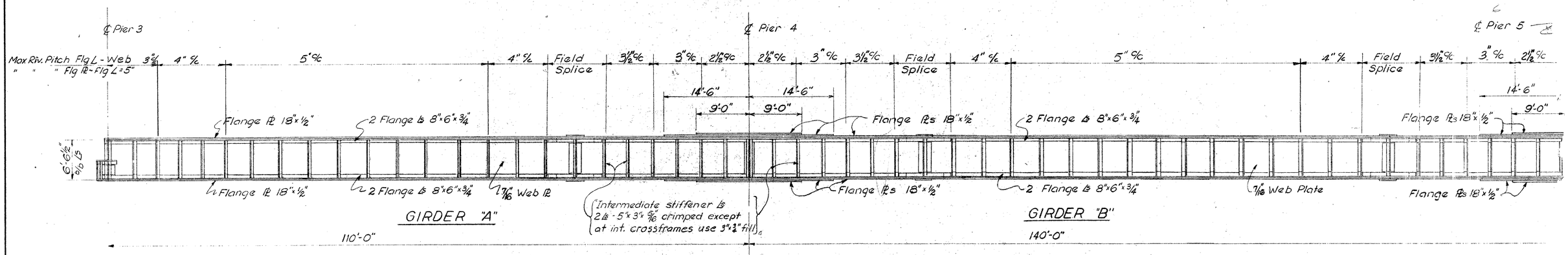
FRAMING PLAN
SPANS 1, 2 & 3
BRIDGE NO. SA-20-180
OVER SANDUSKY RIVER, SR. 53, AND N.Y.C. & ST. L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

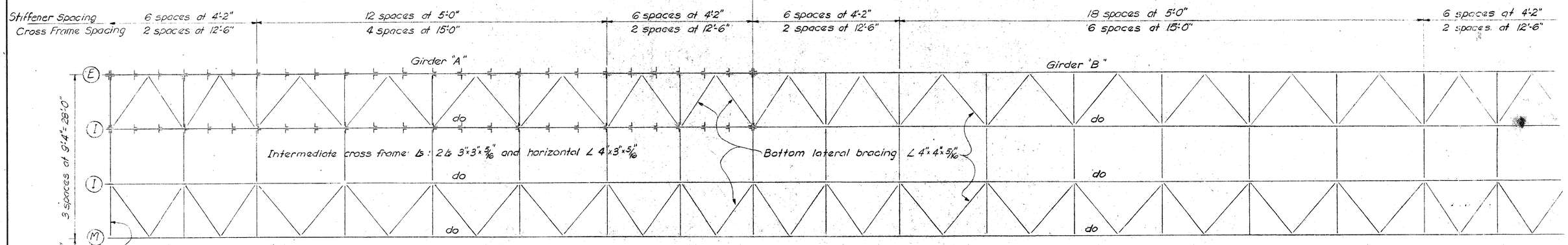
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WJJ	DMF	—	WFP	HEM	11-30-55	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

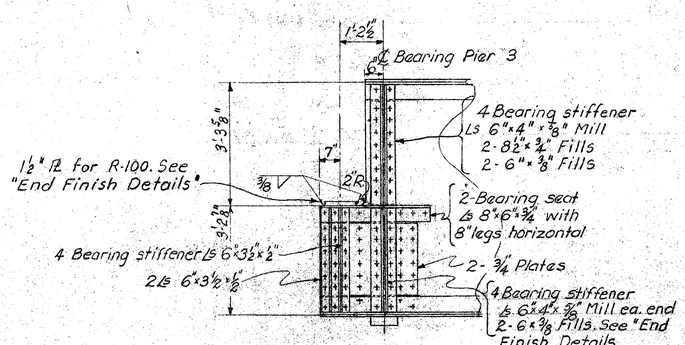
SANDUSKY COUNTY

(164)

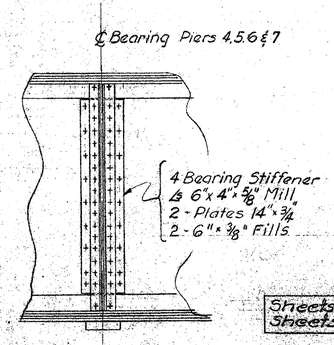




PLAN - STRUCTURAL STEEL FRAMING



GIRDER "A" BEARING SEAT



GIRDER "B" BEARING STIFFENER

Cambering of girders is required in accordance with the following table.

DEFLECTION & CAMBER						
Location	110' Spans			140' Spans		
	E	I	M	E	I	M
Deflection due to weight of steel	⅛"	⅛"	⅛"	⅛"	⅛"	⅛"
Deflection due to remaining dead load	⅝"	⅜"	½"	7/8"	½"	⅝"
Convexity required for verfical curve	¾"	¾"	¾"	1⅛"	1⅛"	1⅛"
Sum of Deflection and Convexity	1½"	1¼"	1⅜"	2⅛"	1¾"	1⅞"
Required Camber	1½"	1¼"	1⅜"	2⅛"	1¾"	1⅞"

Rivets shall be ⅞"ϕ

Sheets 149 thru 172 superseded by Sheets 149A thru 172A 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

STRUCTURAL STEEL FRAMING PLAN & GIRDER DETAILS #1
BRIDGE NO SA-20-180
OVER THE SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & ST.L. R.R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	JN		WJJ			

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

164A

SANDUSKY COUNTY
SAN. 20-17.62

℄ Pier 3 — ℄ Pier 4 — ℄ Pier 5

Max Riv. Pitch Flg L - Web
" " " Flg R - Flg L = 5"

5"℄ — Field Splice — 4"℄ — 3½"℄ — 3¼"℄ — 3¼"℄ — 3½"℄ — 4"℄ — Field Splice — 5"℄ — Field Splice — 4"℄ — 3½"℄ — 3¼"℄

14'-6" — 14'-6" — 14'-6"
9'-0" — 9'-0" — 9'-0"

Flange Pl 18"x½" — 2 Flange Ls 8"x6"x¾" — Flange Pls 18"x½" — 2 Flange Ls 8"x6"x¾" — Flange Pls 18"x½"

6'-6½" ℄ Ls

Flange Pl 18"x½" — 2 Flange Ls 8"x6"x¾" — 7/16 Web Pl — Flange Pls 18"x½" — 2 Flange Ls 8"x6"x¾" — 7/16 Web Plate — Flange Pls 18"x½"

GIRDER "A" — GIRDER "B"

Intermediate stiffener Ls 2 Ls - 5"x3½"x5/16 crimped except at int. crossframes use 3"x½" fill

110'-0" — 140'-0"

Stiffener Spacing: 6 spaces at 4'-2" | 12 spaces at 5'-0" | 6 spaces at 4'-2" | 6 spaces at 4'-2" | 18 spaces at 5'-0" | 6 spaces at 4'-2"
Cross Frame Spacing: 2 spaces at 12'-6" | 4 spaces at 15'-0" | 2 spaces at 12'-6" | 2 spaces at 12'-6" | 6 spaces at 15'-0" | 2 spaces at 12'-6"

Girder "A" — Girder "B"

3 spaces at 9'-4" = 28'-0"

E — do
I — do
Intermediate cross frame Ls: 2 Ls 3"x3"x5/16" and horizontal ∠ 4"x3"x5/16"
Bottom lateral bracing ∠ 4"x4"x5/16"
I — do
M — do
See "End Finish Details"

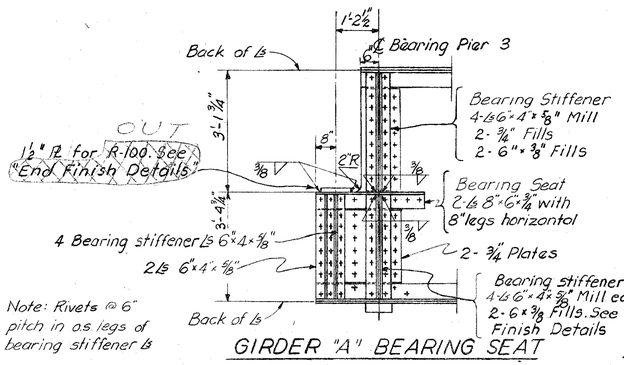
℄ Construction — Symmetrical about ℄

3 spaces at 9'-4" = 28'-0"

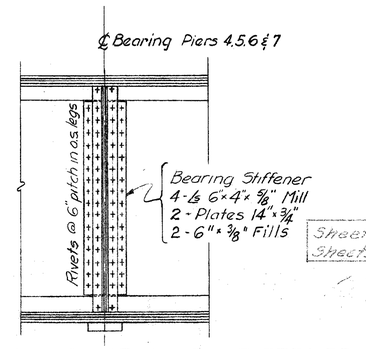
Girder "A"

M — do
I — do
I — do
E — do

PLAN - STRUCTURAL STEEL FRAMING



GIRDER "A" BEARING SEAT



GIRDER "B" BEARING STIFFENER

Cambering of girders is required in accordance with the following table.

DEFLECTION & CAMBER						
Location	110' Spans			140' Spans		
	E	I	M	E	I	M
Deflection due to weight of steel	⅛"	⅛"	⅛"	3/16"	3/16"	3/16"
Deflection due to remaining dead load	9/16"	7/16"	½"	11/16"	9/16"	5/8"
Convexity required for vertical curve	11/16"	11/16"	11/16"	1⅛"	1⅛"	1⅛"
Sum of Deflection and Convexity	1⅜"	1¼"	1 5/16"	2⅛"	1¾"	1 15/16"
Required Camber	1⅜"	1¼"	1 5/16"	2⅛"	1¾"	1 15/16"

Rivets shall be ⅞"ϕ

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

STRUCTURAL STEEL FRAMING
PLAN & GIRDER DETAILS #1
BRIDGE NO SA-20-180
OVER SANDUSKY RIVER, SR 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO — F-585(11)
SEC. SAN. 20-17.62 — STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	JN	–	WJJ	H.S.M.	11-30-55	4-17-56

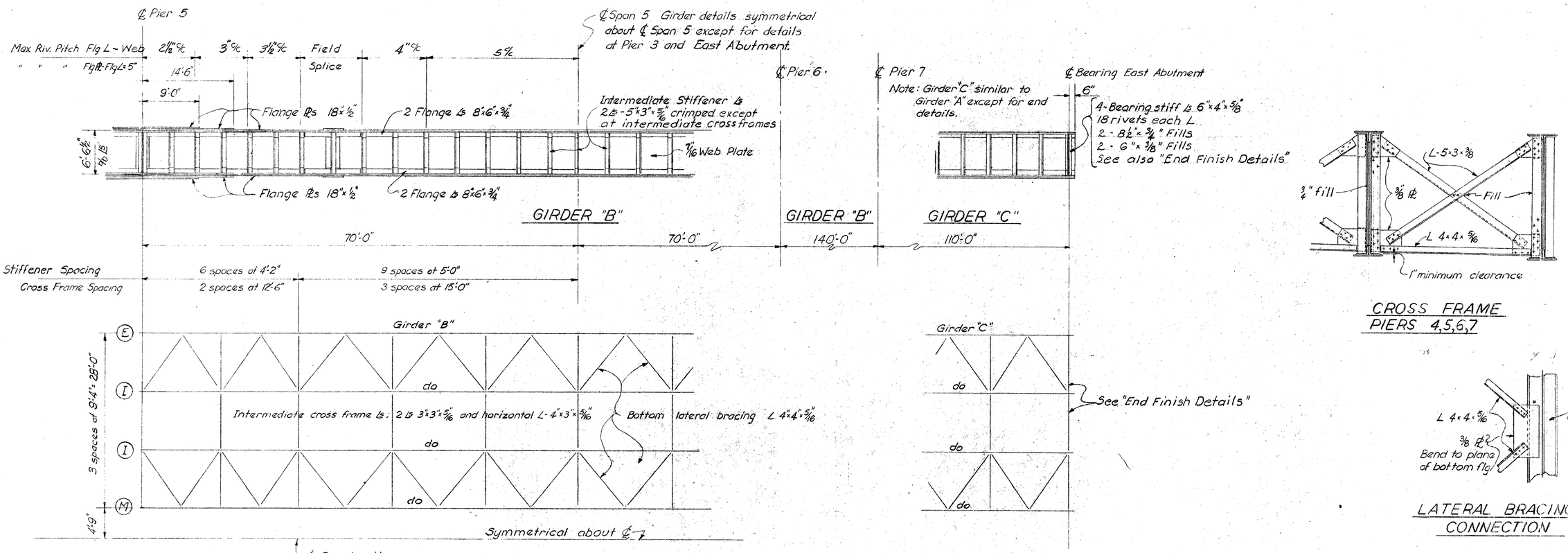
54-4

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

SANDUSKY COUNTY

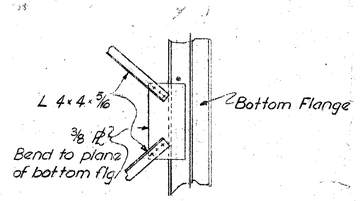
14

165

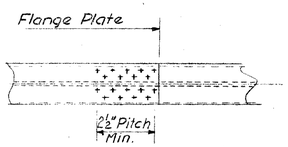


PLAN - STRUCTURAL STEEL FRAMING

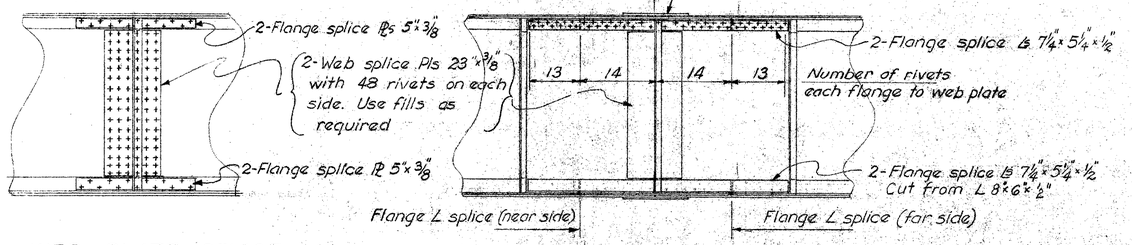
CROSS FRAME PIERS 4,5,6,7



LATERAL BRACING CONNECTION



FLANGE PLATE END DETAILS



WEB PLATE SPLICE

FIELD SPLICE

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

STRUCTURAL STEEL FRAMING PLAN GIRDER DETAILS # 2

BRIDGE NO. SA-20-180
OVER THE SANDUSKY RIVER
S.R. 53, AND N.Y.C. & ST. L. R.R.

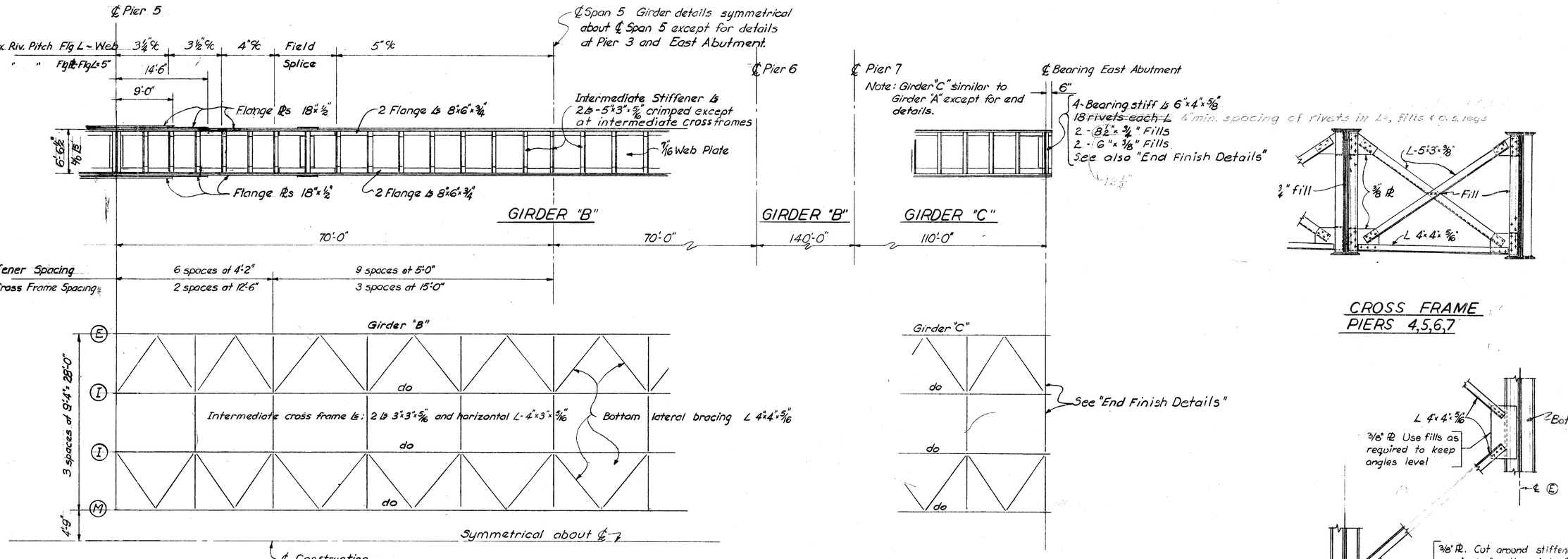
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	JN		WJJ			

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

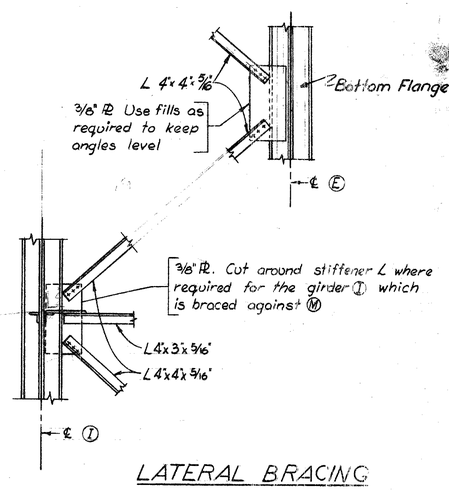
165A

SANDUSKY COUNTY
SAN. 20-17.62

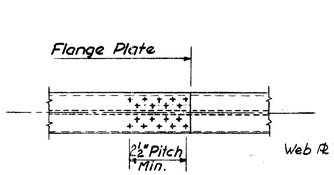


PLAN - STRUCTURAL STEEL FRAMING

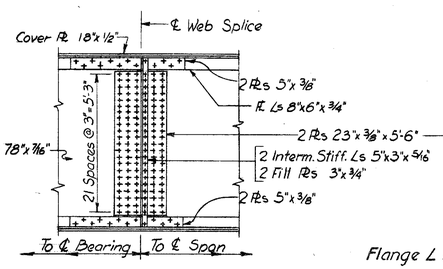
CROSS FRAME
PIERS 4,5,6,7



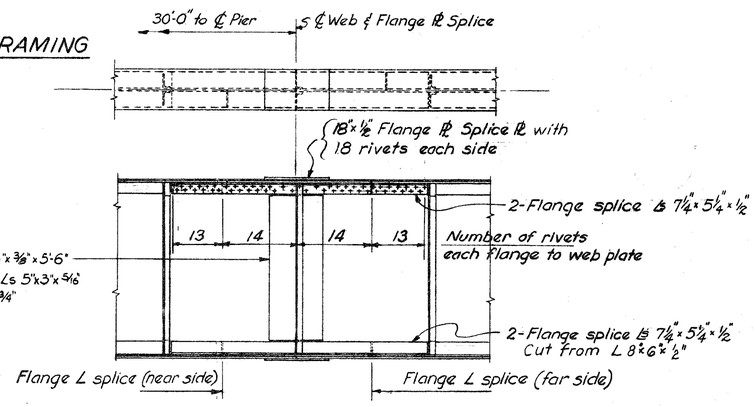
LATERAL BRACING
CONNECTION



FLANGE PLATE END DETAILS



WEB PLATE SPLICE



FIELD SPLICE

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

STRUCTURAL STEEL FRAMING
PLAN GIRDER DETAILS # 2
BRIDGE NO. SA-20-180
OVER SANDUSKY RIVER, S.R.53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-12-56

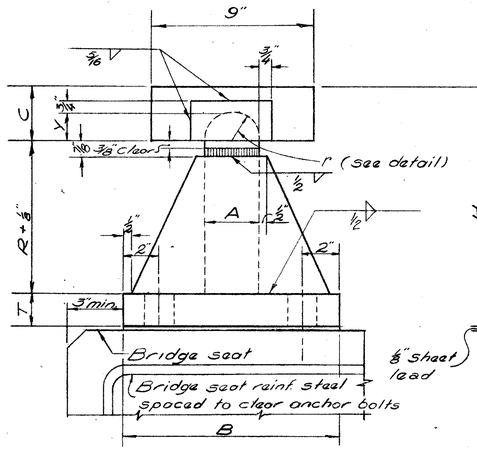
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WFP	JN	–	WJJ	HSM	11-30-55	4-17-56

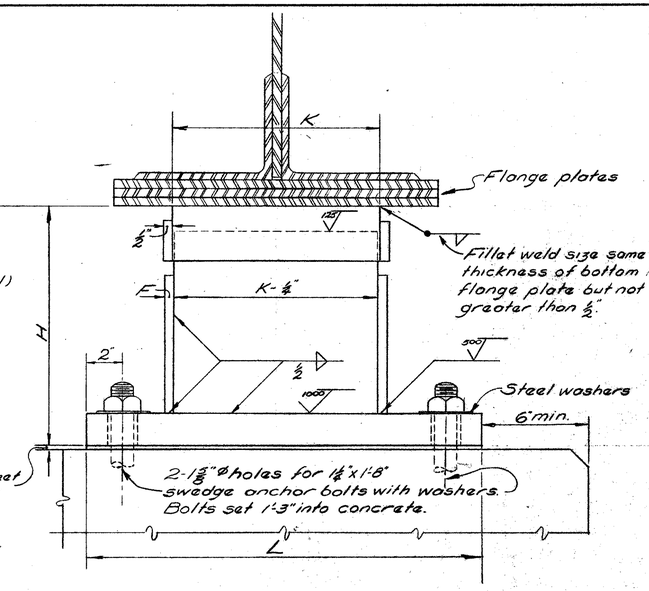
54-448

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

SANDUSKY COUNTY

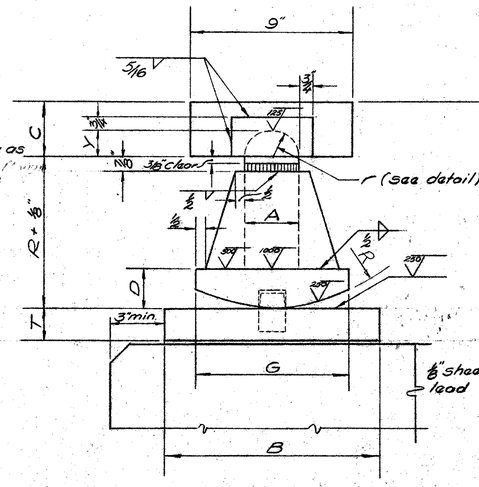
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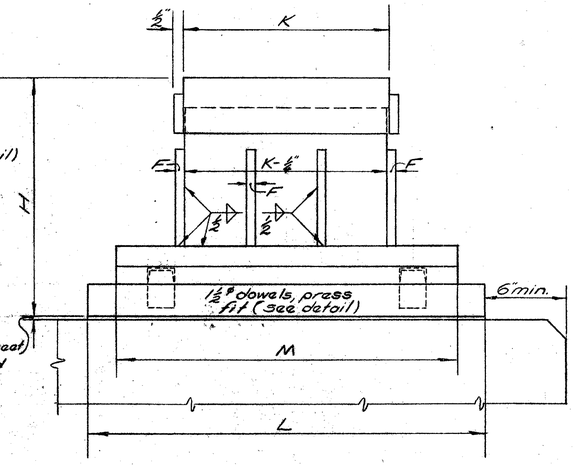




STRUCTURAL STEEL BOLSTER

See table below for additional dimensions

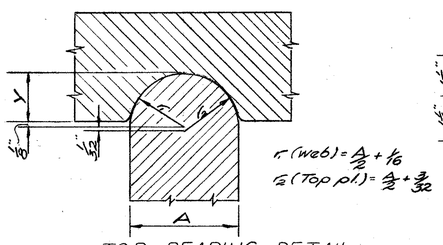




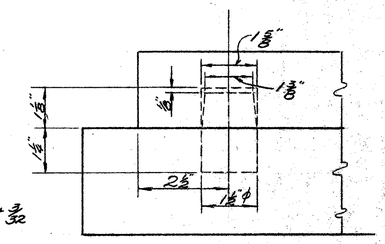
STRUCTURAL STEEL ROCKER

See table below for additional dimensions

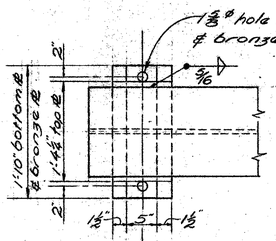
Bolster No.	Rocker No.	Dimensions (inches)													Weight each (lb)		Maximum Load (lb)
		A	B	C	D	F	G	H	K	L	M	R	T	Y	Bolster	Rocker	
B-100	R-100	2 1/2	10	2 1/2	2	1/2	7 1/2	10 5/8	9	19	17	6 1/2	1 1/2	1 3/16	225	250	100,000
B-150	R-150	3	12	3	2 1/2	1/2	8 1/2	13 3/8	11 1/2	22	19	8 1/2	1 3/4	1 7/16	360	400	150,000
B-175	R-175	3	14	3 1/2	2 1/2	1/2	9	15 1/8	12	23	20	9 1/2	2	1 7/16	455	505	175,000
B-375	R-375	4	24	4	3 3/4	3/8	14	20 3/8	16	29	26	13	3 1/2	1 15/16	1247	1430	375,000

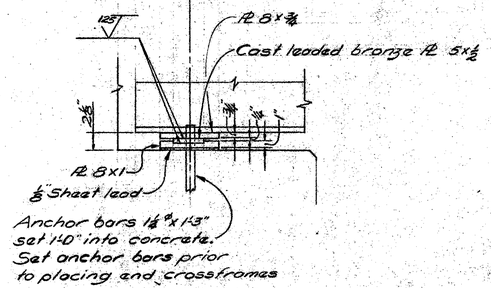


TOP BEARING DETAIL



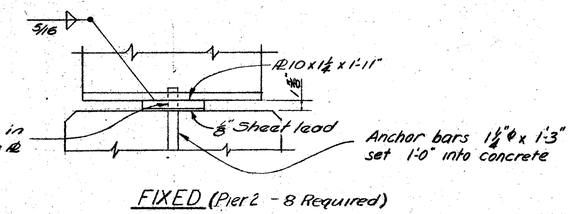
DOWEL DETAIL



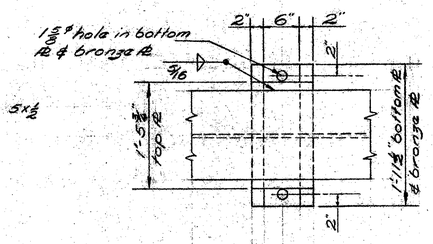


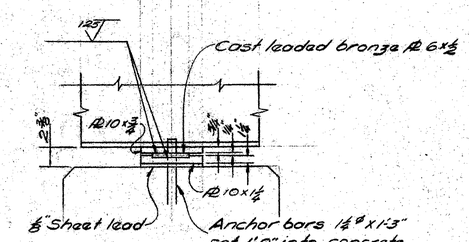
WEST ABUT. BEARING PLATES

(8 Required)



FIXED (Pier 2 - 8 Required)





EXPANSION (Pier 1 - 8 Required)

PIERS 1 & 2 BEARING PLATES

LOCATION	ROCKER	NO.	BOLSTER	NO.
Pier 3	R-100	8	——	
	R-175	8		
Pier 4	R-375	8	——	
Pier 5	——		B-375	8
Pier 6	——		B-375	8
Pier 7	R-375	8	——	
East Abutment	R-150	8	——	

Sheets 149 thru 172 superseded by Sheets 149A thru 172A 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINO.

BEARING ASSEMBLIES

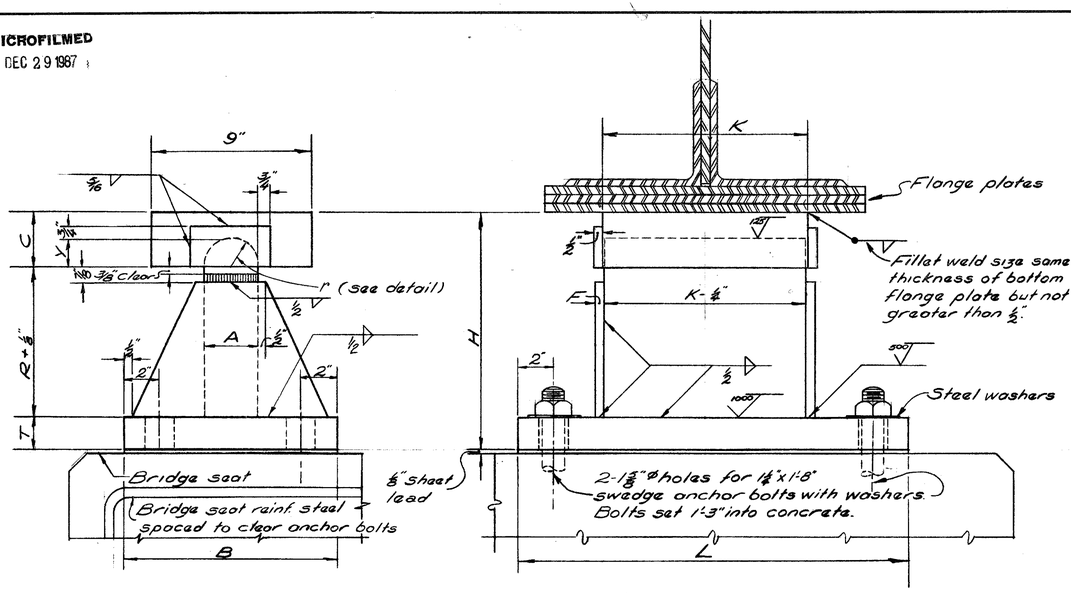
BRIDGE NO SA-20-180
OVER THE SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & ST. L. R.R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REV
RPH OHIO SHA	RPH		DMF			

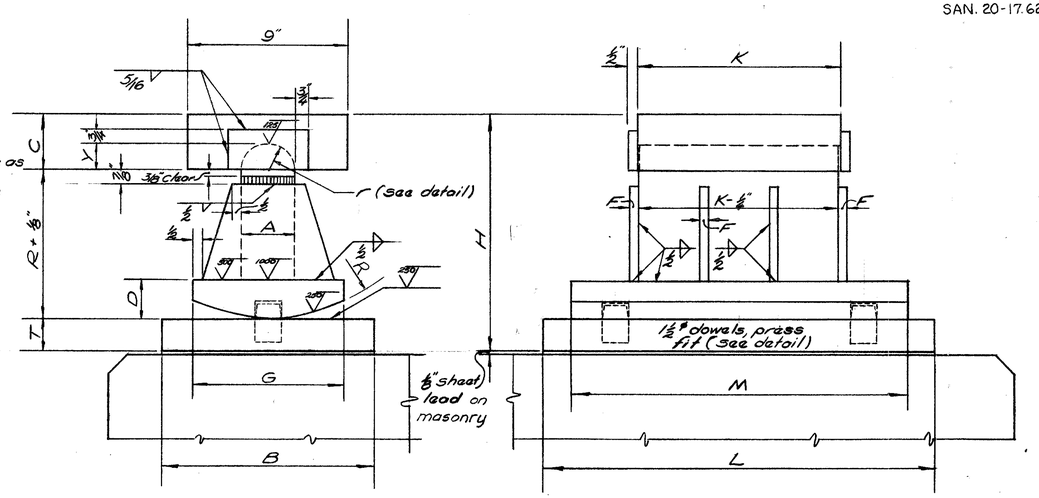
MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

SANDUSKY COUNTY
SAN. 20-17.62

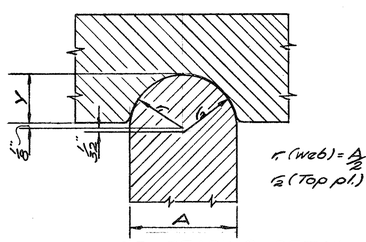


STRUCTURAL STEEL BOLSTER
See table below for additional dimensions

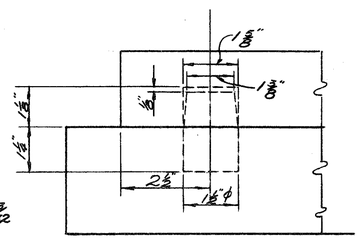


STRUCTURAL STEEL ROCKER
See table below for additional dimensions

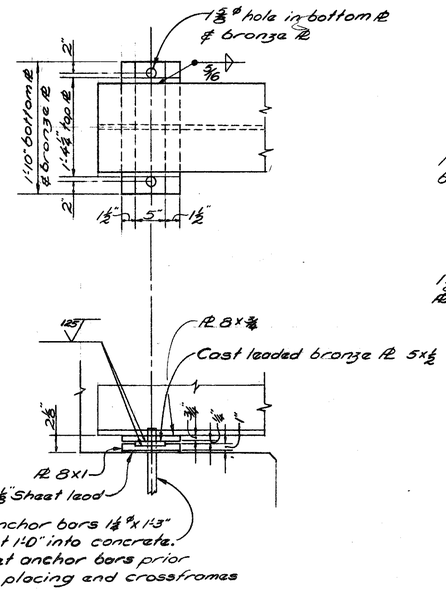
Bolster No.	Rocker No.	Dimensions (inches)													Weight each (lb)		Maximum Load (lb)
		A	B	C	D	F	G	H	K	L	M	R	T	Y	Bolster	Rocker	
	R-75	2 1/2	8	2 5/8	1 3/4	1/2	7	9 5/8	9	18	16	5 1/2	1 1/2	1 3/16		205	75,000
	R-150	3	12	3	2 1/2	1/2	8 1/2	13 3/8	11 1/2	22	19	8 1/2	1 3/4	1 3/16	360	400	150,000
	R-200	3	16	3 1/2	2 3/4	5/8	9	16 3/8	12	24	21	10 1/2	2 1/4	1 5/16	540	605	200,000
B-375	R-375	4	24	4	3 3/8	7/8	14	20 3/8	16	29	26	13	3 1/2	1 15/16	1247	1430	375,000



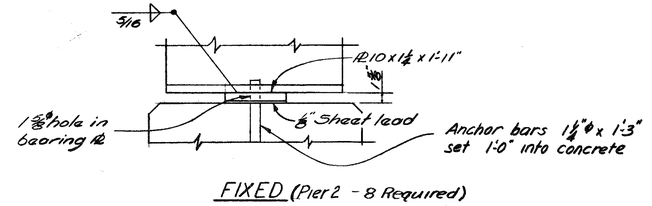
TOP BEARING DETAIL



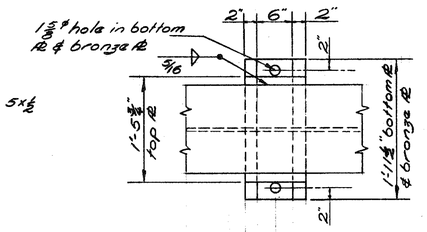
DOWEL DETAIL



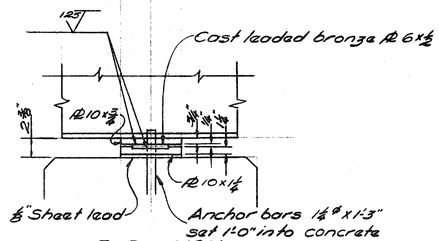
WEST ABUT. BEARING PLATES
(8 Required)
CSB-1-55



FIXED (Pier 2 - 8 Required)



LOCATION	ROCKER	NO.	BOLSTER	NO.
Pier 3	R-75 R-200	8 8	——	
Pier 4	R-375	8	——	
Pier 5	——		B-375	8
Pier 6	——		B-375	8
Pier 7	R-375	8	——	
East Abutment	R-150	8	——	



EXPANSION (Pier 1 - 8 Required)

PIERS 1 & 2 BEARING PLATES

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

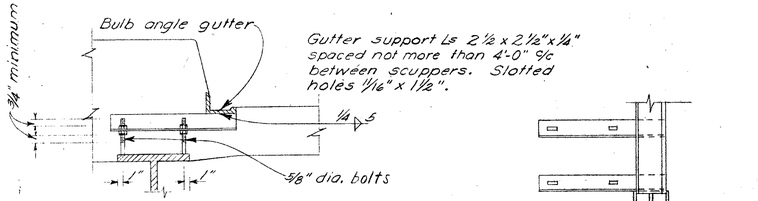
BEARING ASSEMBLIES

BRIDGE NO. SA-20-1.80
OVER SANDUSKY RIVER, SR 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY F-585(11)
SEC. SAN. 20-17.62 STA 939+21.25 TO 941+28.13

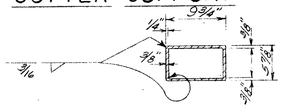
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RPH OMS RH	RPH	—	DMF	H.S.M.	11-30-55	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

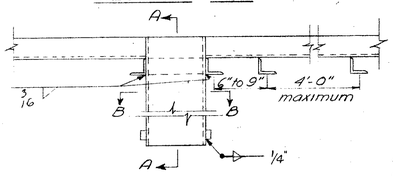
SANDUSKY COUNTY



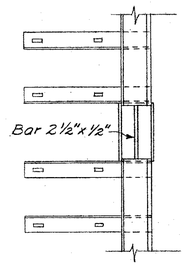
GUTTER SUPPORT



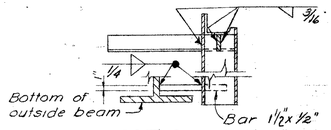
SECTION BB



REAR ELEVATION



PART PLAN



SECTION AA

GUTTER AND SCUPPER DETAILS

REFERENCE shall be made to supplemental specification No. S-114 Dated Aug. 30, 1955

GENERAL

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 10-1-51, together with revisions thereof dated 7-15-52, 4-1-52 and 2-1-55.

WELDING of structural steel shall be Class "A" except as otherwise noted. Any welds shown as field welds may, at the option of the contractor, be made in the shop. Class "B" welding is shown thus ●——B

SURFACE FINISH OF CONCRETE: Parapets, curb faces, fascias of deck and exposed surfaces of piers 1,2,3, abuts., and wing walls shall receive a rubbed surface finish. All other exposed surfaces shall be governed by the provisions of Item S-1.

POROUS DRAINS, extending from face of West Abutment to El. 608 and East Abutment to El. 580, shall be provided at all four corners and median of the bridge. The drains shall be 4ft. wide tapered to 7'-0" width at west abutment, and 8'-0" width at East Abutment.
GRAVEL, if used as the coarse aggregate, shall be according to Sec. M-3.93 instead of M-3.91 for Class "C" concrete, superstructure gravel meeting the requirements of Sec. M-3.93 also may be used for other concrete in this structure.

WELDED STEEL: The steel for the 30WF190 beams shall conform to ASTM Designation A-373. All other structural steel shall conform to either ASTM A-7 (as per Sec. M-7.4 (a) of the Construction and Materials Specifications) or to A-373.

REINFORCING STEEL CLEARANCE from face of concrete shall be 2" except where otherwise noted.

DECK CONSTRUCTION PROCEDURE: The deck slab shall be placed in sections, between construction joints, in the numerical order and the direction shown in "Concrete Pouring Sequence".

CONSTRUCTION PROCEDURE: No piling shall be driven or other work done for piers No. 6 and 7 until the fill between Sta. 946+40 and 955+00 has been completed to rough grade. Construction of the East abutment including driving of piles shall not begin until the roadway fill has been in place at least 2 months. Fill shall be completed to subgrade elevation at the East abutment and subsequently excavated. As soon as the fill is completed check points shall be established near the East bridge limits and a periodic check made of any settlement.

NOTES

PILES shall be driven to a minimum bearing capacity of 35 tons for the We. abutment and 45 tons for Piers 1,2 & 3. The length of penetration of every pile shall be at least 80% of the estimated average pay length of the piles in the pertinent pier or abutment as indicated on the plans unless a lesser penetration is approved by the Director. A 15,000 Ft. lb. hammer required.
AT PIERS 6 and 7, piles shall be driven to firm contact with rock which shall be considered as attained when the capacity according to the formula in Sec. S-18.05 is at least ○ tons per pile if a 7000 ft.lb. steam hammer is used, or ○ tons per pile if a steam hammer or drop hammer of 15,000 ft.lb or greater energy is used and if the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation reports. If the energy rating of the hammer is between these values, the required formula capacity shall be determined by interpolation. (The design load is 35 tons per pile @ Piers 6 & 7 & 45 T @ E. Abutment.)
FOOTINGS shall extend a minimum of 3" into solid rock or to the elevation shown whichever is lower.

EXCAVATION QUANTITY includes the removal of fill material between the top of the earth bench and the bottom of the abutment.

PAINT, both shop and field, shall be applied by brushing. Spray application will not be permitted.

CONSTRUCTION CLEARANCE of 19'-6" vertically above top of railroad tracks and 8'-0" horizontally from the center of tracks shall be maintained at all times.

SHEETING AND BRACING: Before construction is started, six sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to the Director for approval by the Department of Highways and by the railroad company.

ALIGNING RAILROAD TRACKS: After the contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sec. E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the supervision of the railroad company, nothing in Sec. E-2.04, E-2.08 or S-3.02 of the specifications shall be construed to hold the contractor liable for aligning and re-surfacing the railroad tracks.

UTILITIES: The Contractor shall provide and maintain adequate protection to prevent damage to existing utilities. The Contractor shall cooperate with the utility companies in the necessary removal or reconstruction of any utility lines.

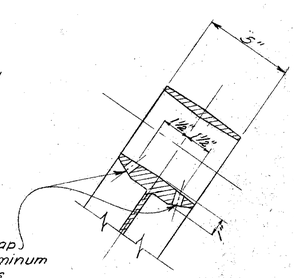
PLANS of this bridge are for bidding purposes. Additional details for construction will be furnished to the Contractor before the award of the contract.

GUTTER AND SCUPPER NOTES

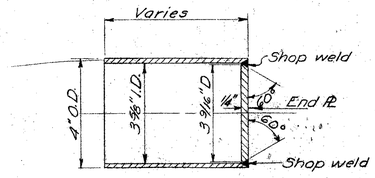
When scupper spacings exceed 25 feet milled joints will be permitted in bulb angles, but individual lengths shall be made as long as practicable.

Gutters shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed

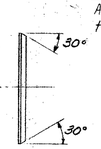
Welding of scuppers shall be continuous fillet weld.



SECTION BB

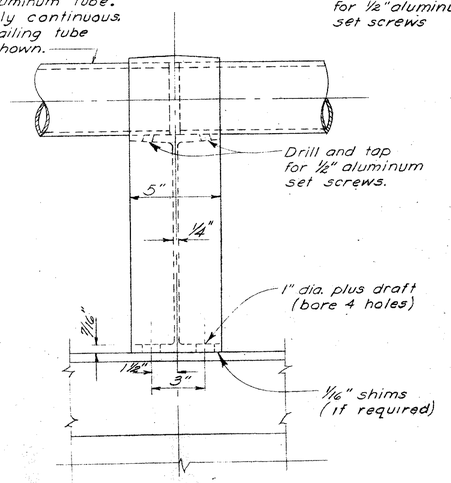


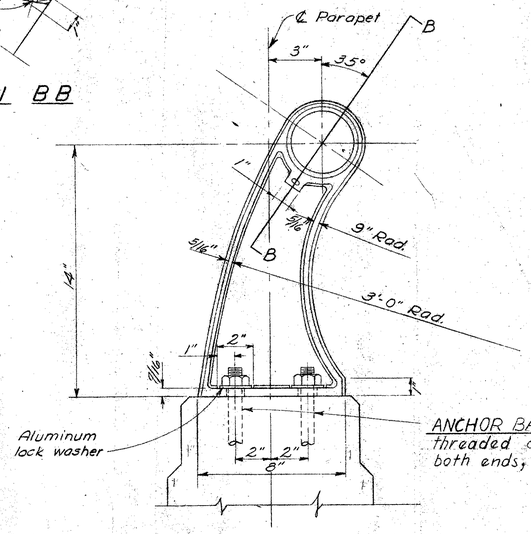




DETAIL OF RAIL ENDS
4 Required

4" O.D. x 3/16 wall aluminum tube. Railing is generally continuous. Where necessary, railing tube shall be joined as shown.





ALUMINUM RAILING TYPE B

ANCHOR BARS shall be ¾" ϕ aluminum bars, threaded and fitted with aluminum nut at both ends, and embedded 1'-0" ± into concrete.

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

RAILING AND SCUPPER DETAILS, AND GENERAL NOTES
BRIDGE NO. SA-20-180
OVER SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & ST.L. R.R.

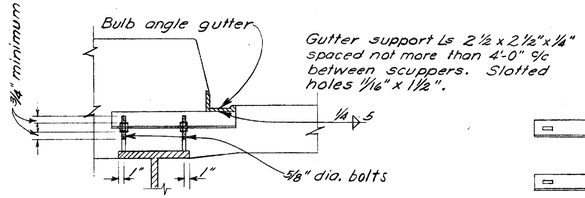
DES. | CHECKED | VIEWED | DATE

MICROFILMED
DEC 29 1987

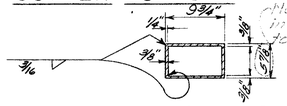
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

167A

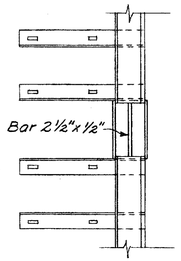
SANDUSKY COUNTY SAN. 20-17.62



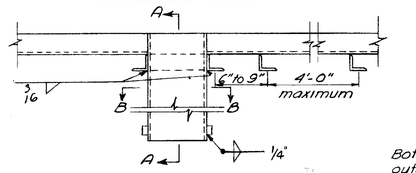
GUTTER SUPPORT



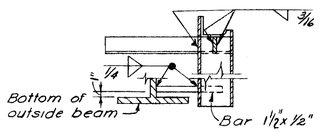
SECTION BB



PART PLAN



REAR ELEVATION



SECTION AA

GUTTER AND SCUPPER DETAILS

GENERAL NOTES

REFERENCE shall be made to Supplemental Specifications No. S-114 dated Aug. 30, 1955.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 10-1-51, together with revisions thereof dated 7-15-52, 4-1-52 and 2-1-55.

WELDING of structural steel shall be Class "A" except as otherwise noted. Any welds shown as field welds may, at the option of the contractor, be made in the shop. Class "B" welding is shown thus ——B

SURFACE FINISH OF CONCRETE: Parapets, curb faces, fascias of deck and exposesd surfaces of piers 1, 2, 3, abuts., and wing walls shall receive a rubbed surface finish. All other exposed surfaces shall be governed by the provisions of Item S-1.

POROUS DRAINS, extending from face of West Abutment to El. 608 and East Abutment to El. 580, shall be provided at all four corners and median of the bridge. The drains shall be 4 ft. wide tapered to 1'-0" width at the W. Abutment and 8'-0" at the E. Abutment.

GRAVEL, if used as the coarse aggregate, shall be according to Sec. M-3.93 instead of M-3.91 for Class "C" concrete, superstructure gravel meeting the requirements of Sec. M-3.93 also may be used for other concrete in this structure.

WELDED STEEL: The steel for the 30WF190 beams shall conform to ASTM Designation A-373. All other structural steel shall conform to either ASTM A-7 (as per Sec. M-7.4 (a) of the Construction and Materials Specifications) or to A-373.

REINFORCING STEEL CLEARANCE from face of concrete shall be 2" except where otherwise noted.

DECK CONSTRUCTION PROCEDURE: The deck slab shall be placed in sections, between construction joints, in the numerical order and the direction shown in "Concrete Pouring Sequence".

CONSTRUCTION PROCEDURE: No piling shall be driven or other work done for Piers No. 6&7 until the fill between Sta. 946+40 and 955+00 has been completed to rough grade. Construction of the East Abutment including driving of piles shall not begin until the roadway fill has been in place at least two months. Fill shall be completed to subgrade elevation of the East Abutment and subsequently excavated. As soon as the fill is completed check points shall be established near the East bridge limits and a periodic check made of any settlement.

NOTES

PILES shall be driven to a minimum bearing capacity of 35 tons for the West abutment and 45 tons for Piers 1, 2 & 3. The length of penetration of every pile shall be at least 80% of the estimated average pay length of the piles in the pertinent pier or abutment as indicated on the plans unless a lesser penetration is approved by the Director. A 15,000 Ft. lb. hammer required. At Piers 6&7, and E. Abut, piles shall be driven to firm contact with rock which shall be considered as attained when the capacity according to the formula in Sec. S-18.05 is at least 65 tons per pile if a 7000 ft. lb. steam hammer is used, or 50 tons per pile if a steam hammer or drop hammer of 15,000 ft. lb or greater energy is used and if the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation reports. If the energy rating of the hammer is between these values, the required formula capacity shall be determined by interpolation. (The design load is 35 tons per pile @ Piers 6 & 7 & 45 Tons @ E. Abutment.
FOOTINGS shall extend a minimum of 1'-0" into solid rock or to the elevation shown, whichever is lower.

EXCAVATION QUANTITY includes the removal of fill material between the top of the earth bench and the bottom of the abutment.

PAINT, both shop and field, shall be applied by brushing. Spray application will not be permitted.

CONSTRUCTION CLEARANCE of 19'-6" vertically above top of railroad tracks and 8'-0" horizontally from the center of tracks shall be maintained at all times.

SHEETING AND BRACING: Before construction is started, six sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to the Director for approval by the Department of Highways and by the railroad company.

ALIGNING RAILROAD TRACKS: After the contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sec. E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the supervision of the railroad company, nothing in Sec. E-2.04, E-2.08 or G-3.07 of the specifications shall be construed to hold the contractor liable for aligning and re-surfacing the railroad tracks.

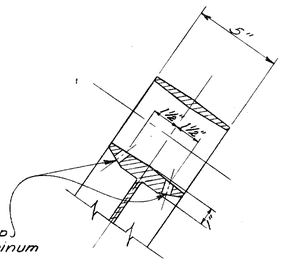
UTILITIES: The Contractor shall provide and maintain adequate protection to prevent damage to existing utilities. The Contractor shall cooperate with the utility companies in the necessary removal or reconstruction of any utility line.

GUTTER AND SCUPPER NOTES

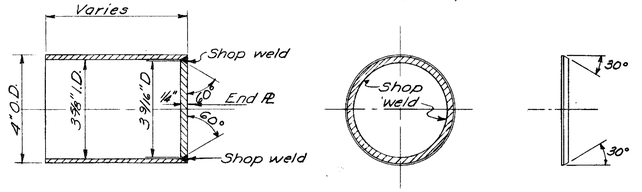
When scupper spacings exceed 25 feet milled joints will be permitted in bulb angles, but individual lengths shall be made as long as practicable.

Gutters shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed

Welding of scuppers shall be continuous fillet weld.

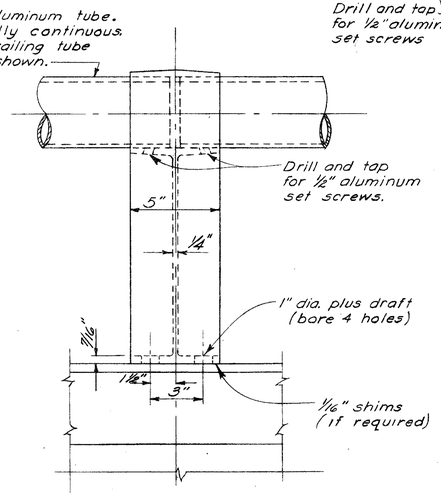


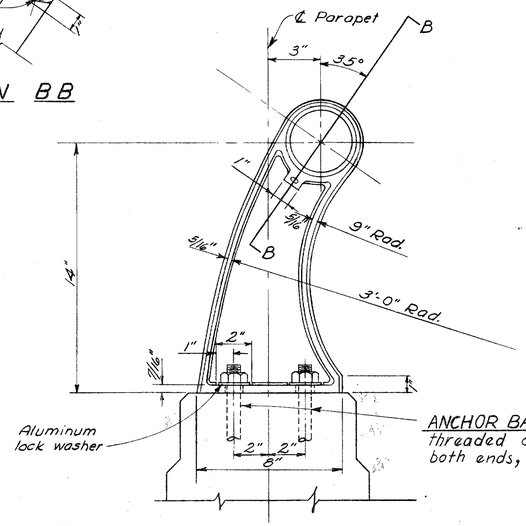
SECTION BB



DETAIL OF RAIL ENDS
4 Required

4" O.D. x 3/16 wall aluminum tube. Railing is generally continuous. Where necessary, railing tube shall be joined as shown.





ANCHOR BARS shall be ¾" ϕ aluminum bars, threaded and fitted with aluminum nuts at both ends, and embedded 1'-0"± into concrete.

ALUMINUM RAILING TYPE B

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

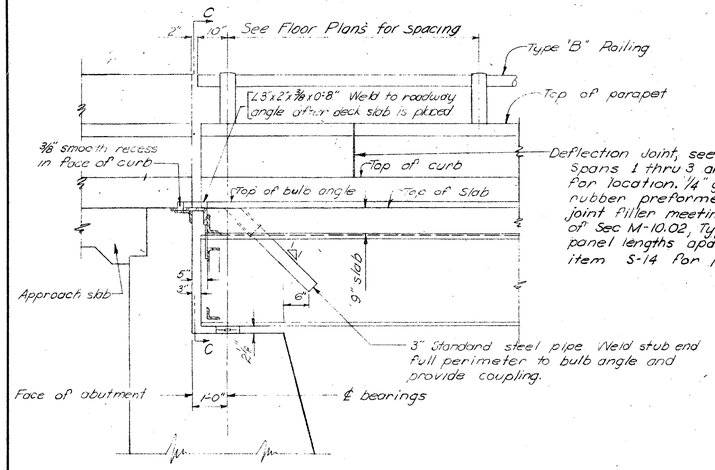
RAILING & SCUPPER DETAILS AND GENERAL NOTES
BRIDGE NO SA-20-1.80
OVER SANDUSKY RIVER, SR 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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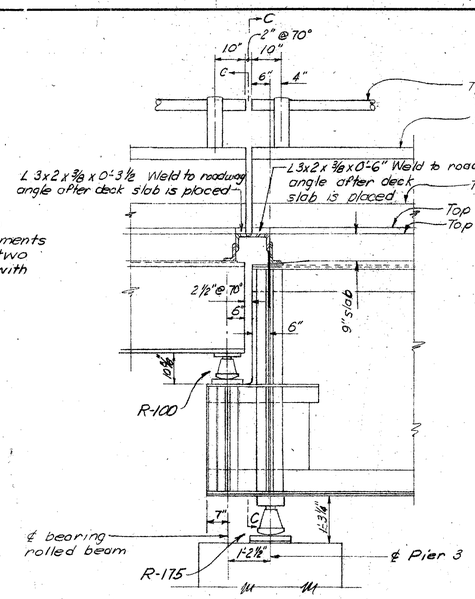
54-448

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
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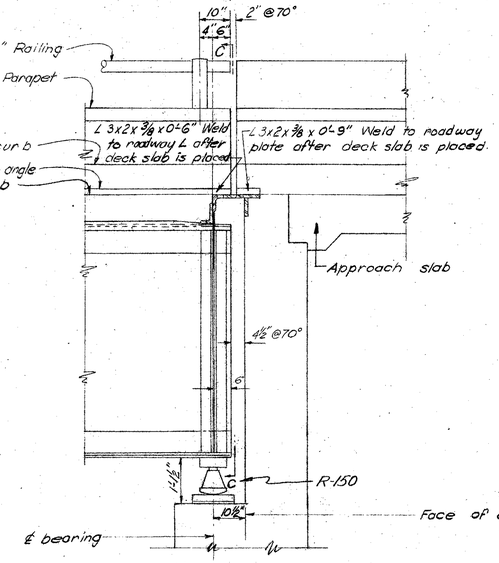
SANDUSKY COUNTY



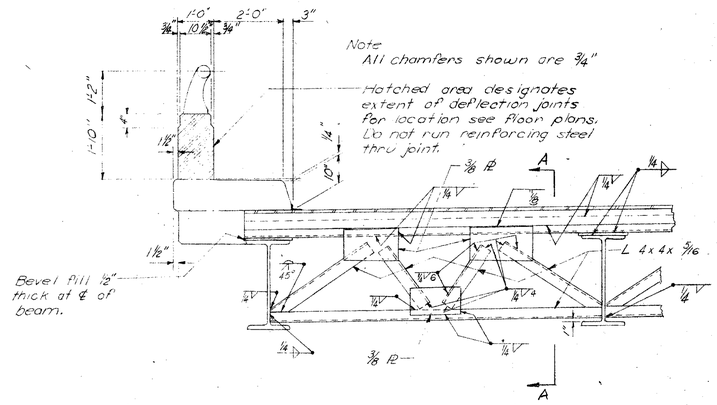
AT WEST ABUTMENT



AT PIER 3



AT EAST ABUTMENT

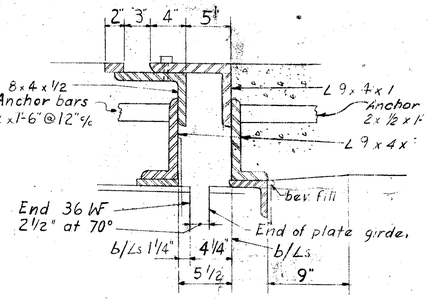


AT WEST ABUTMENT

AT PIER 3 AND EAST ABUTMENT

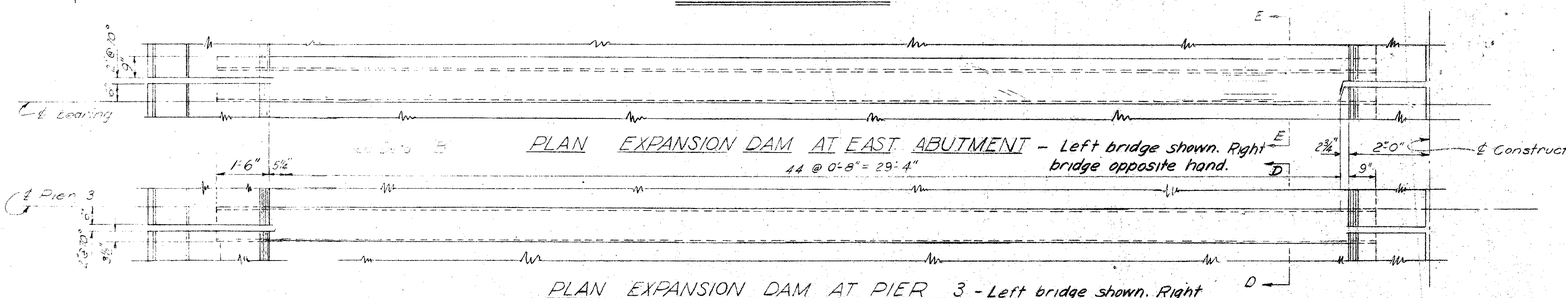
SECTION A-A

Looking normal to ℄ roadway



SECTION D-D

SECTION C-C



PLAN EXPANSION DAM AT EAST ABUTMENT - Left bridge shown. Right bridge opposite hand.

PLAN EXPANSION DAM AT PIER 3 - Left bridge shown. Right bridge opposite hand.

Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS, CHICAGO, ILLINOIS

END FINISH DETAILS

BRIDGE NO. SA-20-180
OVER THE SANDUSKY RIVER,
S.R. 53, AND N.Y.C. & ST. L. R.R.

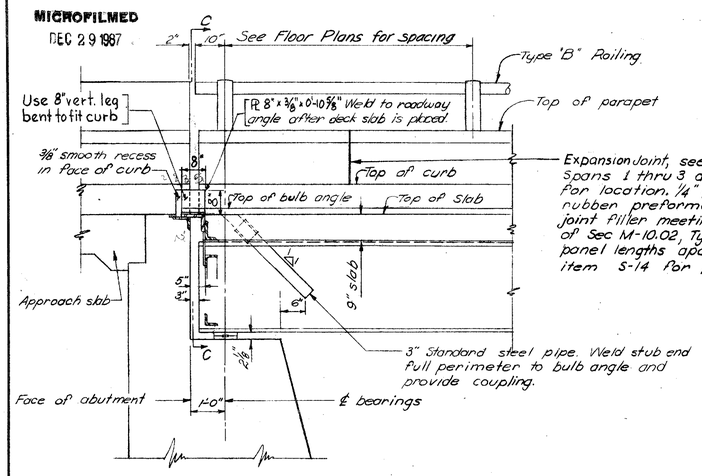
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JTH Ohio Std	JTH		WLL WFP			

MICROFILMED
DEC 29 1987

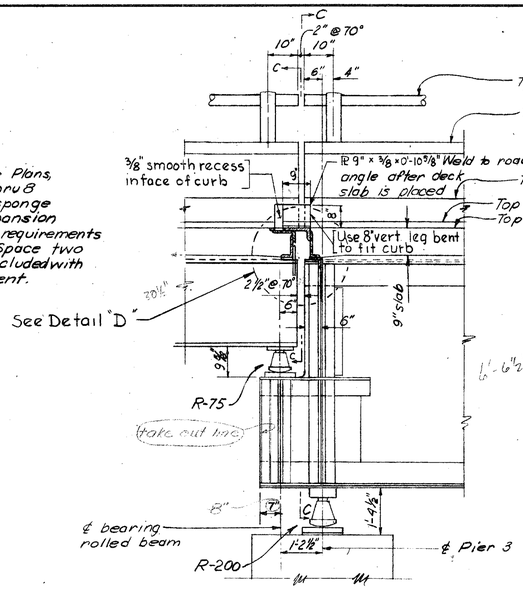
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

168A

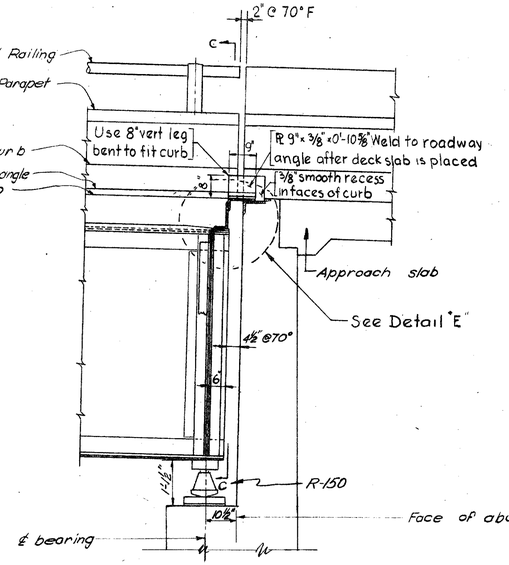
SANDUSKY COUNTY
SAN. 20-17.62



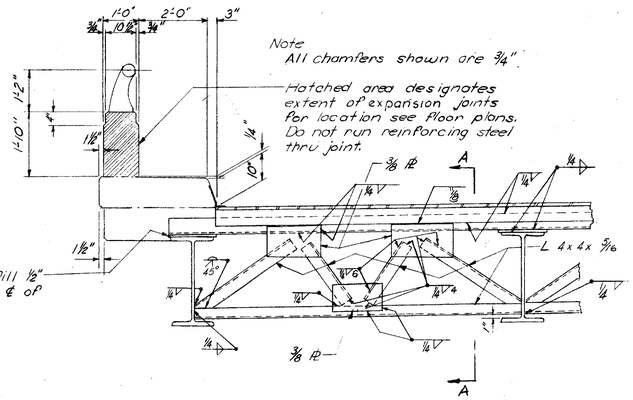
AT WEST ABUTMENT



AT PIER 3

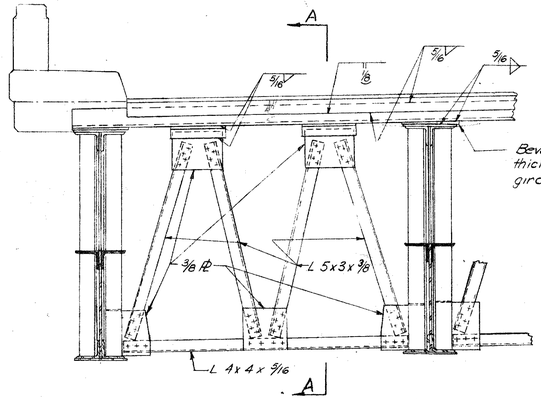


AT EAST ABUTMENT



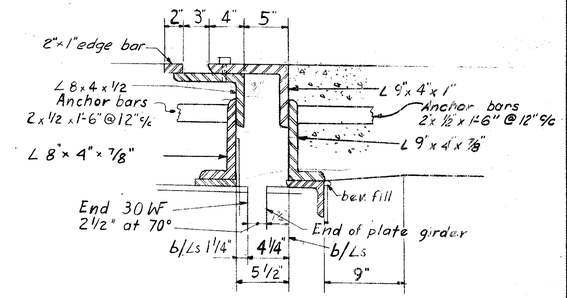
AT WEST ABUTMENT

SECTION A-A
Looking normal to ℄ roadway

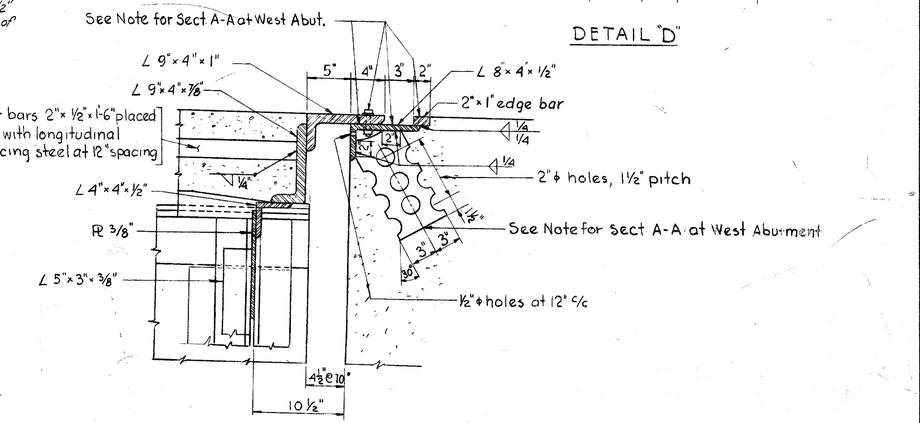


AT PIER 3 AND EAST ABUTMENT

SECTION C-C



DETAIL "D"



DETAIL "E"

Notes for Section "A-A" on Sheet 163 are applicable to Detail "D" and Detail "E" also

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

END FINISH DETAILS

BRIDGE NO SA-20-1.80

OVER SANDUSKY RIVER, SR 53 AND N.Y.C. & ST.L. R.R.

SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

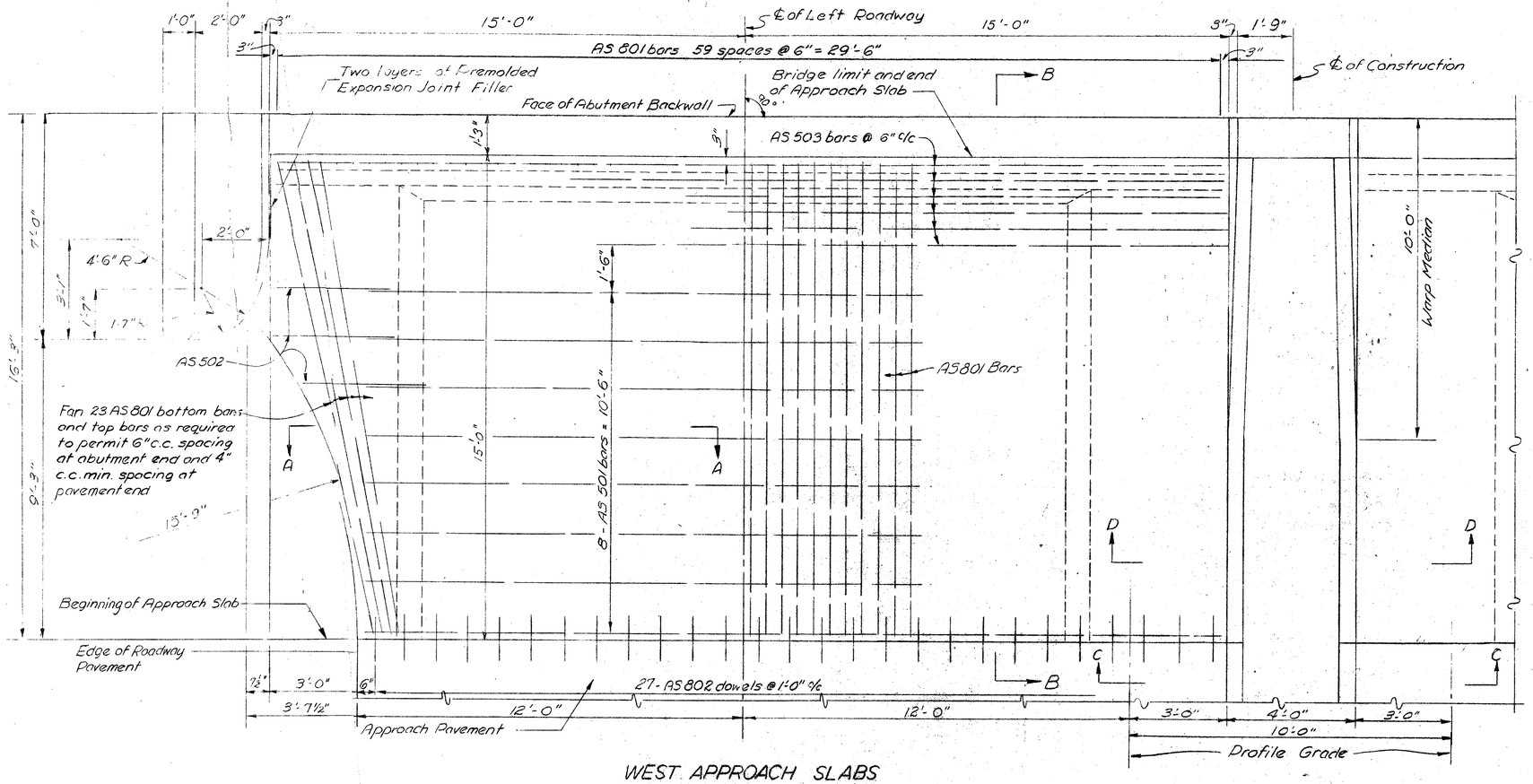
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54-448

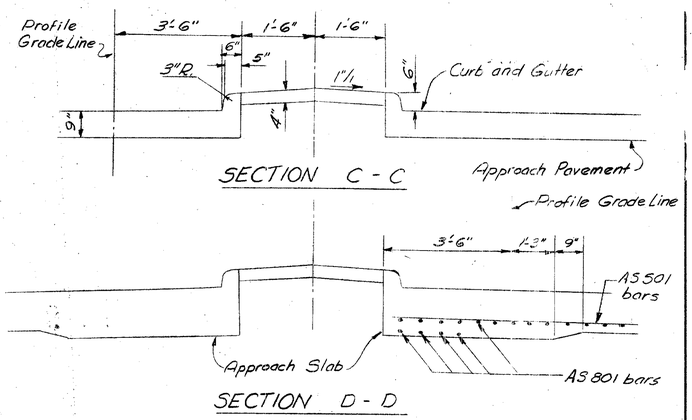
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

169

SANDUSKY COUNTY



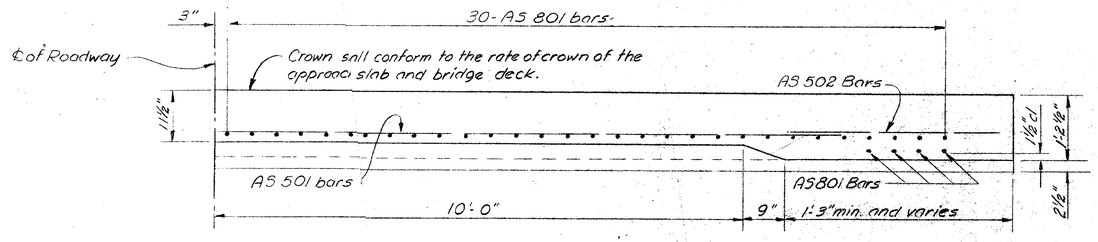
WEST APPROACH SLABS

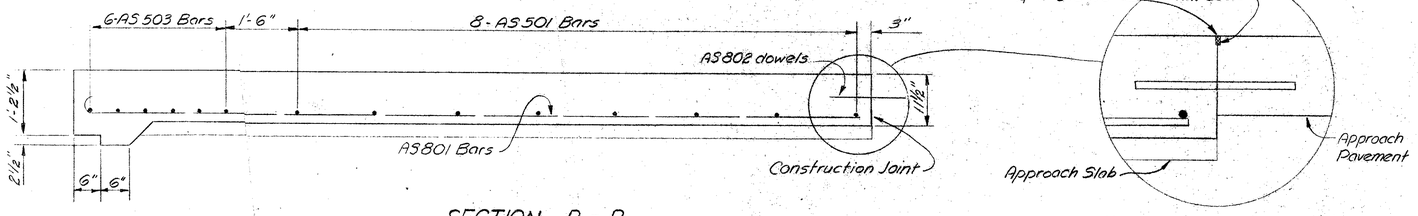


BAR SIZE is indicated in the bar mark. The first digit indicates the bar size number. For example AS801 is a 11/8 bar.

PREMOLDED EXPANSION JOINT FILLER at the edges of approach slab shall be included with the approach slab for payment.

CONCRETE shall be Class "C".





REINFORCING STEEL LIST

MARK	*NO.	LENGTH		SHP	BENDING DIAGRAMS
AS501	8	27'-0"		ST.	
AS502	3	1'-6"		ST.	
AS503	6	29'-8"		ST.	
AS801	68	15'-7"		BT.	AS801 14'-6" ℄
AS802	27	1'-6"		ST.	

* Bars shown for one approach slab only.

Sheets 149 th by sheets

CONSOE CONSULTING

WEST BR. OVER S.R. 6

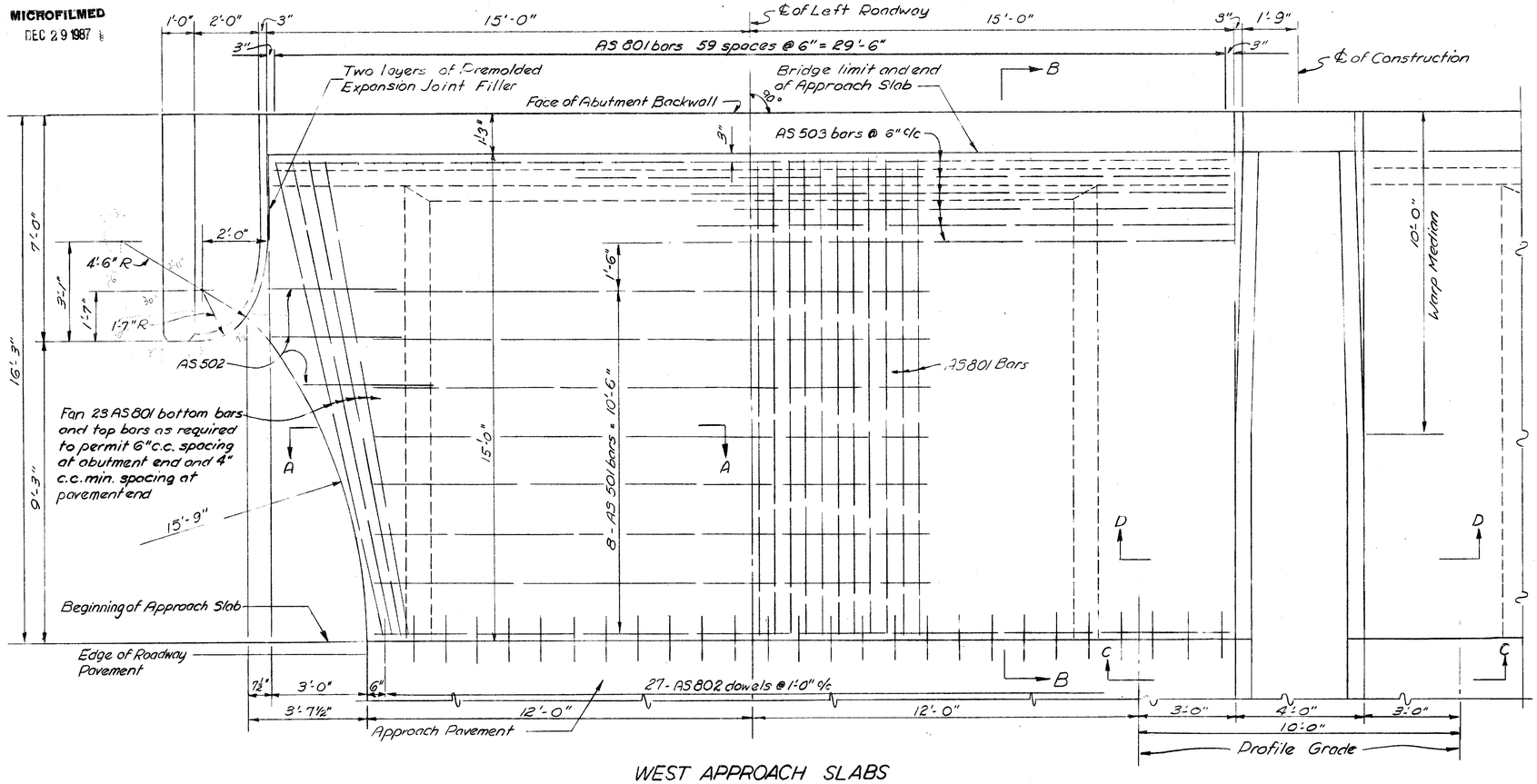
DESIGNED	DRAWN
WFP	R.L.D.

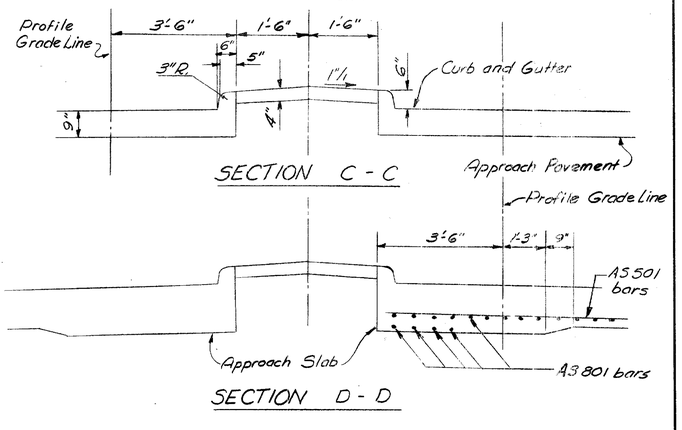
MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
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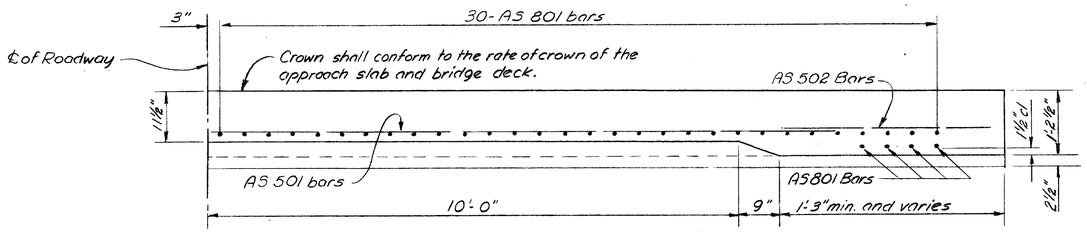
169A

SANDUSKY COUNTY
SAN. 20-17.62

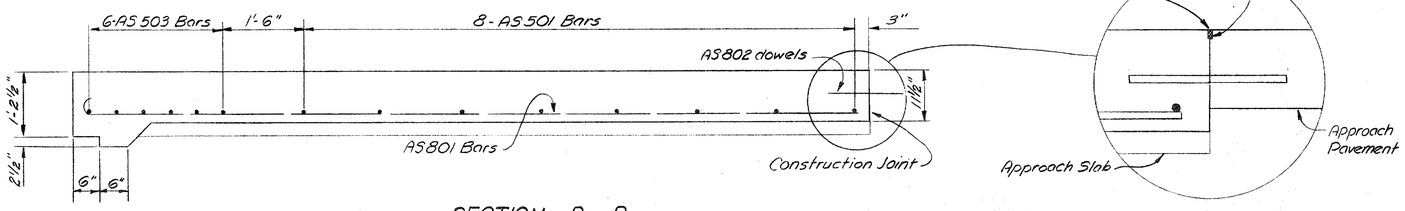




WEST APPROACH SLABS



SECTION A - A



SECTION B - B

BAR SIZE is indicated in the bar mark. The first digit indicates the bar size number. For example AS801 is a No 8 bar.

PREMOLDED EXPANSION JOINT FILLER at the edges of approach slab shall be included with the approach slab for payment.

CONCRETE shall be Class "C".

REINFORCING STEEL LIST

MARK	NO.	LENGTH		SHP
AS501	8	27'-0"		ST.
AS502	3	4'-6"		ST.
AS503	6	29'-8"		ST.
AS801	68	15'-7"		BT.
AS802	27	1'-6"		ST.

BENDING DIAGRAMS

AS801 — 14'-6" c/c

* Bars shown for one approach slab only.

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

WEST APPROACH SLAB
BRIDGE NO. SA-20-180

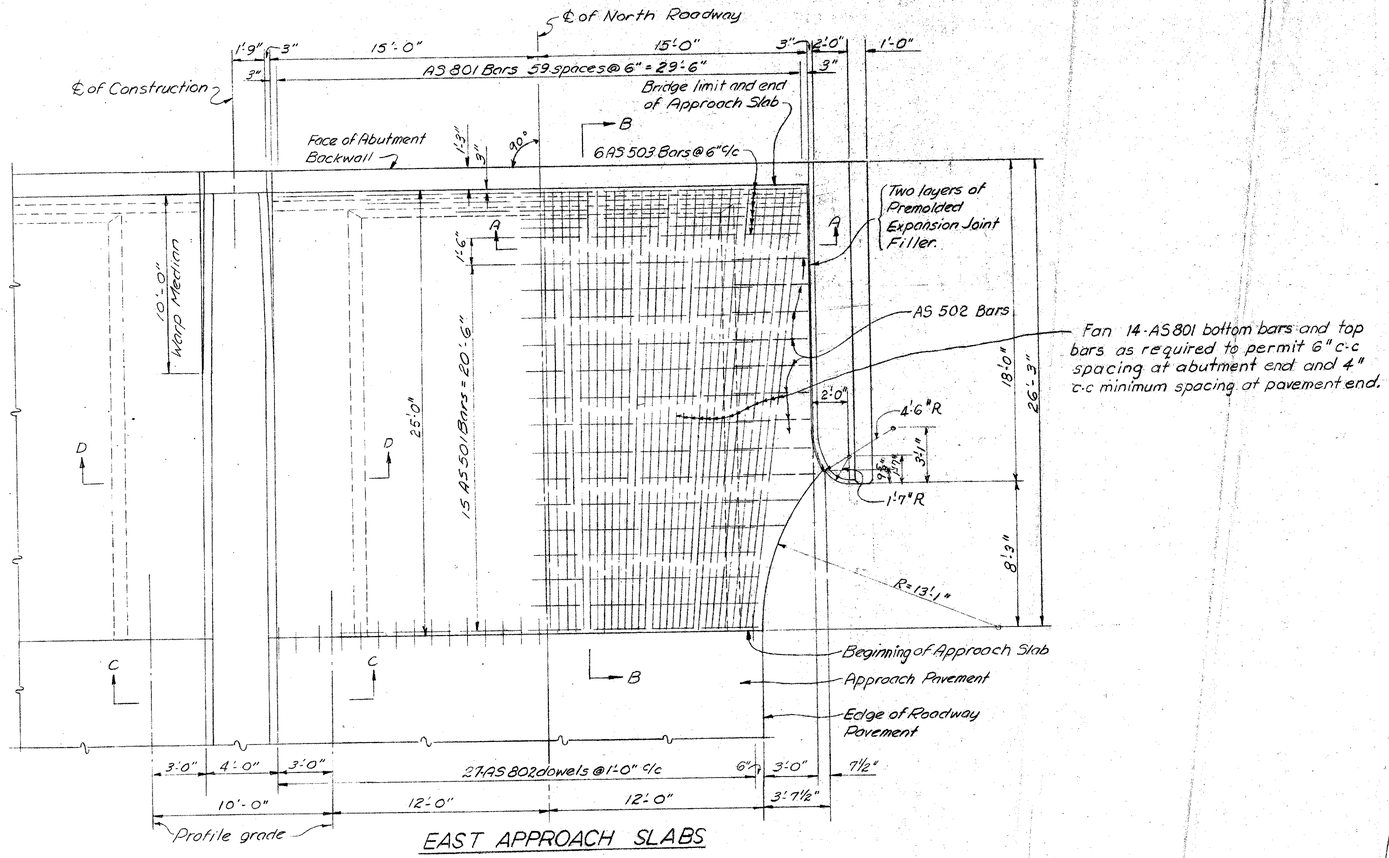
OVER SANDUSKY RIVER, S.R. 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	R.L.D.	—	DEY	H.S.M.	11-30-55	

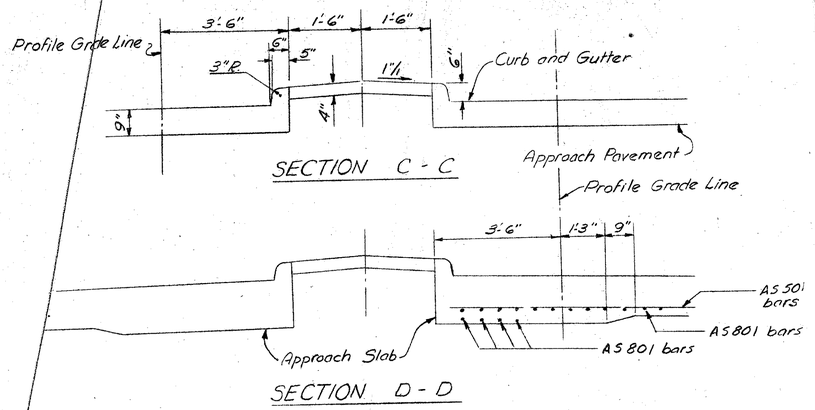
FED. RD. DIVISION	STATE		TYPE FUNDS
2	OHIO	85(11)	

SANDUSKY COUNTY

170

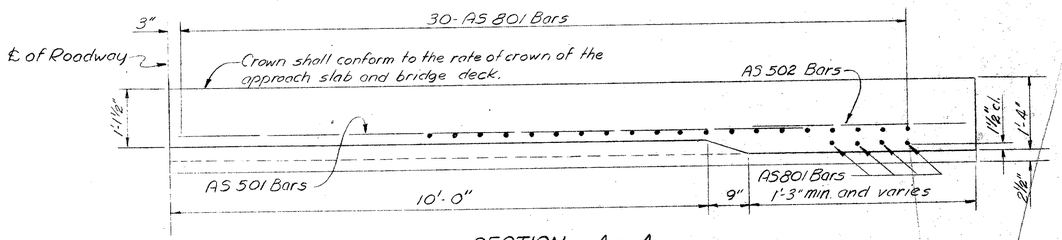


EAST APPROACH SLABS



SECTION C - C

SECTION D - D



SECTION A - A

BAR SIZE is indicated in the bar mark. The first digit indicates the bar size number. For example AS 801 is a N° 8 bar.

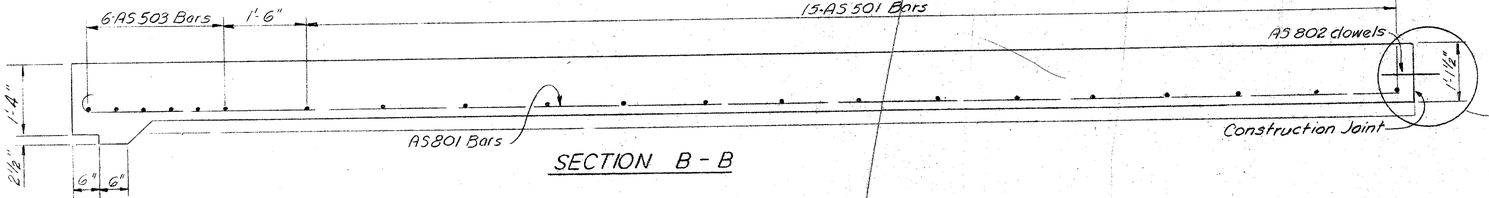
PREMOLDED EXPANSION JOINT FILLER at the edges of approach slab shall be included with the approach slab for payment.

CONCRETE shall be Class "C."

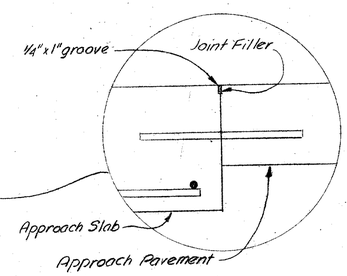
REINFORCING STEEL LIST

MARK	NO.	LENGTH		SHP.	BENDING DIAGRAMS
AS 501	15	27'-0"		ST.	AS 801 24'-6"
AS 502	11	4'-6"		ST.	
AS 503	6	29'-8"		ST.	
AS 801	68	25'-8"		BT.	
AS 802	27	1'-6"		ST.	

* Bars shown for one approach slab only.



SECTION B - B



Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

EAST APPROACH SLAB

BRIDGE NO SA-20-180
OVER THE SANDUSKY RIVER,
S.R. 53, AND NYC & ST. L. R.R.

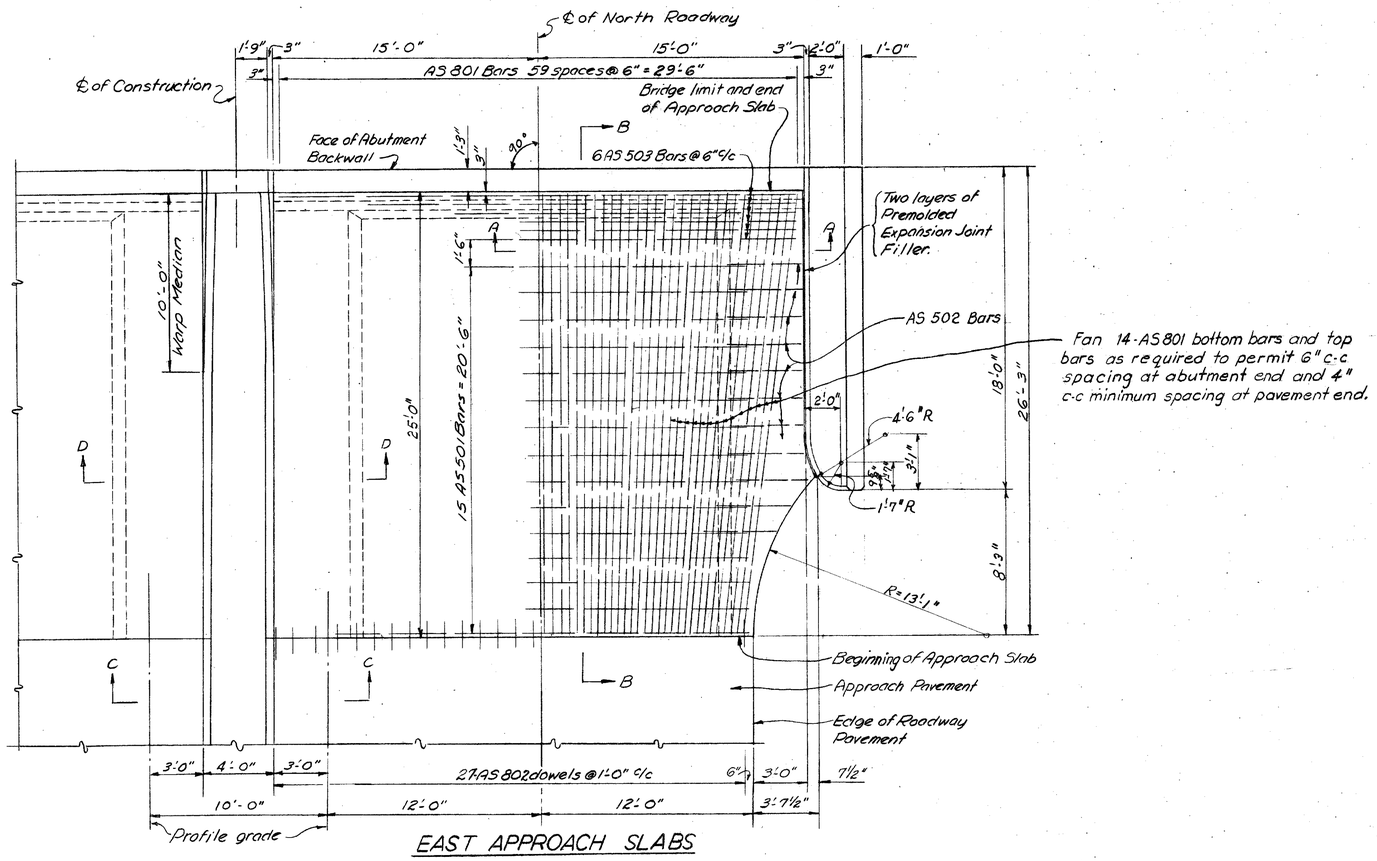
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	R.L.D.		DEY			

MICROFILMED
DEC 29 1987

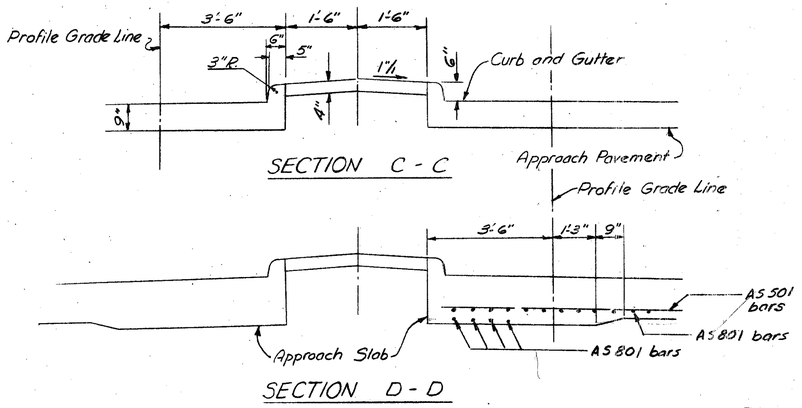
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

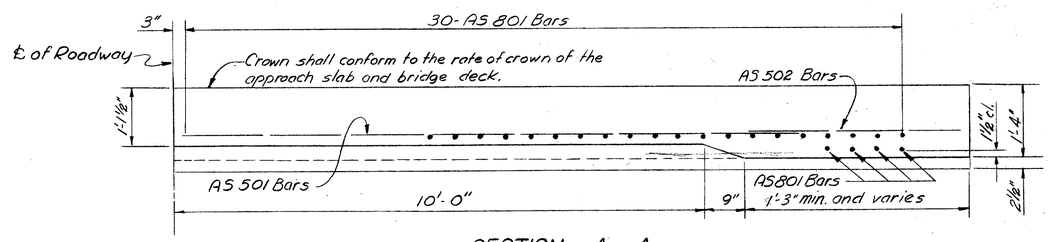
170A

SANDUSKY COUNTY
SAN. 20-17.62



EAST APPROACH SLABS





SECTION A - A

BAR SIZE is indicated in the bar mark. The first digit indicates the bar size number. For example AS 801 is a N° 8 bar.

PREMOLDED EXPANSION JOINT FILLER at the edges of approach slab shall be included with the approach slab for payment.

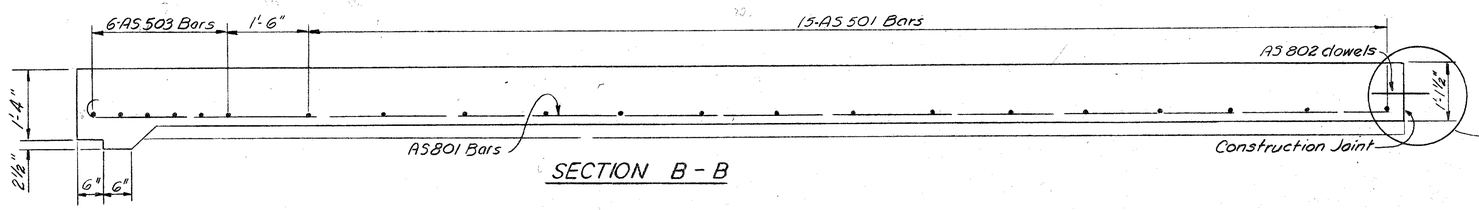
CONCRETE shall be Class "C".

REINFORCING STEEL LIST

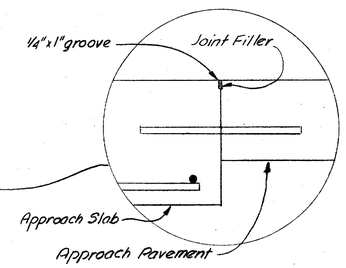
MARK	*NO.	LENGTH		SHP.	BENDING DIAGRAMS
AS501	15	27'-0"		ST.	AS 801 — 24'-6" %
AS502	11	4'-6"		ST.	
AS503	6	29'-8"		ST.	
AS801	68	25'-8"		BT.	
AS802	27	1'-6"		ST.	

* Bars shown for one approach slab only.

Sheets 145A thru 172A replace Sheets 143 thru 172. 2-10-56



SECTION B - B



CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

EAST APPROACH SLAB
BRIDGE NO SA-20-1.30

OVER SANDUSKY RIVER, S.R. 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WFP	R.L.D.	—	DEY	H.S.M.	11-30-55	

54-44B

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

171

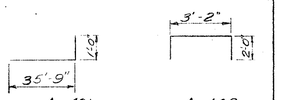
SANDUSKY COUNTY

WEST ABUTMENT

MARK	NO	LENGTH	WEIGHT	SHAPE
A 401	8	36'-8"	196	Bt.
A 401A	16	35'-9"	382	Str.
A 402	2	6'-11"	9	Bt.
A 403	40	16'-0"	428	Bt.
A 404	40	7'-4"	196	Bt.
A 405	36	7'-7"	182	Bt.
A 406	48	3'-3"	104	Bt.
A 407	6	7'-6"	30	Bt.
A 407A	2	6'-10"	9	Bt.
A 407B	2	6'-2"	8	Bt.
A 408	4	8'-2"	22	Bt.
A 409	12	4'-5"	35	Str.
A 410	8	6'-0"	32	Str.
A 411	12	3'-9"	30	Str.
A 412	14	7'-3"	68	Str.
A 413	12	6'-8"	53	Str.
A 414	8	9'-5"	50	Str.
A 415	2	3'-0"	4	Str.
A 416	4	8'-6"	23	Str.
A 417	2	5'-6"	7	Str.
A 418	2	4'-9"	6	Str.
A 419	2	6'-3"	8	Str.
A 420	2	7'-9"	10	Str.
A 421	4	7'-0"	18	*
A 422	2	6'-6"	9	Str.
A 423	3	0'-11"	2	Str.
A 501	26	36'-0"	976	Str.
A 601	68	11'-7"	1183	Bt.

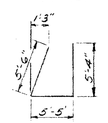
BENDING DIAGRAMS

* Bend in field

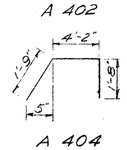


A 401

A 402



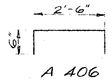
A 403



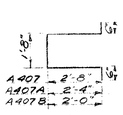
A 404



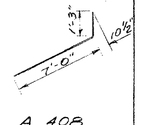
A 405



A 406



A 407
A 407A
A 407B



A 408



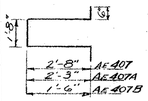
A 601

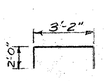
EAST ABUTMENT

MARK	NO	LENGTH	WEIGHT	SHAPE
AE 401	16	17'-8"	188	Str.
AE 402	4	19'-0"	51	*
AE 403	2	17'-6"	23	Str.
AE 404	4	7'-0"	19	Str.
AE 405	4	20'-8"	55	Str.
AE 406	18	4'-0"	48	Str.
AE 407	22	7'-8"	113	Bt.
AE 407A	2	6'-10"	9	Bt.
AE 407B	2	5'-4"	7	Bt.
AE 408	2	19'-9"	26	Str.
AE 408A	2	15'-9"	21	
AE 409	26	4'-3"	74	
AE 410	12	15'-8"	126	
AE 410A	12	11'-8"	94	
AE 411	12	3'-0"	24	
AE 412	12	12'-10"	103	
AE 413	20	17'-4"	232	
AE 413A	2	8'-6"	11	
AE 414	2	5'-4"	12	
AE 414A	2	6'-2"	8	
AE 415	2	8'-7"	11	
AE 415A	2	5'-5"	7	
AE 416	2	8'-0"	11	
AE 416A	2	4'-10"	7	
AE 417	2	7'-6"	10	
AE 417A	2	4'-4"	6	
AE 418	22	17'-6"	257	Str.
AE 419	2	6'-11"	9	Bt.
AE 420	3	0'-11"	2	Str.
AE 421	48	3'-0"	96	Str.
AE 421A	20	2'-6"	33	Str.
AE 422	47	3'-1"	97	Bt.
AE 423	36	37'-0"	890	Bt.
AE 424	52	9'-0"	313	Bt.
AE 425	24	38'-5"	616	Str.
AE 426	47	13'-3"	416	Str.
AE 427	30	9'-3"	185	Bt.
AE 428	30	9'-10"	197	
AE 429	12	3'-5"	27	
AE 430	8	3'-11"	21	
AE 431	8	6'-10"	37	Bt.
AE 501	4	35'-10"	150	Str.
AE 601	26	8'-11"	348	Bt.
AE 602	104	9'-10"	1536	Bt.
AE 603	95	12'-1"	1724	Str.
AE 604	95	9'-8"	1379	Bt.
AE 701	30	14'-2"	869	Str.
AE 702	30	7'-11"	485	Bt.
AE 703	8	8'-6"	139	Str.

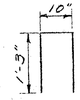
BENDING DIAGRAMS

* Bend in field

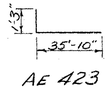




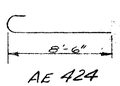
AE 419



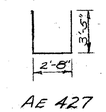
AE 422



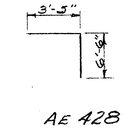
AE 423



AE 424



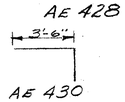
AE 427



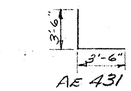
AE 428



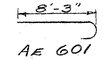
AE 429



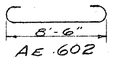
AE 430



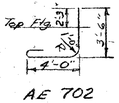
AE 431



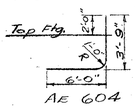
AE 601



AE 602



AE 702



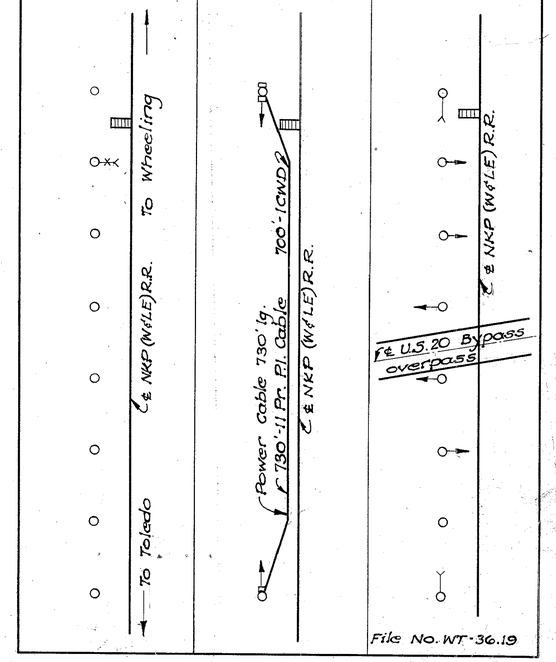
AE 604

REPLACEMENT BARS

MARK	NO	LENGTH	WEIGHT	SHAPE
4	2	1'-3"	2	Str.
5	3	1'-7"	5	Str.
6	12	1'-11"	35	Str.
7	6	2'-3"	28	Str.
8	1	2'-6"	7	Str.
9	2	2'-8"	18	Str.
11	5	3'-6"	93	Str.

FORCE ACCOUNT WORK BY THE NEW YORK, CHICAGO AND ST. LOUIS RAILROAD CO.

1. Wire line changes
2. Trackwork
3. Engineering services



Sheets 149 thru 172 superseded by Sheets 149A thru 172A. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

BAR LIST
ABUTMENTS
BRIDGE NO. SA 20-180
OVER SANDUSKY RIVER, S.R. 53 AND N.Y.C. & ST. L. R.R.
AND
RAILROAD FORCE ACCOUNT WORK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REV.
DEY DMF	BJ		RLD DRH			

MICROFILMED
DEC 29 1987

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-585(11)	

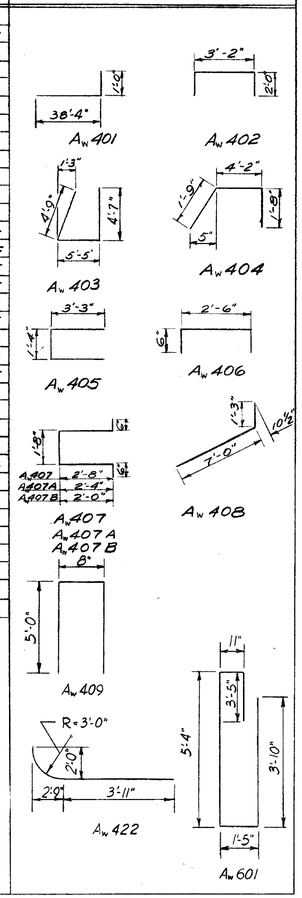
171A

SANDUSKY COUNTY
SAN. 20-17.62

WEST ABUTMENT

MARK	No	LENGTH	WEIGHT	SHAPE
A_W401	8	39'-3"	210	Bt.
A_W401A	16	38'-4"	410	Str.
A_W402	2	6'-11"	9	Bt.
A_W403	40	14'-6"	387	Bt.
A_W404	40	7'-4"	196	Bt.
A_W405	36	7'-7"	182	Bt.
A_W406	48	3'-3"	104	Bt.
A_W407	6	7'-6"	30	Bt.
A_W407A	2	6'-10"	9	Bt.
A_W407B	2	6'-2"	8	Bt.
A_W408	4	8'-2"	22	Bt.
A_W409	10	10'-5"	70	Bt.
A_W410	4	2'-2"	6	Str.
A_W411	4	3'-10"	10	Str.
A_W412	4	5'-6"	15	Str.
A_W413	4	7'-2"	19	Str.
A_W414	8	9'-3"	50	Str.
A_W415	2	4'-9"	6	Str.
A_W416	4	8'-6"	23	Str.
A_W417	4	7'-3"	19	Str.
A_W418	2	6'-0"	8	Str.
A_W419	2	5'-6"	7	Str.
A_W420	12	6'-7"	53	Str.
A_W421	12	3'-7"	29	Str.
A_W422	4	7'-6"	20	Bt.
A_W423	3	0'-11"	2	Str.
A_W424	2	6'-8"	9	Str.
A_W425	2	8'-6"	11	Str.
A_W501	26	38'-8"	1049	Str.
A_W601	68	14'-3"	1455	Bt.
			4,158	

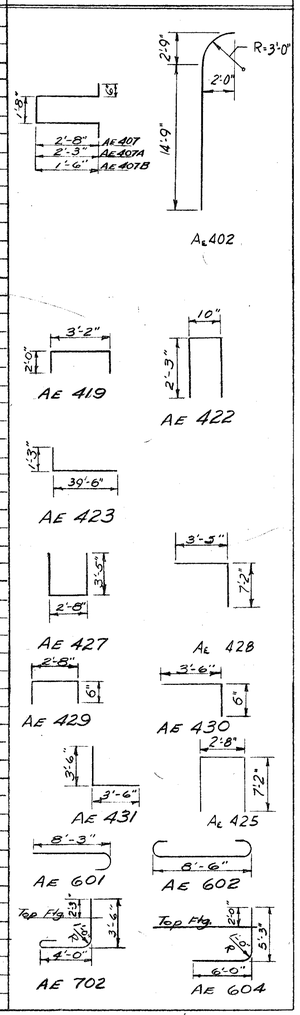
BENDING DIAGRAMS



EAST ABUTMENT

MARK	No	LENGTH	WEIGHT	SHAPE
AE 401	16	17'-4"	185	Str.
AE 402	4	18'-9"	51	Bt.
AE 403	2	17'-6"	23	Str.
AE 404	4	7'-0"	19	Str.
AE 405	4	20'-8"	55	Str.
AE 406	16	4'-0"	43	Str.
AE 407	22	7'-8"	113	Bt.
AE 407A	2	6'-10"	9	Bt.
AE 407B	2	5'-4"	7	Bt.
AE 408	2	19'-9"	26	Str.
AE 408A	2	16'-9"	21	
AE 409	26	4'-3"	74	
AE 410	10	15'-8"	105	
AE 410A	10	12'-8"	85	
AE 411	12	5'-3"	42	
AE 412	12	10'-10"	87	
AE 413	18	16'-4"	196	
AE 413A	2	7'-6"	10	
AE 414	2	5'-4"	12	
AE 414A	2	6'-2"	8	
AE 415	2	8'-7"	11	
AE 415A	2	5'-5"	7	
AE 416	2	8'-0"	11	
AE 416A	2	4'-10"	7	
AE 417	2	7'-6"	10	
AE 417A	2	4'-4"	6	
AE 418	22	10'-3"	151	Str.
AE 419	2	6'-11"	9	Bt.
AE 420	3	0'-11"	2	Str.
AE 421	48	4'-9"	152	Str.
AE 421A	14	2'-6"	23	Str.
AE 422	48	5'-1"	163	Bt.
AE 423	32	40'-8"	869	Bt.
AE 424	6	4'-9"	19	Str.
AE 425	8	16'-9"	90	Bt.
AE 426	48	10'-6"	337	Str.
AE 427	24	9'-3"	148	Bt.
AE 428	30	10'-6"	210	
AE 429	12	3'-5"	27	
AE 430	8	3'-11"	21	
AE 431	6	6'-10"	27	Bt.
A_E 501	4	39'-10"	166	Str.
A_E 502	51	8'-8"	461	Str.
A_E 503	22	38'-7"	885	Str.
AE 601	26	8'-11"	348	Bt.
AE 602	97	9'-10"	1433	Bt.
AE 603	95	11'-0"	1570	Str.
AE 604	95	10'-10"	1593	Bt.
AE 701	30	13'-2"	807	Str.
AE 702	30	7'-11"	485	Bt.

BENDING DIAGRAMS



11,541

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A_W 422 is a No.4 size bar and P.1105 is a No.11 size.

REPLACEMENT BARS

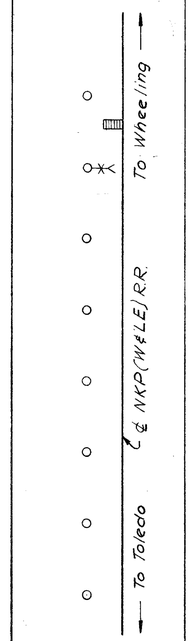
MARK	No	LENGTH	WEIGHT	SHAPE
RE 401	2	5'-3"	7	Str.
RE 501	3	5'-7"	17	Str.
RE 601	15	5'-11"	133	Str.
RE 701	9	6'-2"	113	Str.
RE 801	1	6'-6"	17	Str.
RE 901	2	6'-10"	46	Str.
RE 1001	1	7'-2"	31	Str.
RE 1101	7	7'-7"	282	Str.

CAC

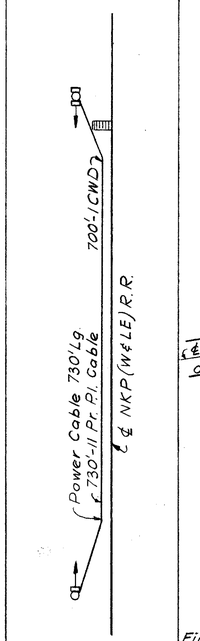
FORCE ACCOUNT WORK BY THE NEW YORK, CHICAGO AND St. LOUIS RAILROAD CO.

1. Wire line changes.
2. Trackwork.
3. Engineering services.

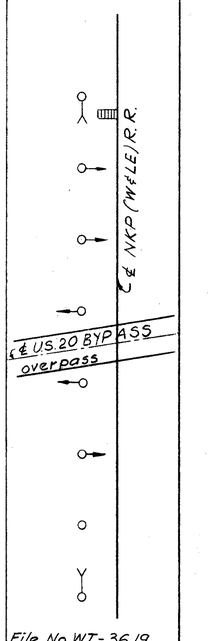
PLAN OF Existing Facilities



PLAN OF Temporary Location



PLAN OF Permanent Location



File No WT-36.19

Sheets 169A thru 172A replace Sheets 149 thru 172. 2-10-56

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

BAR LIST ABUTMENTS AND RAILROAD FORCE ACCOUNT WORK
BRIDGE NO. SA20-180
OVER SANDUSKY RIVER, SR 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20-17.62 STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DEY DMF	BJ	—	RLD DRH	H.S.M.	11-30-55	

MICROFILMED

DEC 29 1987

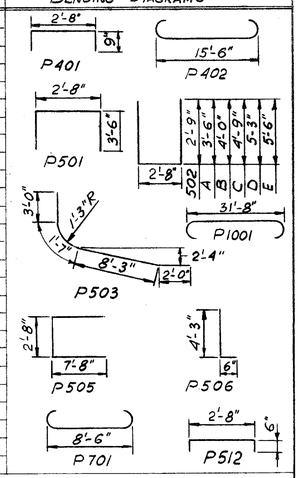
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

172A

SANDUSKY COUNTY

PIER 1

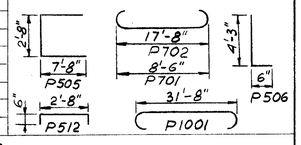
MARK	NO.	LENGTH	WEIGHT	SHAPE
P401	32	3'-11"	84	Bt.
P402	24	16'-6"	265	Bt.
P501	34	9'-5	334	Bt.
P502	4	7'-11"	33	Bt.
P502A	4	9'-5"	39	Bt.
P502B	4	10'-5"	43	Bt
P502C	4	11'-11"	50	Bt
P502D	4	12'-11"	54	Bt
P502E	14	13'-5"	196	Bt.
P503	16	14'-10"	248	Bt.
P504	60	15'-10"	991	Str.
P505	32	17'-9"	592	Bt.
P506	60	4'-8"	292	Bt.
P507	12	31'-8"	396	Str.
P508	4	31'-0"	129	Str.
P509	4	25'-0"	104	Str.
P510	4	18'-0"	75	Str
P511	4	14'-0"	58	Str
P512	32	3'-5"	114	Bt.
P701	48	10'-2"	997	Bt.
P1001	16	34'-6"	2375	Bt.



PIER 2

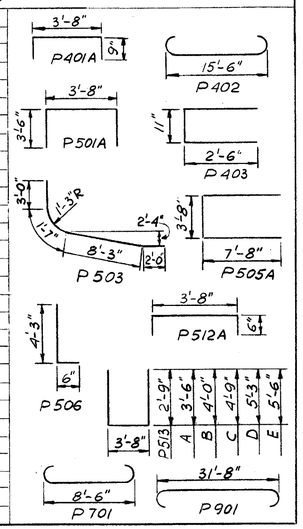
P504A	60	22'-8"	1418	Str.
P505	44	17'-9"	815	Bt.
P506	60	4'-8"	292	Bt.
P512	44	3'-5"	157	Bt.
P701	58	10'-2"	1205	Bt
P702	28	19'-4"	1107	Bt
P1001	16	34'-6"	2375	Bt.
Bars not listed			1843	

* P401, P501 thru P503, P507 thru P511, see Pier 1.



PIER 3

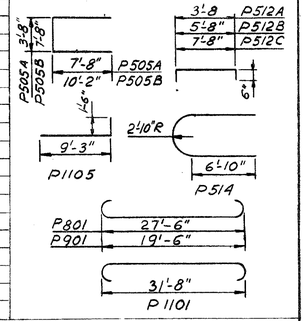
P401A	32	4'-11"	105	Bt.
P402	24	16'-6"	265	Bt.
P403	32	5'-8"	121	Bt
P404	20	2'-6"	33	Str.
P405	20	7'-6"	100	Str
P501A	34	10'-5"	369	Bt.
P503	20	14'-10"	309	Bt.
P504B	60	17'-2"	1074	Str.
P505A	32	18'-9"	626	Bt.
P506	60	4'-8"	292	Bt.
P507	12	31'-8"	396	Str.
P508	4	31'-0"	129	Str.
P509	4	25'-0"	104	Str.
P510	4	18'-0"	75	Str
P511	4	14'-0"	58	Str
P512A	32	4'-5"	147	Bt.
P513	4	8'-11"	37	Bt.
P513A	4	10'-5"	43	Bt.
P513B	4	11'-5"	48	Bt.
P513C	4	12'-11"	54	Bt.
P513D	4	13'-11"	58	Bt.
P513E	14	14'-5"	211	Bt
P701	48	10'-2"	997	Bt.
P901	20	34'-2"	2323	Bt.



PIER 4

MARK	NO.	LENGTH	WEIGHT	SHAPE
P505A	72	18'-9"	1408	Bt.
P505B	~~64~~ 68	27'-9"	~~1852~~ 1336	Bt.
P512A	72	4'-5"	332	Bt.
P512B	102	6'-5"	683	Bt.
P512C	~~60~~ 64	8'-5"	~~562~~ 526	Bt.
P514	68	22'-7"	1602	Bt
P801	44	29'-8"	3485	Bt
P901	80	22'-0"	5984	Bt
P1101	26	34'-10"	4812	Bt.
P1102	52	30'-8"	8472	Str.
P1103	56	25'-3"	7513	Str.
P1104	60	~~23'-4"~~ 25'-4"	~~7438~~ 8442	Str
P1105	60	10'-5"	3327	Bt
P1106	108	7'-2"	4112	Str
* Bars not listed			1996	

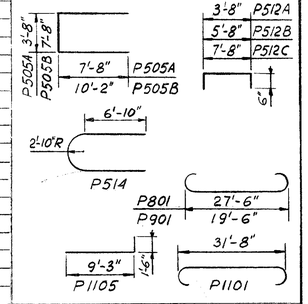
* P401A, P501A, P503, P507 thru P511 & P513 thru P513E see Pier 3.



PIER 5

P505A	140	18'-9"	2738	Bt.
P505B	52	27'-9"	1505	Bt.
P512A	140	4'-5"	645	Bt.
P512B	102	6'-5"	683	Bt.
P512C	52	8'-5"	457	Bt.
P514	68	22'-7"	1602	Bt.
P801	44	29'-8"	3485	Bt
P901	80	22'-0"	5984	Bt.
P1101	26	34'-10"	4812	Bt
P1102A	80	29'-4"	12468	Str.
P1103	56	25'-3"	7513	Str.
P1104A	60	~~28'-4"~~ 28'-4"	~~8463~~ 8595	Str.
P1105	60	10'-5"	3320	Bt.
P1106	136	7'-2"	5178	Str.
*Bars not listed			1996	

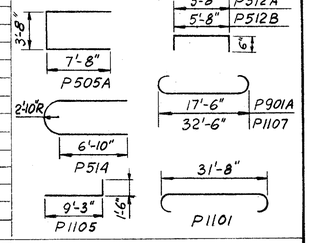
* P401A, P501A, P503, P507 thru P511 & P513 thru P513E, See Pier 3.



PIER 6

P505A	128	18'-9"	2503	Bt.
P512A	128	4'-5"	590	Bt.
P512B	30	6'-5"	201	Bt.
P514	20	22'-7"	471	Bt.
P901A	88	20'-0"	5984	Bt.
P1101	26	34'-10"	4812	Bt
P1102B	80	27'-4"	11618	Str.
P1103A	56	7'-0"	2083	Str
P1105	56	10'-5"	3099	Bt.
P1106	80	7'-2"	3046	Str.
P1107	44	35'-8"	8338	Bt.
*Bars not listed			1996	

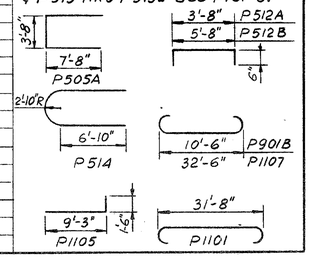
* P401A, P501A, P503, P507 thru P511 & P513 thru P513E see Pier 3.



PIER 7

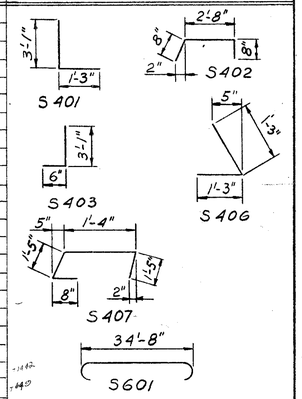
P505A	56	18'-9"	1095	Bt.
P512A	56	4'-5"	258	Bt.
P512B	36	6'-5"	241	Bt.
P514	24	22'-7"	565	Bt.
P901B	80	13'-0"	3536	Bt
P1101	26	34'-10"	4812	Bt.
P1102C	52	24'-6"	6769	Str.
P1103B	56	5'-6"	1636	Str.
P1105	56	10'-5"	3099	Bt.
P1106	52	7'-2"	1980	Str.
P1107	28	35'-8"	5306	Bt.
*Bars not listed			1996	

* P401A, P501A, P503, P507 thru P511 & P513 thru P513E see Pier 3.



SUPERSTRUCTURE

	MARK	NO.	LENGTH	WEIGHT	SHAPE
	S 401	1210	4'-3"	3435	Bt.
	S 402	1210	3'-9"	3031	Bt.
	S 403	1210	3'-6"	2829	Bt.
	S 404	132	13'-8"	1205	Str.
	S 404A	660	13'-10"	6099	Str.
	S 404B	48	3'-8"	117	Str.
	S 404C	12	6'-9"	54	Str.
	S 405	240	40'-0"	6413	Str.
*	S 405A	12	8'-0"	64	Str
**	S 405B	12	24'-0"	192	Str
	S 406	1210	2'-5"	1957	Bt
	S 407	1210	4'-6"	3637	Bt.
C-22	~~S 501~~	~~2420~~	~~3'-4"~~	~~8415~~	~~Bt.~~
	S 601	2416	36'-0"	130,638	Bt.
	S 602	2200	40'-0"	132,176	Str.
	S 602A	110	11'-0"	1817	Str.
	S 602B	110	35'-0"	5783	Str.
	S 603	96	25'-0"	3605	Str.
C-22	S 603A	~~2416~~ 2416	~~40'-0"~~ 40'-0"	~~130,638~~ 131,535	Str.
C-22	S 603B	~~2416~~ 2416	~~18'-0"~~ 18'-0"	~~58,491~~ 58,910	Str.
	S 701	2416	34'-8"	171,193	Str.



* Use in span 1

** Use in span 8

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example: S 406 is a No. 4 size bar and P1105 is a No. 11 size.

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

BAR LIST
PIERS AND SUPERSTRUCTURE
BRIDGE NO. SA 20 - 180

OVER SANDUSKY RIVER, SR 53, AND N.Y.C. & ST.L. R.R.
SANDUSKY CO. F-585(11)
SEC. SAN. 20 - 17.62 STA. 939+21.25 TO 941+28.13

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DRH DEY	M.L		DMF RLD	H.S.M.	11-30-55	

Sheets 149A thru 172A replace Sheets 149 thru 172. 2-10-56

10-30-58 Revised As-Built JEP

54-448

1997 Rehab Plans

STRUCTURE GENERAL NOTES

STRUCTURE UPGRADING INDEX OF SHEETS:

GENERAL NOTES ——— 1-5
GENERAL SUMMARY ——— 6
GENERAL PLAN AND ELEVATION ——— 7
TYPICAL SECTIONS ——— 8-10
SCREED AND PROFILE ELEVATIONS ——— 11
REINFORCING STEEL LIST AND DETAILS ——— 12-13
SUPERSTRUCTURE STEEL FRAMING PLAN ——— 14
PHASED DECK CONSTRUCTION ——— 15-25
PARAPET AND MEDIAN BARRIER DETAILS ——— 26-27
ABUTMENT REPAIR DETAILS ——— 28-39
BRIDGE DECK EXPANSION JOINT DETAILS ——— 40-49
MISCELLANEOUS CONCRETE REPAIR DETAILS ——— 50

STANDARD DRAWINGS:

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS AS-1-81, REVISED 9-15-94, EXJ-4-87 DATED 1-20-94, MC-9.1 DATED 10-30-92, AND PCB-91 DATED 4-24-92.

SUPPLEMENTAL SPECIFICATIONS:

REFERENCE SHALL BE MADE TO SUPPLEMENTAL SPECIFICATIONS 910 DATED 5-20-91.

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993 & 1994 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS20-44, CASE I AND THE ALTERNATE MILITARY LOADING:

DESIGN DATA:
HIGH PERFORMANCE CONCRETE-COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)
HIGH PERFORMANCE CONCRETE-COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)
REINFORCING STEEL - ASTM A615, A616, A617
GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

STRUCTURAL STEEL
ASTM A36 - YIELD STRENGTH 36,000 P.S.I.

DECK PROTECTION METHOD:
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
HIGH PERFORMANCE CONCRETE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

STATE SAFETY REQUIREMENTS:

THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION. THE CONTRACTOR SHALL ALSO BE REQUIRED TO PROVIDE A POWER BOAT IN THE WATER WITH A PERSON ADEPT IN LIFESAVING PROCEDURES ON BOARD ANYTIME WORKERS ARE POSITIONED OVER THE WATER WHILE WORKING ON THE SAN-6-1751 STRUCTURE (OVER THE SANDUSKY RIVER). THESE REQUIREMENTS SHALL BE A SUPPLEMENT OR ADDITION TO ALL APPLICABLE O.S.H.A. REQUIREMENTS.

PLANS OF THE EXISTING BRIDGE:

PLANS OF THE EXISTING BRIDGE MAY BE EXAMINED AT THE DISTRICT 2 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, 317 EAST POE ROAD, BOWLING GREEN, OHIO.

PLAN DIMENSIONS AND FIELD MEASUREMENTS:

DIMENSIONS GIVEN REFER TO HORIZONTAL MEASUREMENTS AT 60 DEGREES F UNLESS OTHERWISE SHOWN.

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ITEM 202, PORTIONS OF STRUCTURES REMOVED, AS PER PLAN:

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE DESIGNATED PORTIONS OF THE BRIDGE DECK SHALL BE REMOVED.

THIS WORK SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF THE CONCRETE DECK INCLUDING PARAPET AND MEDIAN BARRIER, ALUMINUM RAILINGS, PORTIONS OF DECK JOINTS, SCUPPERS, EXISTING BEARINGS AT THE REAR ABUTMENT, AND OTHER DESIGNATED APPURTENANCES FROM STEEL SUPPORTING SYSTEMS. CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

THIS WORK SHALL ALSO INCLUDE THE REMOVAL AND DISPOSAL OF PORTIONS OF ABUTMENT BACKWALLS, ABUTMENT PARAPETS AND ABUTMENT MEDIAN BARRIER.

CUT LINE CONSTRUCTION JOINT PREPARATION (ABUTMENTS):

SAW CUT BOUNDARIES OF PROPOSED ABUTMENT CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, THE EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

ABUTMENT CONCRETE REMOVAL:

SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18-INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT ABUTMENTS.

ANY LOOSE OR DETERIORATED CONCRETE ADJACENT TO THE PROPOSED REMOVAL LIMITS SHALL BE REMOVED. THE LIMITS OF THIS ADDITIONAL REMOVAL SHALL BE DIRECTED BY THE ENGINEER. CARE SHALL BE EXERCISED DURING REMOVAL TO AVOID DAMAGE TO ADJACENT PORTIONS OF THE BRIDGE ABUTMENTS WHICH ARE NOT TO BE REPAIRED UNDER THIS CONTRACT.

PROTECTION OF TRAFFIC:

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PROTECTION OF STEEL SUPPORT SYSTEMS:

BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS:

CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS ABOVE STEEL MEMBERS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER. TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS:

DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS OR CROSSFRAMES WHICH ARE TO REMAIN. STRINGERS OR CROSSFRAMES DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE DIRECTOR.

EXTRANEOUS MEMBERS:

EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED "TENSION" SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE PARALLEL TO THE FLANGES.

LOADING LIMITATIONS:

NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT:

THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT NO. 2
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | REVISED DAB | DATE 5-5-95
CHECKED LLL | REVISED | STRUCTURE FILE NUMBER 7200579

STRUCTURE GENERAL NOTES
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER
SAN-6-17.51
1 / 50
36 / 85

\SRV\PDO\ODOT\SA617GNA.DGN

STRUCTURE GENERAL NOTES

ITEM 509, EPOXY COATED REINFORCING STEEL, GRADE 60:

WHEN ABUTMENT BACKWALL AND BRIDGE SEAT RECONSTRUCTION WORK IS PERFORMED THE EXISTING REINFORCING STEEL SHALL BE SALVAGED WHERE INDICATED IN THE PLANS. ANY EXISTING REINFORCING STEEL DEEMED UNUSABLE BY THE ENGINEER BECAUSE OF CORROSION SHALL BE REPLACED. THESE REPLACEMENT BARS SHALL BE NOTED AS EA519 BARS AND SHALL BE SUPPLIED IN 30'-0" LENGTHS WHICH SHALL BE FIELD CUT AS NEEDED AND DOWELED 1'-2" INTO THE EXISTING ABUTMENT . AN ESTIMATED QUANTITY OF NO.5 BARS WITH A TOTAL WEIGHT 188 POUNDS SHALL BE INCLUDED IN THE REINFORCING STEEL LIST FOR THIS PURPOSE. FIELD CUTTING OF THESE BARS SHALL BE INCLUDED IN THE UNIT PRICE BID PER POUND FOR "ITEM 509, EPOXY COATED REINFORCING STEEL, GRADE 60".

THE CONTRACTOR SHALL BE PAID FOR ALL EA519 BARS WHICH ARE NOT USED FOR REPAIR OF THE ABUTMENT BACKWALLS. THESE BARS SHALL BE STORED AT THE PROJECT SITE FOR PICKUP BY STATE FORCES. STORAGE SHALL BE IN A MANNER WHICH IS ACCEPTABLE TO THE ENGINEER. EXISTING REINFORCING STEEL WHICH IS TO BE SALVAGED AND INCORPORATED INTO THE WORK WHICH IS MADE UNUSABLE BECAUSE OF THE CONTRACTOR'S NEGLIGENCE SHALL BE REPLACED WITH NEW REINFORCING STEEL AT THE CONTRACTOR'S EXPENSE.

ITEM SPECIAL, TREATING-CONCRETE BRIDGE DECK WITH HMWM RESIN:

THE STAGE CONSTRUCTION JOINTS SHALL BE TREATED WITH A HMWM RESIN FOR THE LENGTH OF THE BRIDGE AS SHOWN ON SHEET 25/50 FOR A WIDTH OF 2'-0" (1'-0" ON EITHER SIDE OF THE JOINTS). SEE THE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ITEM SPECIAL, HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET) (MIX 4):

CONCRETE PARAPET AND MEDIAN BARRIER:

WITHIN 48 HOURS AFTER PLACEMENT OF DECK PARAPET AND MEDIAN BARRIER CONCRETE, SAW CUT ONE-INCH DEEP JOINTS INTO THE CONCRETE PARAPET AT LOCATIONS AS DETAILED IN THE PLANS. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK, AND THE COMPLETED SAWCUT SHALL BE FILLED WITH CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E. THE BOTTOM HALF-INCH OF THE ONE-INCH DEEP SAWED JOINT IN BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET SHOULD BE LEFT UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

INSPECTION OF STRUCTURAL STEEL:

THE ENGINEER SHALL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THAT THEY ARE FREE OF DEFECTS. THE DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS SHALL NOT BE ERECTED UNTIL AFTER THE ENGINEER HAS COMPLETED THIS INSPECTION. THIS INSPECTION SHALL NOT TAKE PLACE UNTIL AFTER THE TOP FLANGES ARE CLEANED AS SPECIFIED IN 511.08, BUT IT SHALL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE COST ASSOCIATED WITH THIS INSPECTION SHALL BE INCLUDED WITH "ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE" FOR PAYMENT.

PAYMENT FOR LABOR, MATERIAL, AND INSTALLATION INVOLVED IN THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE BID PER CUBIC YARD FOR "ITEM SPECIAL, HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET).

ITEM 512, SEALING OF CONCRETE SURFACES:

SEE PROPOSAL NOTE "ITEM 512, SEALING OF CONCRETE SURFACES" FOR A DESCRIPTION OF SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIALS REQUIREMENTS AND PROCEDURES. AN EPOXY-URETHANE SEALER SHALL BE APPLIED AS SHOWN ON PLAN SHEET NO's. 9/50, 10/50, 30-33/50, 36-39/50, AND 50/50.

ITEM 513 STRUCTURAL STEEL FOR REHABILITATION, AS PER PLAN:

STEEL MEMBERS TO BE FABRICATED UNDER THIS ITEM WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. THE ENGINEER SHALL HAVE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE BUREAU OF BRIDGES. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING STEEL ITEMS INTO THE WORK, AS REQUIRED BY 501.07. AFTER FABRICATION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET TO THE BUREAU OF BRIDGES FOR INFORMATION. PAY WEIGHTS SHALL BE COMPUTED IN COMPLIANCE WITH 513 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND SUBMITTED TO THE ENGINEER FOR HIS REVIEW AND APPROVAL. THE FABRICATOR SHALL FURNISH A 35 MILLIMETER MICROFILM COPY OF EACH SHOP DRAWING, WHICH SHALL BE MOUNTED ON AN APERTURE CARD AS SPECIFIED IN 501.05.

STEEL MEMBERS INCLUDED IN THIS ITEM INCLUDE END DAM CROSS FRAME ANGLES AND PLATES, GUSSET PLATES, HIGH STRENGTH BOLTS, AND ALL OTHER STEEL AND INCIDENTALS NOT PAID FOR UNDER A DIFFERENT PAY ITEM.
EXISTING CROSSFRAMES (APPROX.60) AND PLATES (APPROX.60) AT PIER 3 SHALL BE COMPLETELY REMOVED FLUSH WITH THE BEAM WEB. ANY REMAINING PORTIONS OF STEEL ANGLE OR WELD METAL SHALL BE REMOVED BY GRINDING TO OBTAIN A SMOOTH SURFACE. FINAL GRINDING SHALL BE IN THE DIRECTION OF THE BEAM SPAN. CARE SHALL BE TAKEN NOT TO GOUGE OR OTHERWISE DAMAGE THE EXISTING STEEL BEAMS. NEW CROSSFRAME ANGLES AND GUSSET PLATES SHALL BE REPLACED IN THE SAME POSITION AS THE EXISTING ANGLES AND PLATES. CARE SHALL ALSO BE TAKEN NOT TO DAMAGE EXISTING STRUCTURAL STEEL WHICH IS TO REMAIN.

FABRICATOR CERTIFICATION AS SPECIFIED IN 501.04 OF THE SPECIFICATIONS IS NOT REQUIRED.

THIS STEEL SHALL BE PAINTED IN ACCORDANCE WITH SYSTEM OZEU. PAYMENT SHALL INCLUDE REMOVING THE EXISTING END CROSSFRAMES AND PLATES, GRINDING THE EXISTING WELDS SMOOTH AND PREPARING THE EXISTING SURFACE, MAKING MEASUREMENTS, PREPARING DRAWINGS, FABRICATING AND INSTALLING THE NEW STEEL AND ANY ADDITIONAL WORK THAT MAY BE NECESSARY TO COMPLETE THE ITEM. PAYMENT FOR PAINTING IS COVERED UNDER A DIFFERENT PAY ITEM.

ITEM SPECIAL, FIELD PAINTING OF NEW STEEL, SYSTEM OZEU

AT THE OPTION OF THE CONTRACTOR, AND AT NO ADDITIONAL COST TO THE STATE, THE INORGANIC ZINC PRIME COAT MAY BE APPLIED IN THE FIELD. SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH 514.03 AND 514.04.

ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN:

SEE PROPOSAL NOTE "ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN" FOR MATERIALS REQUIREMENTS AND PROCEDURES.

INSTALLATION OF SEAL: DURING INSTALLATION OF THE SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE EXPANSION JOINT SEAL, THE SEATING OF BEAMS ON BEARINGS SHALL BE CAREFULLY OBSERVED TO ASSURE THAT POSITIVE BEARING IS MAINTAINED. PROPER VERTICAL FIT OF THE SUPPORT/ARMOR ON THE BEAMS SHALL BE ACHIEVED BY POSITIONING OF THE BEVEL FILL PLATES RATHER THAN BY CLAMPING FORCE.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO JACK AND ADEQUATELY SUPPORT THE EXISTING SUPERSTSRUCTURE. THIS INCLUDES FURNISHING THE ENGINEERING SERVICE FOR DESIGNING TEMPORARY SUPPORT SYSTEMS TO RAISE, SUPPORT AND LOWER THE BRIDGE SUPERSTRUCTURE AS HEREIN DESCRIBED FOR THE PURPOSE OF REPAIRING ABUTMENT BACKWALLS AND BREASTWALLS AND FOR CLEANING AND RESETTING OR REPLACING BEARING DEVICES. THE FURNISHING OF ALL LABOR, MATERIALS, SUPPLIES AND EQUIPMENT FOR THE INSTALLATION, UTILIZATION AND REMOVAL OF THE SUPPORT SYSTEMS AS NEEDED IS ALSO INCLUDED.

THE GIRDERS SUPPORTING A PARTICULAR BRIDGE DECK (LEFT OR RIGHT DECK) AT AN ABUTMENT OR PIER SHALL BE RAISED SIMULTANEOUSLY AND IN A UNIFORM MANNER THROUGH THE MINIMUM DISTANCE REQUIRED TO PERFORM THE ABOVE MENTIONED WORK. THE STIPULATION THAT THE GIRDERS BE RAISED SIMULTANEOUSLY AND IN A UNIFORM MANNER SHALL BE ADHERED TO EVEN IF WORK IS NOT TO BE PERFORMED SIMULTANEOUSLY ALONG THE ENTIRE ABUTMENT OR DECK EXPANSION JOINT. THE SUPERSTRUCTURE SHALL REMAIN SUPPORTED AS NECESSARY FOR THE ACCOMPLISHMENT OF THE WORK AND SHALL BE SUBSEQUENTLY LOWERED IN SUCH A MANNER AS TO PREVENT DAMAGE TO ANY PORTION OF THE BRIDGE SUPERSTRUCTURE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS, TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS.

THREE (3) SETS OF JACKING AND SUPPORT PLANS, PROCEDURES AND LOADING CALCULATIONS, PERFORMED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

- PHYSICAL DIMENSIONS AND CAPACITY OF THE JACKING SYSTEMS ALONG WITH THE ACTUAL POSITIONS, INCUDING DIMENSIONS, DEFINING WHERE THE JACKING SYSTEMS WILL BE PHYSICALLY LOCATED ON THE STRUCTURE TO PERFORM THE REQUIRED LIFTS.
- PHYSICAL DIMENSIONS, MATERIALS, FABRICATION DETAILS AND DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS ALONG WITH ACTUAL DETAILS OF THEIR INSTALLED LOCATIONS ON THE STRUCTURE. HORIZONTAL MOVEMENT RESTRAINTS SHALL BE DESIGNED AND DETAILED. LATERAL AND LONGITUDINAL DESIGN LOADS AND SUPPORTING DESIGN CALCULATIONS SHALL BE INCLUDED.
- A JACKING PLAN SHEET LAYOUT, WITH ADEQUATE DETAILS TO SHOW ALL JACKING POINTS, CALCULATED LOADINGS AT THOSE POINTS, LOCATIONS OF JACKING EQUIPMENT AND TEMPORARY OR PERMANENT SUPPORTS SHALL BE INCLUDED IN THE SUBMITTAL. ANY PHASED CONSTRUCTION, SPECIAL TRAFFIC REQUIREMENTS, CLEARANCE REQUIREMENTS, RAILROAD DETAILS OR SPECIAL CONSTRUCTION DETAILS THAT AFFECT THE JACKING OPERATION AND ANY OTHER DETAILS THE CONTRACTOR DEEMS NECESSARY TO ADEQUATELY VISUALLY DESCRIBE THE JACKING OPERATION SHALL ALSO BE INCLUDED IN THE JACKING PLAN SHEET.
- THE PLAN SHEET SHALL INCLUDE A STEP BY STEP JACKING PROCEDURE DETAILING ALL STEPS IN THE OPERATION INCLUDING THE REQUIRED WORK DESCRIBED IN THE PROJECT PLANS.

JACKING OPERATIONS ARE LIMITED TO A MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ADJACENT BEARINGS AT OF 1/4 INCH.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEARINGS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE LIMITED BY STRESSES INDUCED IN THE AFFECTED STRUCTURAL MEMBERS. CALCULATIONS DETAILING ALL STRESSES INDUCED IN THE AFFECTED MEMBERS AND LIMITED BY ALLOWABLE STRESSES OF 136.5% OF NORMAL DESIGN STRESSES, SHALL BE INCLUDED IN THE JACKING PROCEDURE SUBMITTAL. THE ONLY EXCEPTION TO THE SIMULTANEOUS JACKING REQUIREMENT IS WHEN ACTUAL PROJECT WORK REQUIRES INDIVIDUAL BEARINGS TO BE REPLACED OR REHABILITATED, NO PERMANENT SHIMMING IS REQUIRED, AND THE HEIGHT OF THE TOTAL LIFT DOES NOT EXCEED 1/4 INCH.

ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK ARE INCLUDED UNDER ITEM 516, LUMP SUM, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVISED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

STRUCTURE GENERAL NOTES
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

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STRUCTURE GENERAL NOTES

ITEM 516, REFURBISH AND RESET BEARING, AS PER PLAN:

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR REMOVAL, CLEANING, PAINTING, AND RESETTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING AS REQUIRED BY SYSTEM OZEU, REPLACEMENT OF ALL 1/8" SHEET LEAD WITH 1/8" PREFORMED BEARING PADS, INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F. LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. THE EXISTING ROCKER BEARING DEVICES TO BE REFURBISHED ARE LOCATED AT THE PIER 3 INTERMEDIATE DECK EXPANSION JOINT (ROLLED BEAMS ONLY) AND AT THE FORWARD ABUTMENT. ALL WELDING FOR THIS ITEM SHALL CONFORM WITH ARTICLE 513.17 OF THE CMS.

PRIOR TO REMOVAL, THE COMPONENTS OF EACH BEARING DEVICE SHALL BE MARKED IN A MANNER SUITABLE FOR IDENTIFICATION OF CORRESPONDING COMPONENTS AND ASSEMBLY ORIENTATION. ADDITIONALLY, THE MARKINGS SHALL PROVIDE FOR IDENTIFICATION OF EACH BEARING DEVICE WITH ITS ORIGINAL LOCATION AND ORIENTATION RELATIVE TO THE BRIDGE.

ALL REMOVALS SHALL BE PERFORMED WITH SUFFICIENT CARE SO AS TO LEAVE UNDAMAGED REMAINING PORTIONS OF THE BRIDGES AND THOSE COMPONENTS WHICH ARE TO BE REFURBISHED. ANY DAMAGE RESULTING FROM REMOVAL OPERATIONS, STORAGE OR HANDLING SHALL BE REMEDIED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE ENGINEER. THE 1/8 INCH LEAD PLATES LOCATED UNDER THE BEARING DEVICES SHALL NOT BE REUSED AND SHALL BE DISPOSED OF.

AFTER REMOVAL, THE BEARING DEVICES SHALL BE DISASSEMBLED AND ALL SURFACES OF EACH COMPONENT SHALL BE CLEANED TO COMPLY WITH ASTM D220 GRADE SA 2 1/2. PRIOR TO INSTALLATION, THE CONCRETE BEAM/GIRDER SEATS SHALL BE REPAIRED IF NECESSARY, CLEANED OF ALL FOREIGN MATERIALS, AND MAINTAINED IN THIS CONDITION DURING THE INSTALLATION OPERATION. THE INSTALLATION SHALL BE AS FOLLOWS: EACH COMPONENT OF A PARTICULAR BEARING DEVICE SHALL BE INSTALLED TO CORRESPOND WITH ITS ORIGINAL ORIENTATION RELATIVE TO OTHER COMPONENTS OF THE ASSEMBLY. ADDITIONALLY, EACH BEARING DEVICE SHALL BE INSTALLED TO SUPPORT THE BEAM/GIRDER FROM WHICH IT WAS REMOVED. INTERCHANGING AND/OR ROTATING OF THE BEARING DEVICE OR INDIVIDUAL COMPONENTS IS SPECIFICALLY PROHIBITED.

EACH BEARING DEVICE SHALL BE POSITIONED ON A NEW 1/8 INCH THICK PREFORMED BEARING PAD, MEETING THE REQUIREMENTS OF 711.21. THE CONTRACTOR SHALL BE SURE THAT ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT THE OPTION OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE STATE, NEW BEARINGS OF THE SAME TYPE AS THE EXISTING MAY BE INSTALLED IN LIEU PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516-REFURBISH AND RESET BEARING, AS PER PLAN.

ITEM 518, 6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 6 INCH DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE SP.

ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 6 INCH DIAMETER, PLASTIC CORRUGATED PIPE AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE S. THIS ITEM SHALL INCLUDE ALL ELBOWS, TEES AND END CAPS REQUIRED TO COMPLETE THE ABUTMENT DRAINAGE SYSTEM.

ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN :

THIS ITEM SHALL CONSIST OF THE REMOVAL OF ALL LOOSE AND DISINTEGRATED CONCRETE, THE PREPARATION OF THE SURFACE, AND THE PLACING OF HIGH PERFORMANCE CONCRETE MIX DESIGN 2 PATCHES AT THE FORWARD ABUTMENT AND PIER 3, EXCLUDING FULL DEPTH REMOVAL AND REPLACEMENT SECTIONS AT THE ABUTMENT, AS PER ITEM 519, PATCHING CONCRETE STRUCTURES.

GENERAL PROVISIONS:

THE CONTRACTOR'S ATTENTION IS CALLED TO ALL OF SECTION 100 OF THE 1995 CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION, AND SPECIFICALLY TO THE ITEMS LISTED BELOW AS PROVIDED FOR IN THIS SECTION.

COOPERATION OF CONTRACTOR:

IF, ANY STRUCTURAL MEMBER IS FOUND TO BE SEVERELY CORRODED OR CONTAIN A VISIBLE CRACK, THE ENGINEER SHALL BE NOTIFIED AND THE MEMBER INSPECTED BEFORE PAINTING OF THE MEMBER IS PERMITTED.

THE CONTRACTOR SHALL LEAVE HIS LADDERS, PLATFORMS OR SCAFFOLD IN PLACE FOR A SUFFICIENT LENGTH OF TIME AND IN SUCH A MANNER TO PERMIT THE ENGINEER OR INSPECTOR TO SAFELY EXAMINE THE WORK PERFORMED.

THE CONTRACTOR SHALL NOT PERFORM WORK ON SUNDAYS OR LEGAL HOLIDAYS WITHOUT THE APPROVAL OF THE ENGINEER.

PRIOR INSPECTION OF WORK:

PROSPECTIVE BIDDERS ARE REQUIRED TO MAKE AN INSPECTION OF THE BRIDGES IN THE FIELD AND TO REVIEW THE PLANS AND SPECIFICATIONS BEFORE SUBMITTING BIDS. SEE SEC. 102.05 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, JANUARY 1, 1995.

PROTECTION OF PERSONS AND PROPERTY:

THE CONTRACTOR SHALL COLLECT, REMOVE AND DISPOSE OF ALL BUCKETS, RAGS OR OTHER DISCARDED MATERIALS AND HE SHALL LEAVE THE JOB SITE IN A CLEAN MANNER AND CONDITION.

THE CONTRACTOR SHALL PROTECT ALL PORTIONS OF THE STRUCTURE WHICH ARE NOT TO BE PAINTED AGAINST DAMAGE OR DISFIGUREMENT BY SPLASHES, SPLATTERS AND SMIRCHES OF PAINT.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLECT OR MISCONDUCT IN THE EXECUTION OF THE WORK, OR IN CONSEQUENCE OF THE NON-EXECUTION THEREOF BY THE CONTRACTOR, HE SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIRING, REBUILDING OR OTHERWISE RESTORING AS MAY BE DIRECTED BY THE ENGINEER.

POLLUTION CONTROL:

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OF FEDERAL, STATE OR LOCAL AGENCIES. IN ADDITION, THE ENGINEER SHALL HAVE THE CONTRACTOR CEASE OPERATIONS IF THE WIND OR OTHER CONDITIONS ARE SUCH THAT THE SURROUNDING ENVIRONMENT IS BEING DETRIMENTALLY AFFECTED DUE TO THE WORK.

STATE SAFETY REQUIREMENTS:

THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION.

BRIDGE PAINTING:

THE AREAS OF CROSSFRAMES, STIFFENERS, AND GUSSET PLATES TO BE PAINTED ARE INCLUDED IN THE RESPECTIVE QUANTITY AS FOUND IN THE BRIDGE GENERAL SUMMARY. AN INCIDENTAL PERCENTAGE OF 5% HAS BEEN ADDED FOR BEARING ASSEMBLIES WHICH ARE NOT TO BE REFURBISHED.

ITEM SPECIAL, SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU:

SURFACE PREPARATION SHALL INCLUDE SOLVENT CLEANING. THE FINISH COAT OF PAINT SHALL MATCH THE COLOR OF THE EXISTING BEAM. PAYMENT FOR ALL THE WORK AND LABOR UNDER THIS ITEM SHALL BE INCLUDED IN ITEM SPECIAL, SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU.

SCREED ELEVATIONS:

UPON REMOVAL OF THE EXISTING BRIDGE DECK, THE ELEVATIONS OF THE TOP OF ALL BEAMS SHALL BE TAKEN AT MAXIMUM TWENTY-FIVE FEET INTERVALS TO VERIFY THE PROPOSED SCREED ELEVATIONS. IF ANY PROBLEMS ARE ENCOUNTERED DURING SET UP OF THE SCREED ELEVATIONS, THE CONCRETE HAUNCH THICKNESS CAN BE VARIED FOR ADJUSTMENTS.

COOPERATION WITH RAILROADS:

THE CONTRACTOR SHALL COOPERATE AT ALL TIMES WITH THE LOCAL OFFICIALS OF THE RAILROAD COMPANY. HE SHALL USE ALL REASONABLE CARE AND DILIGENCE IN THE WORK IN ORDER TO AVOID ACCIDENTS, DAMAGE, OR INTERFERENCE WITH THE TRAINS OR OTHER PROPERTY OF THE RAILROAD. THE CONTRACTOR SHALL NOTIFY THE LOCAL OFFICIALS OF THE RAILROAD PRIOR TO STARTING WORK THAT HIS WORK MAY EFFECT RAILROAD PROPERTY AND FACILITIES, AND THAT HE SHALL PAY THE RAILROAD COMPANY THE COST OF FLAGGERS FURNISHED BY THE RAILROAD COMPANY AND MADE NECESSARY BECAUSE OF ANY OF HIS OPERATIONS OVER OR ADJACENT TO THE TRACKS.

DEMOLITION OF EXISTING STRUCTURE:

RAILROAD TRACKS SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION OF EXISTING STRUCTURE. EITHER OF THE FOLLOWING METHODS MAY BE USED:

A. DURING DEMOLITION OF THE DECK, A PROTECTION SHIELD SHALL BE ERECTED OVER THE TRACK TO CATCH FALLING DEBRIS. THE PROTECTION SHIELD SHALL BE SUPPORTED FROM GIRDERS OR BEAMS AND SHALL NOT BE LOWER THAN ALLOWED TEMPORARY CLEARANCE. THE DECK SHALL BE REMOVED BY CUTTING IT IN SECTIONS AND LIFTING OUT. LARGE PIECES OF DECK SHALL NOT BE ALLOWED TO FALL ON PROTECTION SHIELD.

B. ON LIGHT TRAFFIC DENSITY LINES OR WHEN OVERHEAD PROTECTION SHIELD CAN NOT BE INSTALLED DUE TO LIMITED CLEARANCE OR TYPE OF SUPERSTRUCTURE, THE TRACK MAY BE PROTECTED BY TIMBER MATS PLACED OVER THE TRACK STRUCTURE, SUBJECT TO APPROVAL BY DIVISION MANAGER. TIMBER MATS SHALL BE MADE IN SECTIONS SUCH THAT THEY MAY BE LIFTED IN AND OUT QUICKLY. MATS SHALL NOT REST ON TIES OR RAILS. GEOFABRIC OR CANVAS SHALL BE PLACED OVER THE TRACK STRUCTURE TO KEEP THE BALLAST CLEAN.

C. BLASTING WILL NOT BE PERMITTED TO DEMOLISH A STRUCTURE OVER OR WITHIN RAILROAD RIGHT-OF-WAY.

THE CONTRACTOR SHALL SUBMIT DETAILED PLANS OF THE PROTECTION SHIELD OR THE TIMBER MATS TO THE DIVISION MANAGER FOR APPROVAL PRIOR TO THE START OF DEMOLITION.

A DEMOLITION PLAN FOR THE PORTIONS OF STRUCTURES REMOVED OVER ALL RAILROADS SHALL BE PREPARED BY AND CARRY THE SEAL OR REGISTRATION NUMBER OF A REGISTERED PROFESSIONAL ENGINEER. THE CONTRACTOR SHALL ALSO SUBMIT DETAILS OF THE PROTECTION SHIELD OR TIMBER MATS FOR THE RAILROAD TRACKS AND LINES AND A PLAN FOR HOW THE SAN-6-17.51 STRUCTURE OVER THE RAILROAD IS TO BE REHABILITATED. THESE PLANS SHALL BE SUBMITTED TO THE RAILROAD A MINIMUM OF 30 DAYS PRIOR TO PERFORMING THE ABOVE WORK AND APPROVED BY THE RAILROAD BEFORE BEGINNING CONSTRUCTION.

NO SCAFFOLD, PLANKS OR OTHER EQUIPMENT SHALL BE SUSPENDED OR ERECTED ABOVE OR WITHIN 10 FEET OF A RAIL OVER WHICH TRAINS ARE OPERATING WITHOUT PRIOR WRITTEN APPROVAL OF THE CHIEF ENGINEER OF THE RAILROAD COMPANY, OR HIS AUTHORIZED REPRESENTATIVE.

FAILURE TO NOTIFY THE RAILROAD COMPANY AS NOTED ABOVE SHALL BE CAUSE FOR STOPPING WORK UNTIL ALL PROVISIONS FOR PROTECTING RAILROAD PROPERTY HAVE BEEN PROVIDED.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 12
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | REVIEWED DAB | DATE 5-5-95
CHECKED LLL | REVISED | STRUCTURE FILE NUMBER 7200579

STRUCTURE GENERAL NOTES AND REMOVAL WORK
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER
SAN-6-17.51

3/50
38/85

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STRUCTURE GENERAL NOTES

CONSTRUCTION CLEARANCE:

CONSTRUCTION CLEARANCE OF 8'-0" HORIZONTALLY FROM THE CENTER OF TRACKS, AND 21'-0" VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL AND 6 FEET FROM THE CENTER OF TRACKS, SHALL BE MAINTAINED AT ALL TIMES.

RAILROAD AERIAL LINES:

RAILROAD AERIAL LINES WILL BE RELOCATED BY THE RAILROAD. THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THE RAILROAD IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION SHALL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

RAILROAD PROTECTIVE LIABILITY INSURANCE:

THE CONTRACTOR SHALL FURNISH EVIDENCE TO THE HIGHWAY DEPARTMENT THAT, WITH RESPECT TO THE OPERATIONS HE OR ANY OF HIS SUB-CONTRACTORS PERFORM, HE HAS PROVIDED FOR AND IN BEHALF OF THE RAILROAD COMPANY, A RAILROAD PROTECTIVE LIABILITY POLICY OF INSURANCE PROVIDING A COMBINED SINGLE LIMIT FOR DAMAGES ARISING OUT OF BODILY INJURIES TO OR DEATH OF ONE OR MORE PERSONS AND OUT OF INJURY TO OR DESTRUCTION OF PROPERTY INCLUDING SUCH PROPERTY IN THE CARE, CUSTODY AND CONTROL OF THE RAILROAD COMPANY IN THE AMOUNT OF $2,000,000.00 PER OCCURRENCE AND SUBJECT TO THAT LIMIT PER OCCURRENCE AN AGGREGATE LIMIT IN THE AMOUNT OF $6,000,000.00 FOR EACH ANNUAL PERIOD.

THE ABOVE RAILROAD PROTECTIVE POLICY OF INSURANCE SHALL CONFORM TO THE RAILROAD LIBILITY REQUIREMENTS PRESCRIBED BY THE FEDERAL HIGHWAY ADMINISTRATION IN FHPM: 6-6-2-2 AS AMENDED.

THE INSURANCE HEREINBEFORE SPECIFIED SHALL BE WITH AN ACCEPTABLE INSURANCE COMPANY AUTHORIZED TO DO BUSINESS IN THE STATE OF OHIO, AND SHALL BE TAKEN OUT BEFORE WORK IS COMMENCED AND KEPT IN EFFECT UNTIL ALL WORK REQUIRED TO BE PERFORMED UNDER THE TERMS OF THE CONTRACT IS SATISFACTORILY COMPLETED AS EVIDENCED BY THE FORMAL ACCEPTANCE BY THE STATE. SUCH POLICY SHALL INCLUDE THIRTY (30) DAYS CANCELING NOTICE.

"EVIDENCE" AS ABOVE SET FORTH SHALL CONSIST OF FURNISHING THE DIRECTOR OF TRANSPORTATION ONE (1) ORIGINAL AND TWO (2) CERTIFIED COPIES OF THE POLICY.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP SUM	PREMIUM ON RAILROADS' PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE.

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OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | REVIEWED DAB 5-5-95 | DATE
CHECKED LLL | REVISED | STRUCTURE FILE NUMBER 7200579

STRUCTURE GENERAL NOTES
AND REMOVAL WORK
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

STRUCTURE GENERAL NOTES

STAGES OF CONSTRUCTION

STAGE 1:

1) REMOVE EXISTING WESTBOUND BRIDGE DECK, INCLUDING DECK PARAPET AND WESTBOUND DECK MEDIAN.
2) REMOVE WESTBOUND PORTION OF EXISTING REAR AND FORWARD APPROACH SLABS AND WESTBOUND PORTION OF EXISTING REAR AND FORWARD ABUTMENT BACKWALLS, AS SHOWN ON SHEETS 28/50 THRU 40/50.
3) REMOVE EMBANKMENT MATERIAL UNDER REMOVED WESTBOUND PORTION OF EXISTING REAR AND FORWARD APPROACH SLABS.
4) PATCH AREAS AT FORWARD ABUTMENT BREASTWALL, WESTBOUND PORTION.
5) REMOVE AND REPLACE END DAM CROSS FRAMES UNDER WESTBOUND LANES AT INTERMEDIATE DECK EXPANSION JOINT AT PIER 3.
6) WELD NEW END DAM DECK EXPANSION JOINT STEEL AT WESTBOUND PORTIONS OF REAR AND FORWARD ABUTMENTS AND AT PIER 3.
7) REPLACE WESTBOUND PORTION OF REAR AND FORWARD ABUTMENT BACKWALLS.
8) SEAL AND WATERPROOF WESTBOUND PORTIONS OF ABUTMENT BACKWALLS AND WINGWALLS.
9) PLACE 6" PERFORATED CORRUGATED PLASTIC PIPE AND POROUS BACKFILL ALONG WESTBOUND PORTION OF REAR AND FORWARD BACKWALLS.
10) PLACE EMBANKMENT MATERIAL IN EXCAVATION UNDER WESTBOUND PORTION OF REAR AND FORWARD APPROACH SLABS.
11) JACK AND TEMPORARILY SUPPORT WESTBOUND BEAMS AND GIRDERS. REPLACE REAR ABUTMENT BEARING WITH LAMINATED ELASTOMERIC BEARINGS. REFURBISH AND RESET INTERMEDIATE HINGE JOINT AT PIER 3. REFURBISH AND RESET FORWARD ABUTMENT BEARINGS.

STAGE 2:

1) POUR WESTBOUND REPLACEMENT BRIDGE DECK.
2) POUR WESTBOUND PORTION OF REAR AND FORWARD APPROACH SLABS, PARAPET, AND CURB.
3) SEAL WESTBOUND PARAPETS ON BRIDGE DECK AND APPROACH SLABS WITH EPOXY-URETHANE.
4) REMOVE EXISTING EASTBOUND BRIDGE DECK, INCLUDING DECK PARAPET AND EASTBOUND DECK MEDIAN.
5) REMOVE AND REPLACE END DAM CROSS FRAMES UNDER EASTBOUND LANES AT INTERMEDIATE DECK EXPANSION JOINT AT PIER 3.
6) REMOVE EASTBOUND PORTION OF EXISTING REAR AND FORWARD APPROACH SLABS AND EASTBOUND PORTION OF EXISTING REAR AND FORWARD ABUTMENT BACKWALLS, AS SHOWN ON SHEETS 28/50 THRU 40/50.
7) WELD NEW END DAM DECK EXPANSION JOINT STEEL AT EASTBOUND PORTIONS OF REAR AND FORWARD ABUTMENTS AND PIER 3.
8) PATCH AREAS AT FORWARD ABUTMENT BREASTWALL, EASTBOUND PORTION.
9) REMOVE EMBANKMENT MATERIAL UNDER REMOVED EASTBOUND PORTION OF EXISTING REAR AND FORWARD APPROACH SLABS.
10) REPLACE EASTBOUND PORTION OF REAR AND FORWARD ABUTMENT BACKWALLS.
11) SEAL AND WATERPROOF EASTBOUND PORTION OF ABUTMENT BACKWALLS AND WINGWALLS.
12) PLACE 6" PERFORATED CORRUGATED PLASTIC PIPE AND POROUS BACKFILL ALONG EASTBOUND PORTION OF REAR AND FORWARD ABUTMENT BACKWALLS.
13) PLACE EMBANKMENT MATERIAL IN EXCAVATION UNDER EASTBOUND PORTION OF REAR AND FORWARD APPROACH SLABS.
14) JACK AND TEMPORARILY SUPPORT EASTBOUND BEAMS AND GIRDERS. REPLACE REAR ABUTMENT BEARINGS WITH LAMINATED ELASTOMERIC BEARINGS. REFURBISH AND RESET INTERMEDIATE HINGE JOINT AT PIER 3. REFURBISH AND RESET FORWARD ABUTMENT BEARINGS.

STAGE 3:

1) POUR EASTBOUND REPLACEMENT BRIDGE DECK AND PARAPET.
2) POUR EASTBOUND PORTION OF REAR AND FORWARD APPROACH SLABS, PARAPET, AND CURB.
3) SEAL EASTBOUND PARAPETS ON BRIDGE DECK AND APPROACH SLABS WITH EPOXY-ERETHANE.

STAGE 4:

1) ATTACH NEW CROSS FRAMES TO MEDIAN BAY ALONG ENTIRE STRUCTURE, INCLUDING REAR AND FORWARD ABUTMENT END DAM AND INTERMEDIATE DECK EXPANSION JOINT END DAM LOCATIONS.

STAGE 5:

1) MAKE DECK CLOSURE POUR IN MEDIAN BAY ALONG ENTIRE STRUCTURE.
2) POUR MEDIAN BARRIER ON STRUCTURE AND APPROACH SLABS.
3) SEAL MEDIAN BARRIER WITH EPOXY-ERETHANE.
4) PAINT EXISTING AND NEW STRUCTURAL STEEL.
5) PATCH AND SEAL AT PIERS 1-3.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | REVIEWED DAB | DATE 5-5-95
CHECKED LLL | REVISED | STRUCTURE FILE NUMBER 720079

STRUCTURE GENERAL NOTES
AND REMOVAL WORK
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

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ITEM	ITEM EXT.	QUANTITY TOTAL	UNIT	DESCRIPTION	ABUTMENT REAR	ABUTMENT FORWARD	SUPER-STRUCTURE	Pier 1	Pier 2	Pier 3		See Sheet No.
Special	10000300	Lump	Lump	Premium on Railroads' Protective Public Liability and Property Damage Liability Insurance								
202	11203	Lump	Lump	Portions of Structure Removed, over 20 foot span, as per plan	Lump	Lump	Lump					1/50
503	11100	Lump	Lump	Cofferdams, Cribs and Sheeting								
503	21100	246	Cu.Yd.	Unclassified Excavation	46	200						
509	15840	519,160	Pound	Epoxy Coated Reinforcing Steel, Grade 60	1947	4504	512,709					
510	10000	370	Each	Dowel Holes with Nonshrink, Nonmetallic Grout	192	178						
Special	51148000	1695	Cu.Yd.	High Performance Concrete, Superstructure (Deck)(Mix 4)▲			1695					
Special	51148020	529	Cu.Yd.	High Performance Concrete, Superstructure (Parapet)(Mix 4) ▲	89.5	101.7	337.0					
Special	51148040	42	Cu.Yd.	High Performance Concrete, Substructure (Mix 2) ▲	3.7	38.1						
Special	51149000	Lump	Lump	High Performance Concrete, Trial Mix ▲								
Special	51149010	Lump	Lump	High Performance Concrete, Testing ▲								
512	33300	28	Sq.Yd.	Type A Waterproofing	13.2	14.8						
512	44400	4	Sq.Yd.	Type B Waterproofing		4						
Special	51267510	3605	Sq.Yd.	Sealing of Concrete Surfaces (Epoxy-Urethane) ▲	56	113	2777	196	233	230		
Special	51273000	357	Sq.Yd.	Treating Concrete Bridge Decks with HMWM Resin			357					
513	16001	5398	Pound	Structural Steel for Rehabilitation, As Per Plan ▲			5398					
815	00050	142,315	Sq.Ft.	Surface Preparation of Existing Steel, System OZEU ▲			142,315					
815	00056	142,315	Sq.Ft.	Field Painting of Existing Steel, Prime Coat, System OZEU ▲			142,315					
815	00060	142,315	Sq.Ft.	Field Painting of Existing Steel, Intermediate Coat, System OZEU ▲			142,315					
815	00066	142,315	Sq.Ft.	Field Painting of Existing Steel, Finish Coat, System OZEU ▲			142,315					
815	00070	2722	Sq.Ft.	Field Painting of New Steel, System OZEU ▲			2,100			622		
516	11211	65	Lin. Ft.	Structural Expansion Joint Including Elastomeric Strip Seal, as per plan (3") ▲	65							
516	11211	130	Lin. Ft.	Structural Expansion Joint Including Elastomeric Strip Seal, as per plan (4") ▲		65				65		
516	44001	8	Each	Elastomeric Bearing with Internal Laminates and Load Plate (Neoprene) (10"x14"x 1⅞" with 11"x16"x½" Load Plate), as Per Plan	8							
516	46801	16	Each	Refurbish and Reset Bearing, as per plan		8				8		3/50
516	47001	Lump	Lump	Jacking and Temporary Support of Superstructure, As Per Plan			Lump					2/50
518	21200	88	Cu.Yd.	Porous Backfill with Filter Fabric	28.2	59.2						
518	40001	141	Lin. Ft.	6" Perforated Corrugated Plastic Pipe, As Per Plan	70.5	70.5						3/50
518	40011	75	Lin. Ft.	6" Non-Perforated Corrugated Plastic Pipe, Including Specials, As Per Plan	26	49						3/50
519	11101	37	Sq.Ft.	Patching Concrete Structure, As Per Plan	5	5				27		3/50
Special	60436600	4	Each	Precast Reinforced Concrete Outlet	2	2						

▲~See Proposal Note

JOINT OPENING (DIMENSION "A") ✳

TEMP. (°F)	REAR (WEST) ABUTMENT	PIER 3 (HINGED JOINT) (SUPERSTRUCTURE)	FORWARD (EAST) ABUTMENT
30	1 7/8"	2 5/8"	2 1/2"
40	1 3/16"	2 3/8"	2 11/32"
50	1 3/4"	2 1/8"	2 5/32"
60	1 5/8"	1 7/8"	1 15/16"
70	1 9/16"	1 11/16"	1 3/4"
80	1 7/16"	1 7/16"	1 9/16"
90	1 3/8"	1 3/16"	1 3/8"
SEAL SIZE REQUIRED	3"	4"	4"

STRIP SEAL DATA

RETAINERS	D. S. BROWN	WATSON-BOWMAN & ACME CORP.	STRUCTURAL ACCESSORIES
TYPE	SSA	A3	AM2

SEAL SIZE	D. S. BROWN	WATSON-BOWMAN & ACME CORP.	STRUCTURAL ACCESSORIES
3"	300L	S-300	40SEQ
4"	400L	S-400	40SEQ

✳~Minimum joint opening (Dimension "A") at time of seal gland installation shall not be less than 1½". If the joint opening is less, the installation shall then be postponed until the temperature drops a sufficient amount to allow the minimum 1½" opening.

For additional information, see Std. Drwg. EXJ-4-87.

OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 DESIGN DEPARTMENT

REVIEWED DAB DATE 5-5-95 | STRUCTURE FILE NUMBER 7200579

DESIGNED JML | DRAWN ALS | CHECKED LLL | REVISED

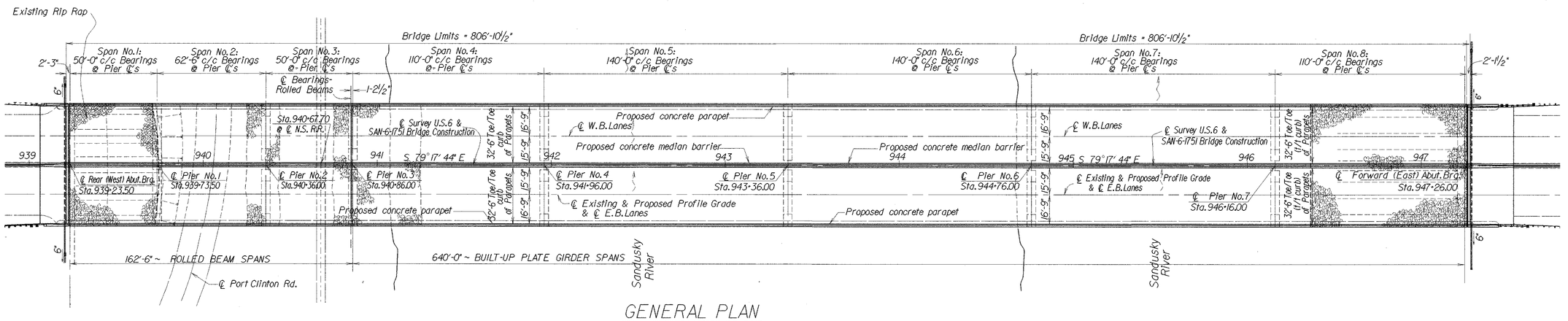
ESTIMATED QUANTITIES FOR BRIDGE REPAIR WORK
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

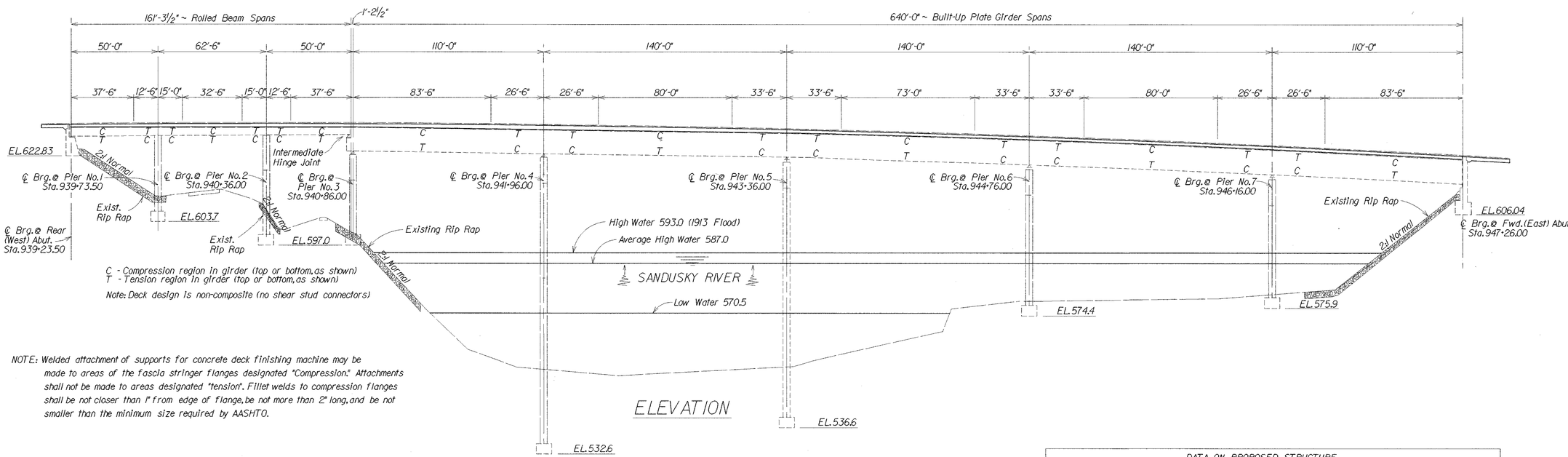
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GENERAL PLAN



C - Compression region in girder (top or bottom, as shown)
T - Tension region in girder (top or bottom, as shown)
Note: Deck design is non-composite (no shear stud connectors)

ELEVATION

NOTE: Welded attachment of supports for concrete deck finishing machine may be made to areas of the fascia stringer flanges designated "Compression." Attachments shall not be made to areas designated "tension". Fillet welds to compression flanges shall be not closer than 1" from edge of flange, be not more than 2" long, and be not smaller than the minimum size required by AASHTO.

EXISTING STRUCTURE DATA

Br.No. SAN-6-1751
TYPE: Continuous steel beam - 3 Spans (Spans 1-3) with reinforced concrete deck and substructure;
Continuous plate girder - 5 Spans (Spans 4-8) with reinforced concrete deck and substructure.
SPANS: 50'-0", 62'-6", 50'-0", 110'-0", 140'-0", 140'-0", 140'-0", 110'-0" c/c Bearings (all dimensions +/-)
ROADWAY: 30'-8" toe to toe of parapets/median:
3'-3" wide curb parapet;
2'-8" wide, 4'-2" high concrete deflector median barrier
LOAD FREQUENCY: CF 2000
SKEW: 0° (none)
WEARING SURFACE: 2½" Asphalt Concrete Overlay
APPROACH SLABS: Flared, 15'-0" Long, Rear (West) Approach
25'-0" long, Forward (East) Approach
ALIGNMENT: Tangent
SFN: 7200579
ORIGINAL CONSTRUCTION: 1955

PROPOSED STRUCTURE WORK

1.) Existing concrete bridge deck, safety median barrier, and parapet and curb to be removed and replaced with concrete bridge deck, safety deflector median barrier, and safety deflector parapet.
2.) Crossframes to be added under median span of proposed bridge deck.
3.) Crossframe angles and gusset plates at pier 3 to be removed and replaced with new crossframe angles and gusset plates.
4.) Portion of existing forward (east) abutment backwall to be removed and replaced.
5.) Existing deck expansion joints at rear (west) abutment, over Pier 3, and at forward (east) abutment to be removed and replaced with elastomeric strip seal expansion joints.
6.) Existing concrete parapet and curb railing, safety concrete median barrier, and concrete approach slabs at rear (west) and forward (east) abutment to be replaced with safety concrete parapet, safety concrete median barrier, and concrete approach slabs.
7.) Spalling concrete to be patched at forward (east) abutment and pier 3.
8.) Rear and forward abutment backwalls, beamseats, breastwalls, parapets, median barrier, as well as piers 1, 2, and 3, to be sealed with epoxy-urethane.
9.) Repair erosion.

DATA ON PROPOSED STRUCTURE

Br.No. SAN-6-1751
TYPE: Existing continuous steel beam - 3 Spans (Spans 1-3) with new reinforced concrete deck and existing substructure;
Existing continuous plate girder - 5 Spans (Spans 4-8) with new reinforced concrete deck and existing substructure.
SPANS: 50'-0", 62'-6", 50'-0", 110'-0", 140'-0", 140'-0", 140'-0", 110'-0" c/c Bearings (all dimensions +/-)
ROADWAY: 32'-6" toe to toe of parapets/median;
1'-6" wide, 2'-8" high concrete deflector parapets;
2'-6" wide, 4'-2" high concrete deflector median barrier
CROWN: 3/16" in./ft. (0.0156 ft./ft.)
LOADING: HS 20-44 (CASE I) and the Alternate Military Loading
SKEW: 0° (none)
WEARING SURFACE: Monolithic Concrete
APPROACH SLABS: AS-1-81, 15'-0" Long, Rear (West) Approach
25'-0" Long, Forward (East) Approach
ALIGNMENT: Tangent
SFN: 7200579

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | CHECKED LLL | REVISED | REVISED DAB 5-5-95 | DATE | STRUCTURE FILE NUMBER 7200579

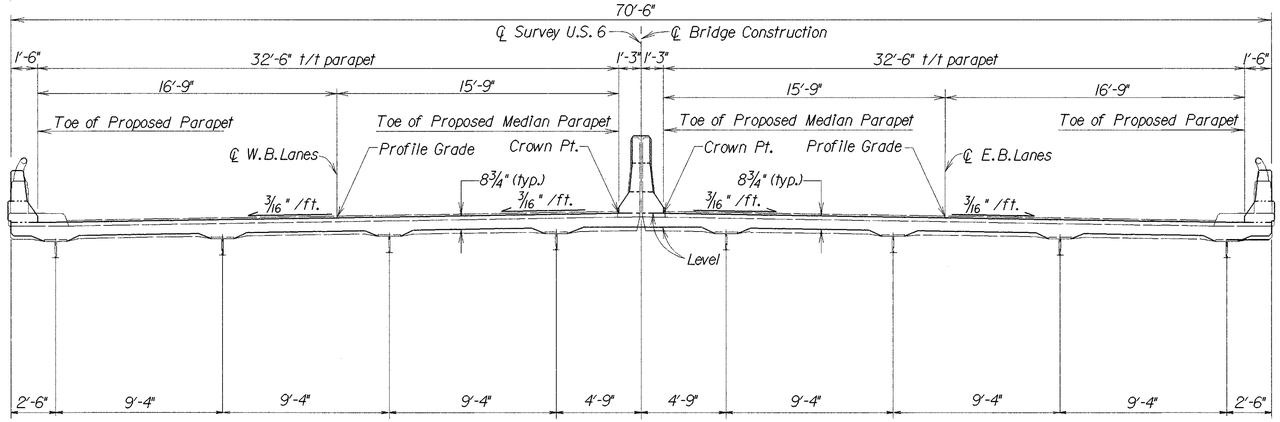
GENERAL PLAN AND ELEVATION
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

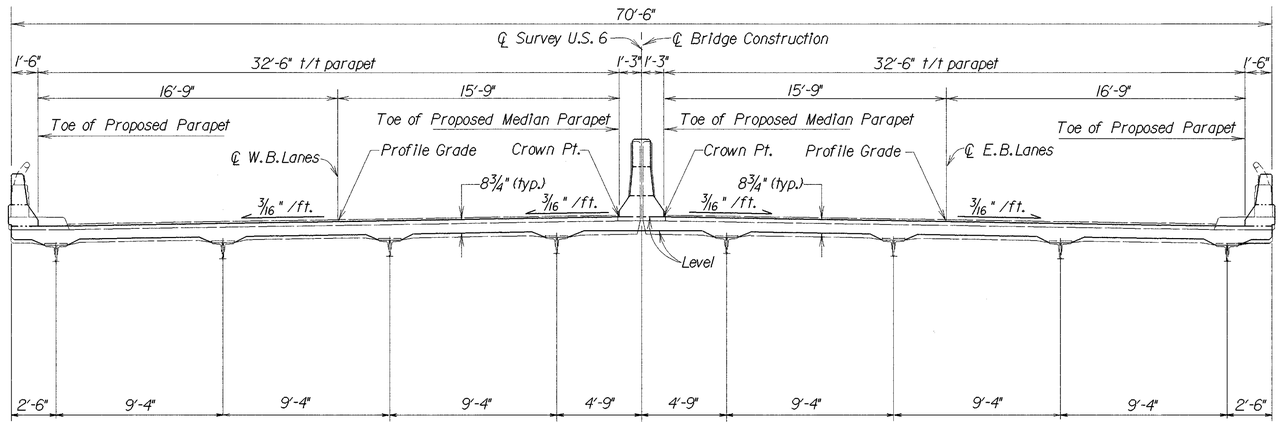
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TRANSVERSE BRIDGE DECK SECTION
(SECTION A-A)
(SPANS 1-3, OVER WIDE-FLANGE ROLLED BEAMS)



TRANSVERSE BRIDGE DECK SECTION
(SECTION B-B)
(SPANS 4-8, OVER BUILT-UP PLATE GIRDERS)

NOTE: Sections A-A and B-B refer to Plan Sheet No. 7/50.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

TRANSVERSE BRIDGE SECTION
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

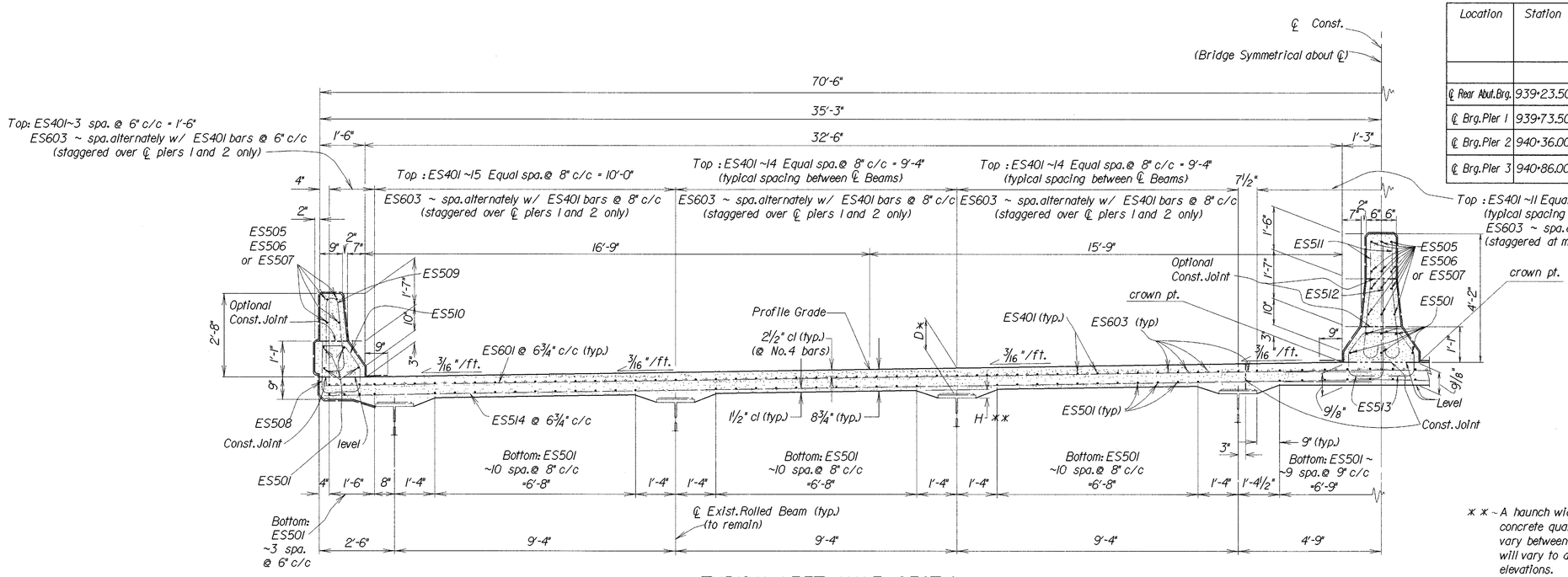
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Location	Station	Thickness of Concrete Haunches (Including thickness of flanges and flange plates.)	Theoretical Design Dimension
		H(in.)	D (in.)
℄ Rear Abut.Brg.	939+23.50	1 7/8	9 7/16
℄ Brg.Pier 1	939+73.50	2 1/8	9 11/16
℄ Brg.Pier 2	940+36.00	2 1/2	10 1/16
℄ Brg.Pier 3	940+86.00	2 5/8	10 3/16

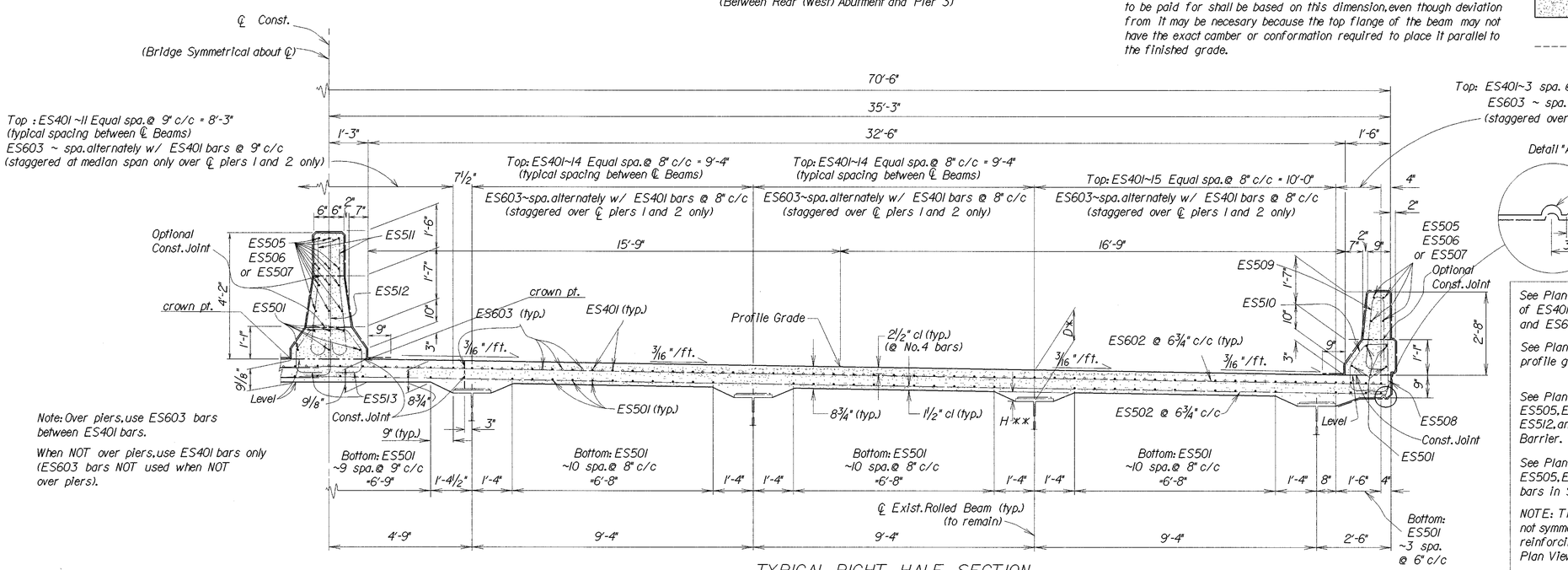


TYPICAL LEFT HALF SECTION
BRIDGE DECK OVER ROLLED BEAMS
(Between Rear (West) Abutment and Pier 3)

** A haunch width of 9 inches shall be used for computing concrete quantities. However, the haunch width may vary between 6 and 12 inches. The haunch thickness "H" will vary to accommodate variation in the vertical curve elevations.

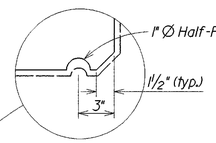
* DECK SLAB DEPTH: The distance shown from top of deck slab to top of steel beam is the theoretical design demension, "D". The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necesary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

Legend:
Proposed High Performance
_____ Item 512, Sealing of Concrete Surfaces (See General Notes)



TYPICAL RIGHT HALF SECTION
BRIDGE DECK ROLLED BEAMS
(Between Rear (West) Abutment and Pier 3)

Detail "A"



Note: Over piers, use ES603 bars between ES401 bars.

When NOT over piers, use ES401 bars only (ES603 bars NOT used when NOT over piers).

See Plan View, Sheet No.12/50, for exact location of ES401, ES501, ES502, ES514, ES601, ES602, and ES603 bars in bridge deck.

See Plan Sheet No.11/50, for proposed screed and profile grade elevations.

See Plan Sheet No.27/50, for exact location of ES501, ES505, ES506, ES507, ES511, ES512, and ES513 bars in Structure Median Barrier.

See Plan Sheet No.26/50, for exact location of ES501, ES505, ES506, ES507, ES508, ES509, and ES510 bars in Structure Parapet.

NOTE: Transverse reinforcing deck steel lengths are not symmetrical about bridge ℄. For transverse deck reinforcing steel layout, also see deck reinforcing steel Plan View on Plan Sheet No.12/50.

NOTE: All Bridge Deck, Parapet, and Median Barrier Concrete to be High Performance Concrete.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

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TYPICAL BRIDGE DECK HALF SECTIONS
INCLUDING MEDIAN AND CURB PARAPET
BR. NO. SAN-6-1751

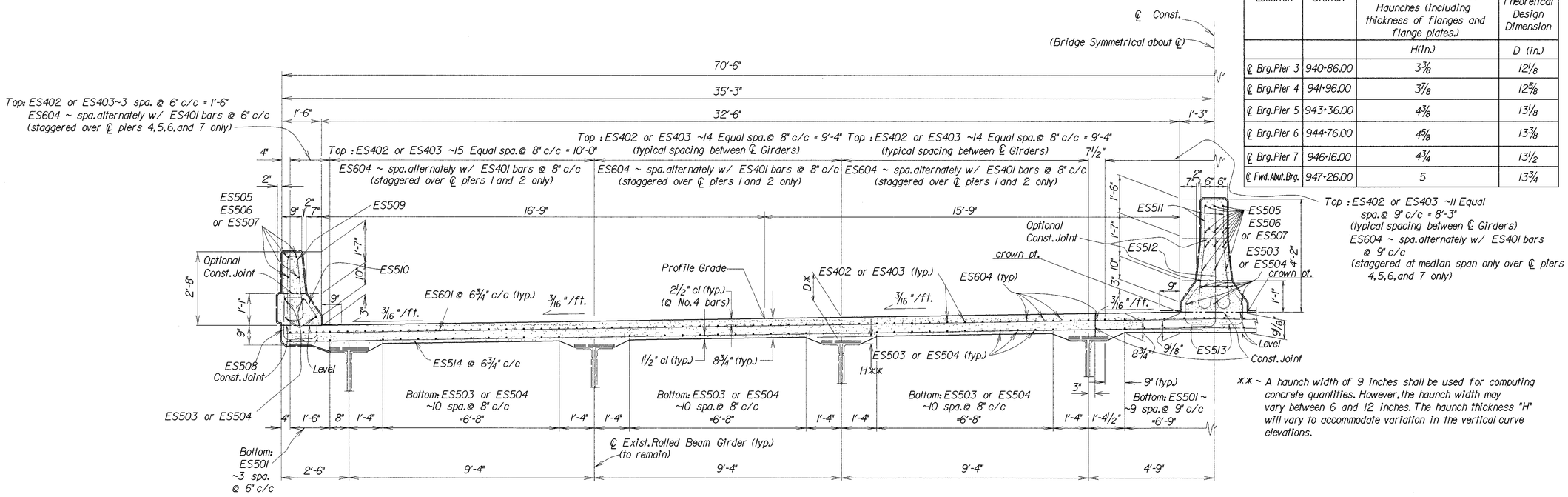
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Location	Station	Thickness of Concrete Haunches (Including thickness of flanges and flange plates.)	Theoretical Design Dimension
		H(In.)	D (In.)
℄ Brg. Pier 3	940+86.00	3 3/8	12 1/8
℄ Brg. Pier 4	941+96.00	3 1/8	12 5/8
℄ Brg. Pier 5	943+36.00	4 3/8	13 1/8
℄ Brg. Pier 6	944+76.00	4 5/8	13 3/8
℄ Brg. Pier 7	946+16.00	4 3/4	13 1/2
℄ Fwd. Abut. Brg.	947+26.00	5	13 3/4



TYPICAL LEFT HALF SECTION

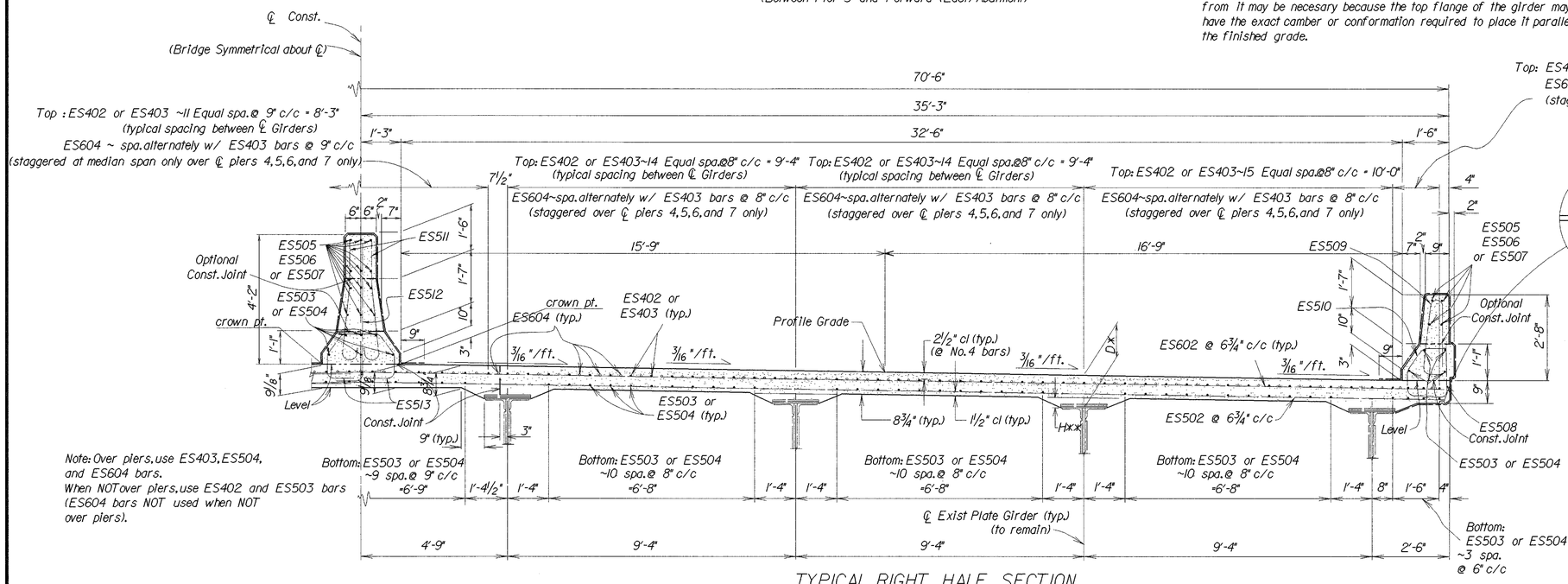
BRIDGE DECK OVER BUILT-UP PLATE GIRDERS

(Between Pier 3 and Forward (East) Abutment)

** A haunch width of 9 inches shall be used for computing concrete quantities. However, the haunch width may vary between 6 and 12 inches. The haunch thickness "H" will vary to accommodate variation in the vertical curve elevations.

* DECK SLAB DEPTH: The distance shown from top of deck slab to top of steel girder is the theoretical design demension, "D". The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necesary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade.

Legend:
- Proposed High Performance Concrete
- ----- Item 512, Sealing of Concrete Surfaces (See General Notes)



TYPICAL RIGHT HALF SECTION

BRIDGE DECK OVER BUILT-UP PLATE GIRDERS

(Between Pier 3 and Forward (East) Abutment)

Note: Over piers, use ES403, ES504, and ES604 bars.
When NOT over piers, use ES402 and ES503 bars (ES604 bars NOT used when NOT over piers).

See Plan View, Sheet No. 12/50, for exact location of ES402, ES403, ES502, ES503 ES504, ES514, ES601, ES602, ES603, and ES604 bars in bridge deck.

See Plan Sheet No. 11/50, for proposed screed and profile grade elevations.

See Plan Sheet No. 26/50, for exact location of ES503, ES504, ES505, ES506, ES507, ES508, ES509, and ES510 bars in Structure Parapet.

See Plan Sheet No. 27/50, for exact location of ES503, ES504, ES505, ES506, ES507, ES511, ES512, and ES513 bars in Structure Median Barrier.

NOTE: Transverse reinforcing deck steel lengths are not symmetrical about bridge ℄. For transverse deck reinforcing steel layout, also see deck reinforcing steel Plan View on Plan Sheet No. 12/50.

NOTE: All Bridge Deck, Parapet, and Median Barrier Concrete to be High Performance Concrete.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | REVIEWED DAB | DATE 5-5-95
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TYPICAL BRIDGE DECK HALF SECTIONS
INCLUDING MEDIAN AND CURB PARAPET
BR. NO. SAN-6-1751

SAN-6-17.51

10 / 50

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/SRVI/PD/ODOT/SA617BDLDGN

SCREED ELEVATIONS SAN-6-1751

Location	Station	Dead Load Deflection (ft)	Toe of Parapet	Beam ①	Beam ②	Profile Grade	Beam ③	Beam ④	Toe of Median Barrier
℄ Brg. Rear Abut.	939+23.50	.00	631.29	631.31	631.45	631.55	631.60	631.74	631.80
	939+28.50	.01	631.32	631.34	631.49	631.59	631.63	631.78	631.83
	939+33.50	.01	631.35	631.36	631.51	631.61	631.65	631.80	631.85
	939+38.50	.02	631.38	631.40	631.54	631.64	631.69	631.84	631.89
	939+43.50	.02	631.40	631.41	631.56	631.66	631.70	631.85	631.90
	939+48.50	.02	631.42	631.43	631.58	631.68	631.72	631.87	631.92
	939+53.50	.02	631.44	631.46	631.60	631.70	631.75	631.89	631.95
	939+58.50	.01	631.45	631.47	631.61	631.71	631.76	631.90	631.96
	939+64.00	.01	631.46	631.48	631.62	631.72	631.77	631.92	631.97
	939+68.50	.00	631.47	631.49	631.63	631.73	631.78	631.93	631.98
℄ Brg. Pier 1	939+73.50	.00	631.48	631.50	631.64	631.75	631.79	631.94	631.99
	939+80.00	.00	631.50	631.52	631.66	631.76	631.81	631.96	632.01
	939+86.50	.01	631.53	631.55	631.69	631.79	631.84	631.98	632.04
	939+92.50	.02	631.55	631.57	631.71	631.81	631.86	632.00	632.06
	939+98.50	.02	631.56	631.58	631.72	631.82	631.87	632.01	632.07
	940+04.75	.02	631.57	631.59	631.74	631.84	631.89	632.03	632.08
	940+11.00	.02	631.58	631.60	631.74	631.84	631.89	632.03	632.09
	940+17.00	.02	631.59	631.61	631.75	631.85	631.90	632.04	632.10
	940+23.00	.01	631.59	631.61	631.75	631.85	631.90	632.04	632.10
	940+29.50	.00	631.59	631.60	631.75	631.85	631.89	632.04	632.09
℄ Brg. Pier 2	940+36.00	.00	631.59	631.60	631.75	631.85	631.90	632.04	632.10
	940+41.00	.00	631.59	631.61	631.75	631.85	631.90	632.04	632.10
	940+45.50	.01	631.60	631.61	631.76	631.86	631.90	632.05	632.10
	940+51.00	.01	631.60	631.62	631.76	631.86	631.91	632.06	632.11
	940+56.00	.02	631.61	631.62	631.77	631.87	631.91	632.06	632.12
	940+61.00	.02	631.60	631.61	631.76	631.86	631.91	632.05	632.11
	940+66.00	.02	631.60	631.61	631.76	631.86	631.90	632.05	632.11
	940+71.00	.02	631.60	631.62	631.76	631.86	631.91	632.05	632.11
	940+76.00	.01	631.58	631.60	631.74	631.84	631.89	632.03	632.09
	940+81.00	.01	631.57	631.59	631.74	631.84	631.88	632.03	632.08
℄ Brg. Pier 3	940+86.00	.00	631.56	631.57	631.72	631.82	631.86	632.01	632.06
	940+96.00	.02	631.56	631.57	631.72	631.82	631.87	632.01	632.07
	941+06.00	.03	631.54	631.56	631.70	631.81	631.85	632.00	632.05
	941+16.00	.04	631.53	631.55	631.69	631.79	631.84	631.98	632.04
	941+26.00	.04	631.50	631.51	631.66	631.76	631.80	631.95	632.00
	941+36.00	.04	631.46	631.48	631.62	631.72	631.77	631.92	631.97
	941+46.00	.04	631.43	631.44	631.59	631.69	631.74	631.88	631.94
	941+56.00	.04	631.38	631.39	631.54	631.64	631.68	631.83	631.88
	941+66.00	.02	631.32	631.33	631.48	631.58	631.62	631.77	631.83
	941+76.00	.01	631.26	631.28	631.42	631.52	631.57	631.72	631.77
	941+81.50	.00	631.22	631.24	631.38	631.48	631.53	631.67	631.73
	941+87.00	.00	631.19	631.21	631.36	631.46	631.50	631.65	631.70
℄ Brg. Pier 4	941+96.00	.00	631.14	631.16	631.30	631.40	631.45	631.59	631.65
	942+05.00	.00	631.09	631.10	631.25	631.35	631.40	631.54	631.60
	942+10.50	.01	631.06	631.07	631.22	631.32	631.37	631.51	631.57
	942+16.00	.01	631.02	631.04	631.18	631.28	631.33	631.47	631.53
	942+26.00	.02	630.96	630.98	631.13	631.23	631.27	631.42	631.47
	942+36.00	.04	630.91	630.92	631.07	631.17	631.21	631.36	631.41
	942+46.00	.05	630.84	630.86	631.00	631.10	631.15	631.29	631.35
	942+56.00	.05	630.76	630.77	630.92	631.02	631.07	631.21	631.27
	942+66.00	.05	630.68	630.69	630.84	630.94	630.98	631.13	631.18
	942+76.00	.05	630.58	630.60	630.75	630.85	630.89	631.04	631.09
	942+86.00	.05	630.49	630.51	630.65	630.75	630.80	630.94	631.00
	942+96.00	.03	630.37	630.39	630.53	630.63	630.68	630.83	630.88
	943+06.00	.02	630.26	630.28	630.42	630.52	630.57	630.72	630.77
	943+16.00	.01	630.15	630.17	630.31	630.41	630.46	630.61	630.66
	943+21.50	.01	630.09	630.10	630.25	630.35	630.39	630.54	630.59
	943+27.00	.00	630.02	630.04	630.18	630.28	630.33	630.47	630.53
℄ Brg. Pier 5	943+36.00	.00	629.92	629.93	630.08	630.18	630.22	630.37	630.42

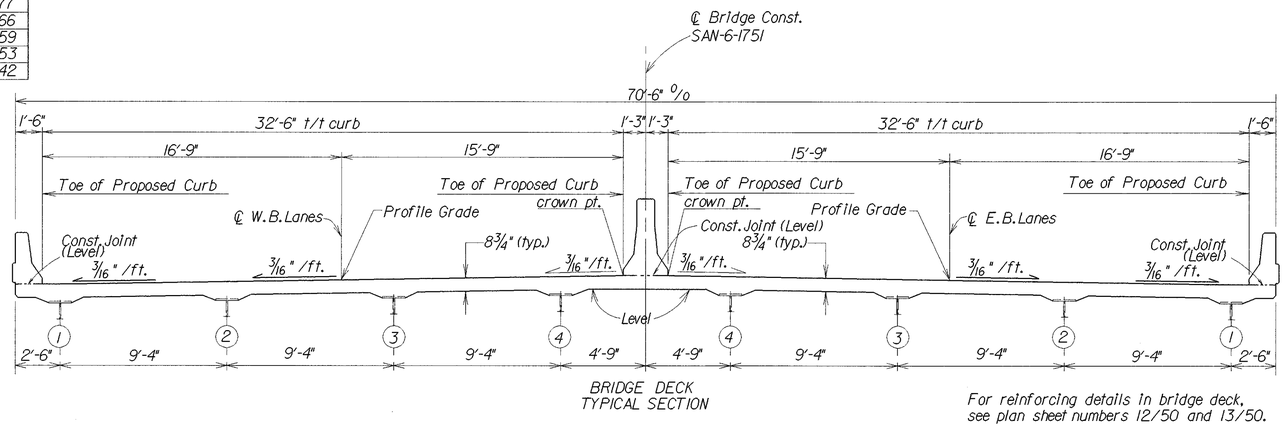
Note: SCREED ELEVATIONS shown are for the deck slab surface prior to concrete placement. Allowance has been made for anticipated calculated dead load deflections.

SCREED ELEVATIONS SAN-6-1751

Location	Station	Dead Load Deflection (ft)	Toe of Parapet	Beam ①	Beam ②	Profile Grade	Beam ③	Beam ④	Toe of Median Barrier
	943+45.00	.00	629.81	629.83	629.97	630.07	630.12	630.26	630.32
	943+50.50	.00	629.74	629.76	629.90	630.00	630.05	630.19	630.25
	943+56.00	.01	629.69	629.70	629.85	629.95	630.00	630.14	630.20
	943+66.00	.01	629.56	629.57	629.72	629.82	629.87	630.01	630.07
	943+76.00	.02	629.44	629.46	629.61	629.71	629.75	629.90	629.95
	943+86.00	.03	629.32	629.33	629.48	629.58	629.62	629.77	629.82
	943+96.00	.04	629.19	629.21	629.35	629.45	629.49	629.64	629.70
	944+06.00	.05	629.06	629.07	629.22	629.32	629.36	629.51	629.56
	944+16.00	.05	628.92	628.93	629.08	629.18	629.22	629.37	629.42
	944+26.00	.04	628.75	628.77	628.91	629.01	629.06	629.21	629.26
	944+36.00	.03	628.59	628.61	628.75	628.85	628.90	629.05	629.10
	944+46.00	.02	628.42	628.44	628.59	628.69	628.73	628.88	628.93
	944+56.00	.01	628.25	628.27	628.42	628.52	628.56	628.71	628.76
	944+61.50	.01	628.16	628.18	628.32	628.42	628.47	628.62	628.67
	944+67.00	.00	628.06	628.08	628.22	628.32	628.37	628.52	628.57
℄ Brg. Pier 6	944+76.00	.00	627.91	627.93	628.07	628.17	628.22	628.36	628.42
	944+85.00	.00	627.75	627.77	627.92	628.02	628.06	628.21	628.26
	944+90.50	.01	627.67	627.68	627.83	627.93	627.97	628.12	628.17
	944+96.00	.01	627.57	627.59	627.73	627.83	627.88	628.02	628.08
	945+06.00	.02	627.40	627.41	627.56	627.66	627.71	627.85	627.91
	945+16.00	.04	627.23	627.25	627.40	627.50	627.54	627.68	627.74
	945+26.00	.05	627.05	627.07	627.22	627.32	627.36	627.51	627.56
	945+36.00	.05	626.86	626.88	627.02	627.12	627.17	627.31	627.37
	945+46.00	.05	626.66	626.68	626.83	626.93	626.97	627.12	627.17
	945+56.00	.05	626.46	626.48	626.62	626.72	626.77	626.91	626.97
	945+66.00	.05	626.26	626.27	626.42	626.52	626.57	626.71	626.77
	945+76.00	.04	626.04	626.05	626.20	626.30	626.34	626.49	626.55
	945+86.00	.02	625.81	625.82	625.97	626.07	626.11	626.26	626.32
	945+96.00	.01	625.58	625.59	625.74	625.84	625.88	626.03	626.09
	946+01.50	.01	625.46	625.47	625.62	625.72	625.77	625.91	625.97
	946+07.00	.00	625.33	625.34	625.49	625.59	625.63	625.78	625.34
℄ Brg. Pier 7	946+16.00	.00	625.12	625.14	625.29	625.39	625.43	625.58	625.63
	946+25.00	.00	624.92	624.93	625.08	625.18	625.23	625.37	625.43
	946+30.50	.01	624.80	624.82	624.96	625.06	625.11	625.25	625.31
	946+36.00	.01	624.67	624.69	624.83	624.93	624.98	625.13	625.18
	946+46.00	.02	624.45	624.46	624.61	624.71	624.75	624.90	624.95
	946+56.00	.03	624.21	624.23	624.38	624.48	624.52	624.67	624.72
	946+66.00	.04	623.98	624.00	624.14	624.24	624.29	624.43	624.49
	946+76.00	.04	623.73	623.74	623.89	624.99	624.04	624.18	624.24
	946+86.00	.04	623.48	623.49	623.64	623.74	623.78	623.93	623.99
	946+96.00	.04	623.22	623.24	623.38	623.48	623.53	623.68	623.73
	947+06.00	.03	622.95	622.97	623.11	623.21	623.26	623.41	623.46
	947+16.00	.02	622.68	622.69	622.84	623.94	622.99	623.13	623.19
℄ Brg. Fwd. Abut.	947+26.00	.00	622.39	622.40	622.55	623.65	622.70	622.84	622.90

PROFILE GRADE ELEVATIONS

Sta. 939+23.50	631.55
Sta. 939+40	631.63
Sta. 939+60	631.70
Sta. 939+80	631.76
Sta. 940+00	631.81
Sta. 940+20	631.84
Sta. 940+40	631.85
Sta. 940+60	631.85
Sta. 940+80	631.83
Sta. 941+00	631.79
Sta. 941+20	631.74
Sta. 941+40	631.67
Sta. 941+60	631.59
Sta. 941+80	631.49
Sta. 942+00	631.38
Sta. 942+20	631.25
Sta. 942+40	631.10
Sta. 942+60	630.94
Sta. 942+80	630.76
Sta. 943+00	630.57
Sta. 943+20	630.36
Sta. 943+40	630.13
Sta. 943+60	629.89
Sta. 943+80	629.63
Sta. 944+00	629.36
Sta. 944+20	629.07
Sta. 944+40	628.76
Sta. 944+60	628.44
Sta. 944+80	628.10
Sta. 945+00	627.75
Sta. 945+20	627.38
Sta. 945+40	626.99
Sta. 945+60	626.59
Sta. 945+80	626.18
Sta. 946+00	625.75
Sta. 946+20	625.30
Sta. 946+40	624.83
Sta. 946+60	624.35
Sta. 946+80	623.85
Sta. 947+00	623.34
Sta. 947+20	622.81
Sta. 947+26	622.65



BRIDGE DECK TYPICAL SECTION

For reinforcing details in bridge deck, see plan sheet numbers 12/50 and 13/50.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 7
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | REVIEWED DAB | DATE 5-5-95
CHECKED LLL | REVISED | STRUCTURE FILE NUMBER 7200579

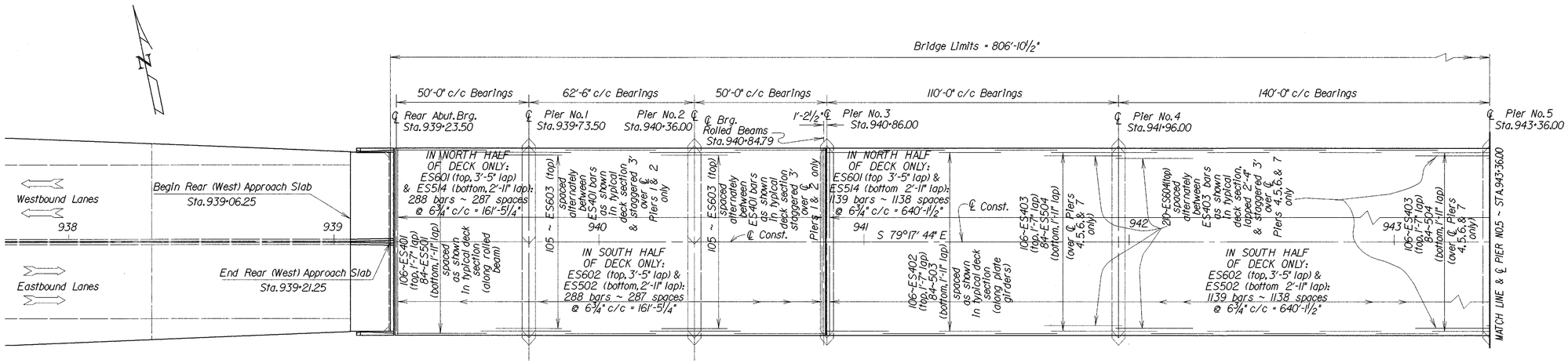
SCREED AND PROFILE ELEVATIONS
BRIDGE NO. SAN-6-1751

SAN-6-17.51

11/50

46/85

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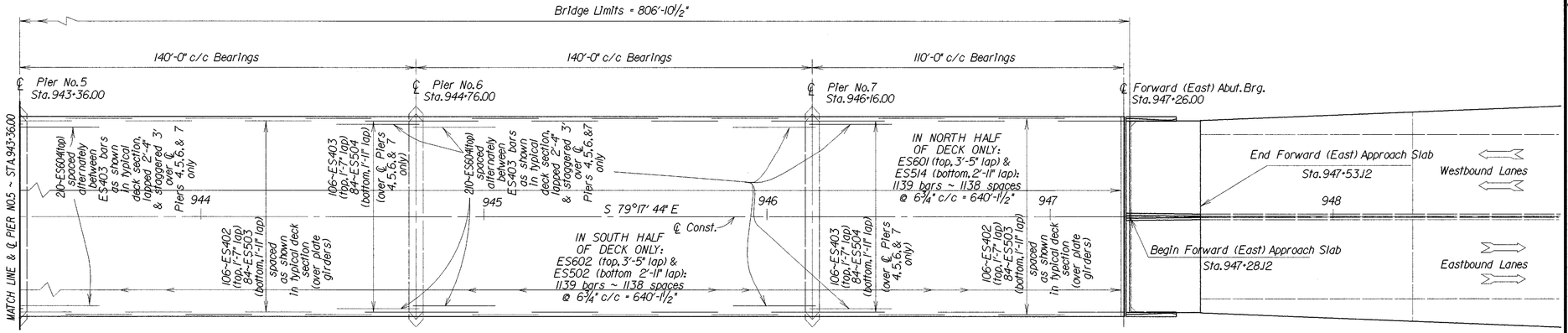


NOTE:

For deck sections spanning between ℄ Rear Abut.Brg. and ℄ Pier No.3:
Over piers, use ES603 bars between ES401 bars.
When NOT over piers, use ES401 bars only. (ES603 bars NOT used when NOT over piers).

NOTE:

For deck sections spanning between ℄ Pier No.3 and Forward Abut.Brg.:
Over piers, use ES403, ES504, and ES604 bars.
When NOT over piers, use ES402 and ES503 bars. (ES604 bars NOT used when NOT over piers).



PLAN SHOWING DECK REINFORCING STEEL

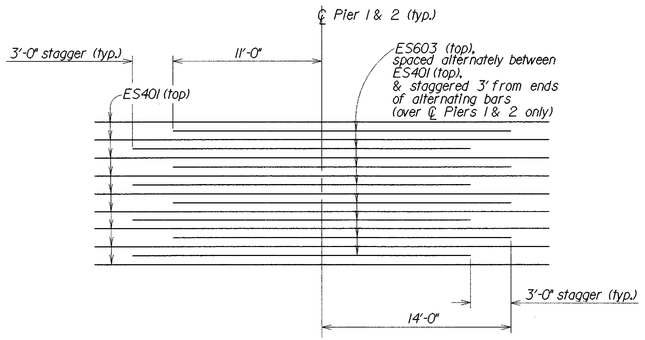


DIAGRAM SHOWING ES603 BARS SPACED ALTERNATELY W/ES401 BARS (OVER ℄ PIERS 1 AND 2 ONLY)

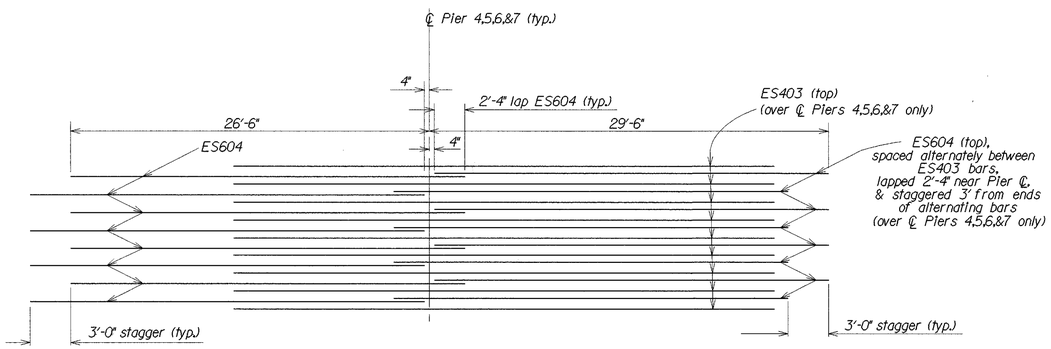


DIAGRAM SHOWING ES604 BARS SPACED ALTERNATELY W/ES403 BARS (OVER ℄ PIERS 4,5,6, AND 7 ONLY)

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT NO. 2
DESIGN DEPARTMENT

DESIGNED JML
DRAWN ALS
CHECKED LLL
REVIEWED DAB
DATE 5-5-95
STRUCTURE FILE NUMBER 7200579
REVISED

DECK REINFORCING PLAN VIEW
Br. No. SAN-6-1751

SAN-6-1751

12/50

47/85

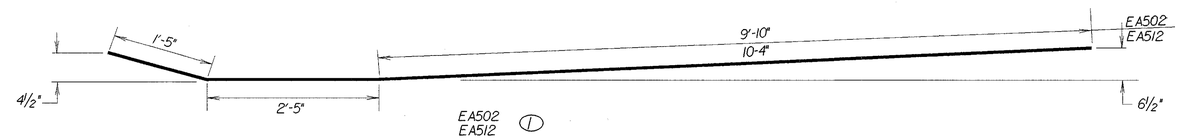
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REINFORCING STEEL LIST

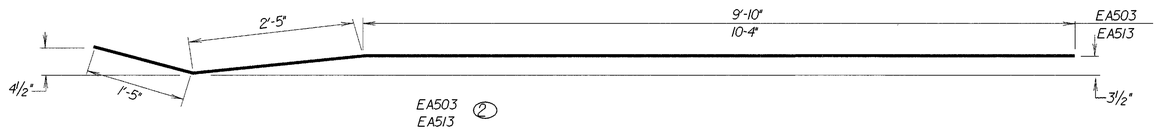
MARK	NO. IN STRUCTURE		TOTAL	LENGTH	WEIGHT	SHAPE	LAP LENGTH	DOWEL HOLES
	Rear Abutment To ℄ Pier 3	℄ Pier 3 To Fwd. Abutment			LBS			LIN.FT
Superstructure								
ES401	530		530	33'-8"	11,919	S	1'-7"	
ES402		2438	2438	22'-8"	36,915	S	1'-7"	
ES403		424	424	40'-0"	11,329	S	1'-7"	
ES501	490		490	33'-11"	17,334	S	1'-11"	
ES502	288	1139	1427	38'-3"	56,930	S	1'-11"	
ES503		2254	2254	23'-0½"	54,169	S	1'-11"	
ES504		392	392	40'-0"	16,354	S	1'-11"	
ES505	120	200	320	15'-4"	5118	S		
ES506	180	720	900	7'-2"	6727	S		
ES507		300	300	13'-11"	4355	S		
ES508	240	952	1192	2'-3"	2797	B (10)		
ES509	240	952	1192	5'-3"	6527	B (11)		
ES510	240	952	1192	3'-0½"	3782	B (12)		
ES511	480	1904	2384	4'-6"	11,189	B (13)		
ES512	240	952	1192	5'-2½"	6475	B (10)		
ES513	240	952	1192	5'-9"	7149	B (14)		
ES514	288	1139	1427	34'-8"	51,597	S	2'-11"	
ES601	288	1139	1427	34'-8"	74,303	S	3'-5"	
ES602	288	1139	1427	38'-9"	83,055	S	3'-5"	
ES603	210		210	25'-0"	7886	S		
ES604		840	840	29'-2"	36,799	S	2'-4"	
Totals for Superstructure					512,709			

MARK	NO.IN ABUTMENT				TOTAL	LENGTH	WEIGHT	SHAPE	LAP LENGTH	DOWEL HOLES
	REAR ABUTMENT		FWD. ABUTMENT				LBS		LIN.FT.	LIN.FT.
	APPR. END	TRAIL. END	APPR. END	TRAIL. END						
Abutments ~ Transition Deflection Parapet										
EA401	1				1	15'-11"	11	S		
EA402			1		1	25'-7"	17	S		
EA501	5	5			10	13'-8"	143	S		
EA502	2	2			4	13'-8"	57	B (1)		
EA503	1	1			2	13'-8"	28	B (2)		
EA504	5	5			10	3'-11"	41	B (3)		
EA505	3	3			6	5'-3"	33	B (4)		
EA506	2	2			4	6'-11"	29	B (5)		
EA507	4	4	8	8	24	3'-0"	75	B (3)		
EA508	4	4			8	4'-0"	33	B (6)		9
EA509	4	4			8	4'-8"	39	S		9
EA510	2	2	1	1	6	4'-1½"	26	B (6)		7
EA511	2	2	1	1	6	7'-11"	50	B (11)		7
EA512			2	2	4	14'-2"	59	B (1)		
EA513			1	1	2	14'-2"	30	B (2)		
EA514			14	14	28	3'-11"	114	S		33
EA515			8	8	16	3'-3"	54	B (6)		19
EA516			5	5	10	14'-2"	148	S		
EA517		3	11		14	33'-6"	489	S	1'-11"	
EA518	3			12	15	38'-7"	604	S	1'-11"	
* EA519	1	1	2	2	6	30'-0"	188	S		7
EA601	28	28			56	5'-0"	421	B (7)		75
EA602			31	30	61	5'-5"	496	B (7)	2'-4"	
EA603			31	30	61	9'-9"	893	S	2'-4"	81
EA604			31	30	61	8'-9"	802	B (10)		81
EA605			6		6	8'-8"	78	S		8
EA606	1	1			2	6'-5½"	19	S		3
EA607			1	1	2	5'-4"	16	S		
EA608				6	6	12'-2"	110	S		8
EA801	28	28			56	4'-10½"	729	B (8)		131
EA802			23	23	46	5'-0½"	619	B (9)		
Totals for Abutments							6451			478

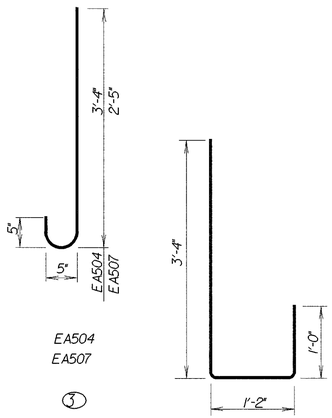
BENDING DIAGRAMS



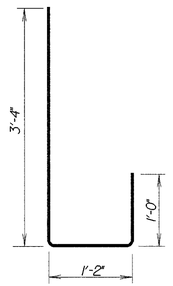
EA502
EA512 (1)



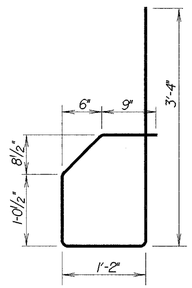
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EA513 (2)



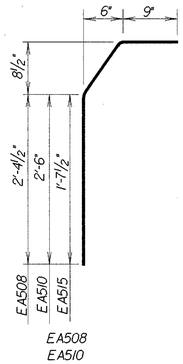
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EA507 (3)



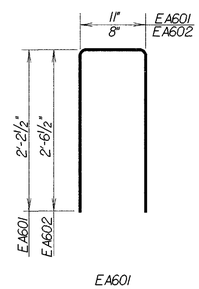
EA505 (4)



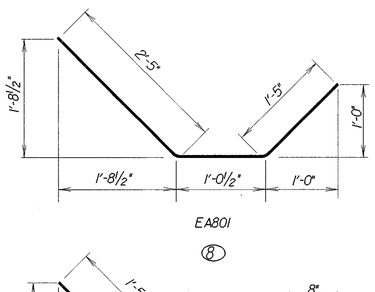
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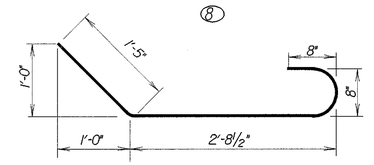
EA508
EA510
EA515 (6)



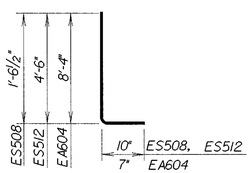
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EA602 (7)



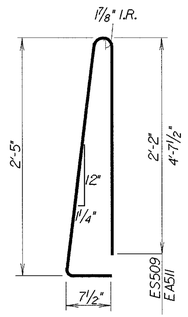
EA801 (8)



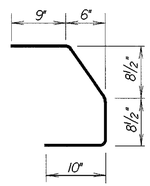
EA802 (9)



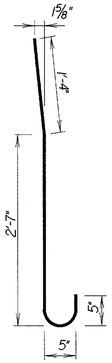
ES508
ES512
EA604 (10)



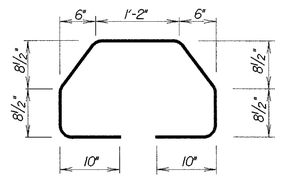
ES509
EA511 (11)



ES510 (12)



ES511 (13)



ES513 (14)

* ~ See Structure General Notes

"E" in prefix designates epoxy coated

S:\RI\PD\0007\SAS\TRS

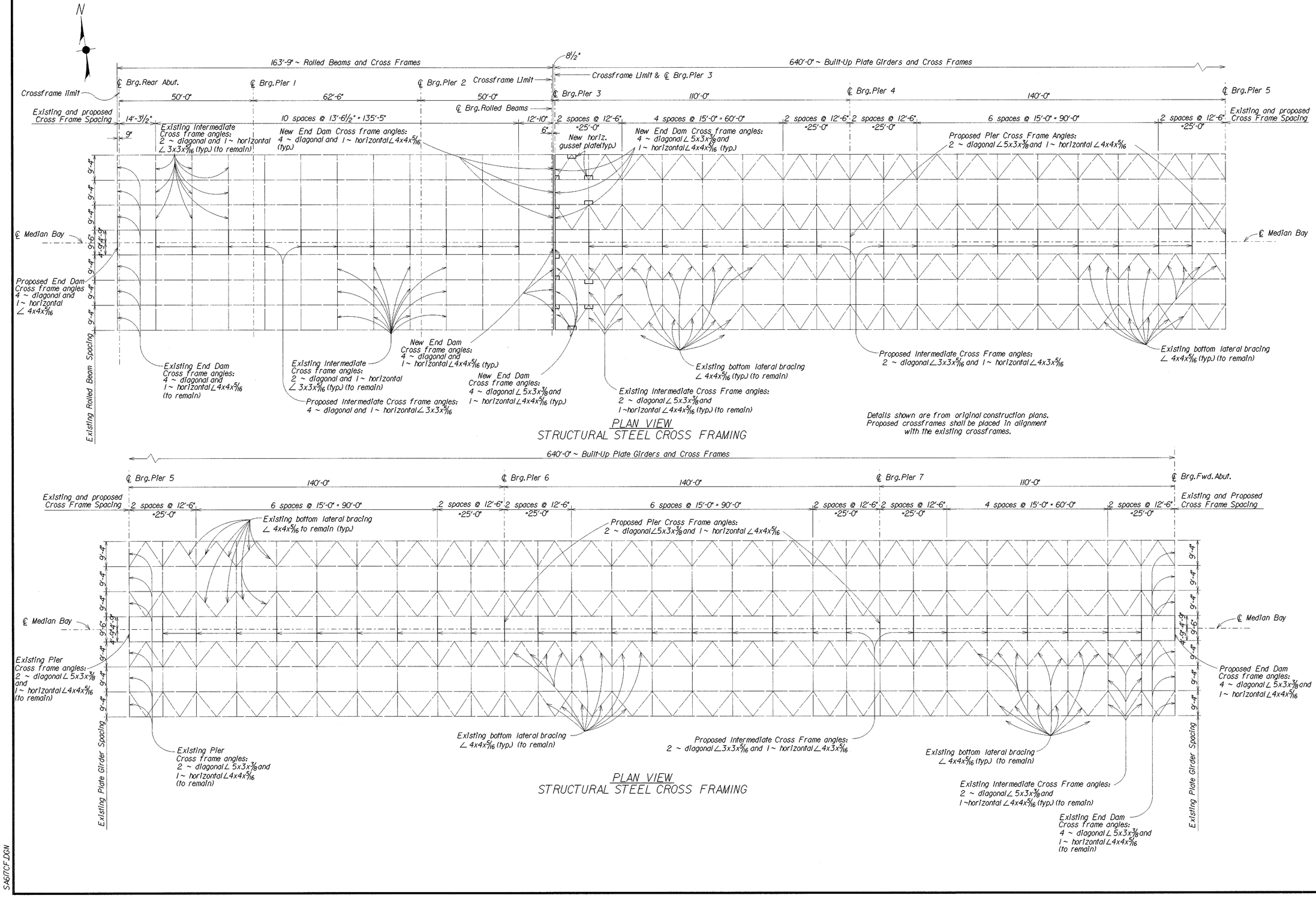
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | REVIEWED DAB | DATE 5-5-95
CHECKED LLL | REVISED | STRUCTURE FILE NUMBER 7200579

REINFORCING STEEL LIST AND DETAILS
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

13/50
48/85



PLAN VIEW
STRUCTURAL STEEL CROSS FRAMING

PLAN VIEW
STRUCTURAL STEEL CROSS FRAMING

SA6I7CF.DGN

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

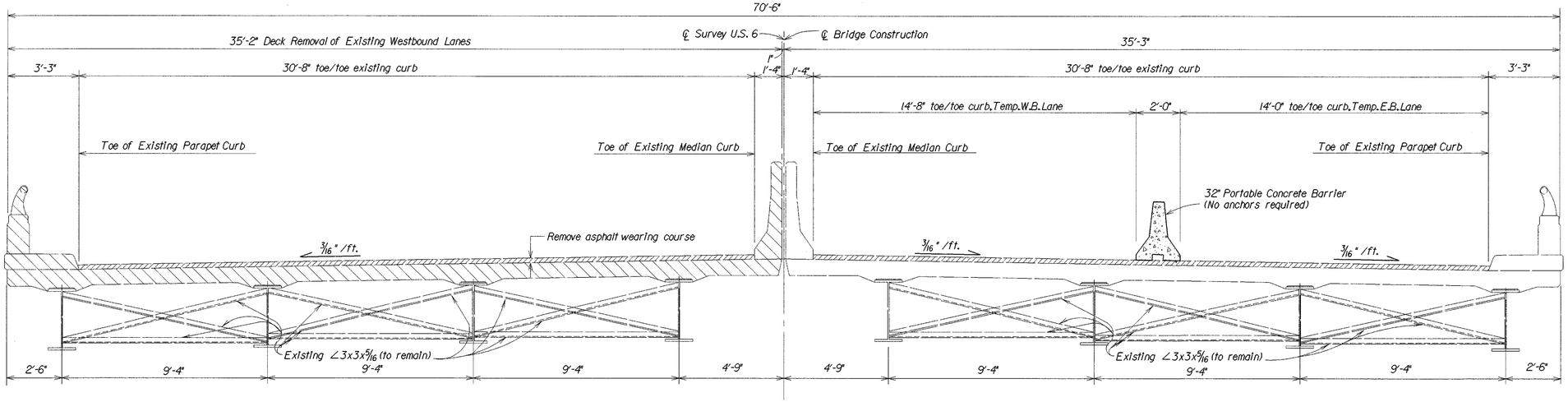
DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

STRUCTURAL STEEL FRAMING PLAN
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

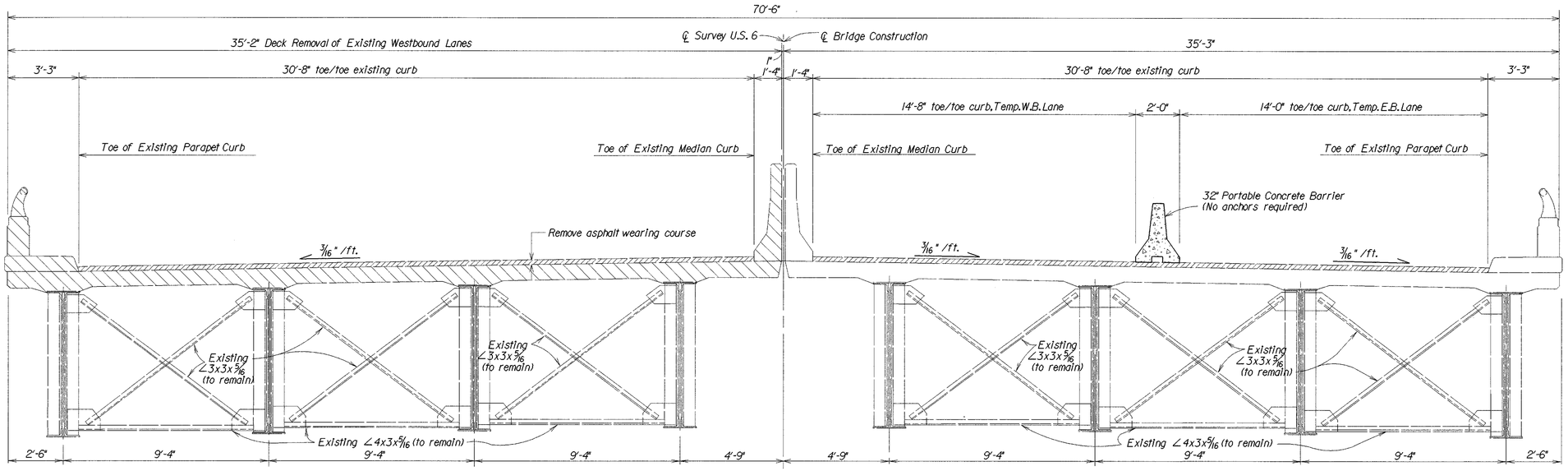
14 / 50

49 / 85



STAGE I: TRANSVERSE DECK CONSTRUCTION:
EXISTING WESTBOUND LANES DECK REMOVAL
OVER ROLLED-BEAMS

E.B. = Eastbound
W.B. = Westbound



STAGE I: TRANSVERSE DECK CONSTRUCTION:
EXISTING WESTBOUND LANES DECK REMOVAL
OVER BUILT-UP PLATE GIRDERS

Concrete Deck Removal Area

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

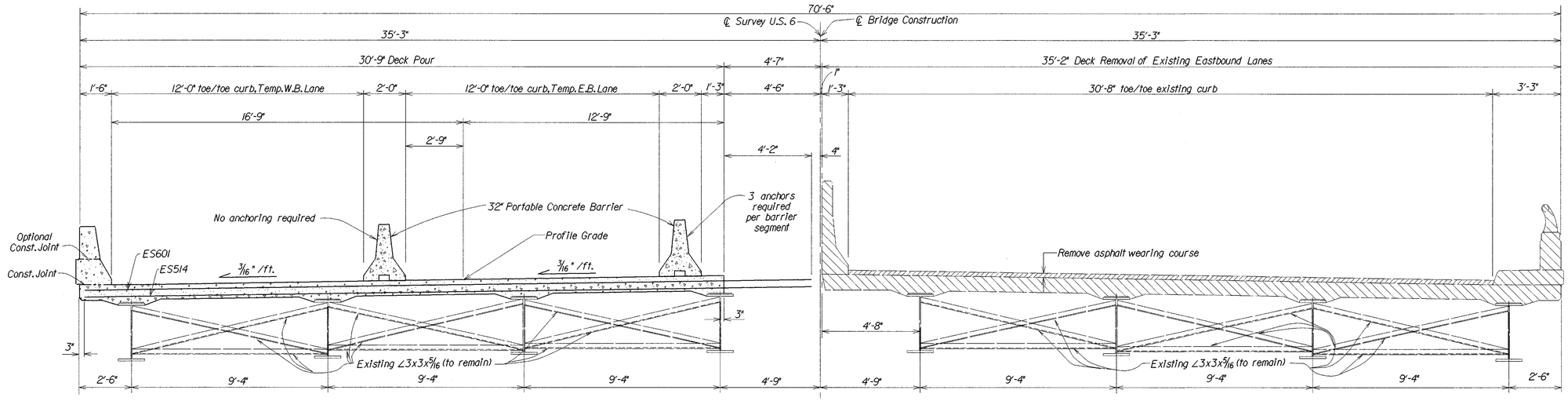
TRANSVERSE DECK CONSTRUCTION-STAGE I
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

15/50

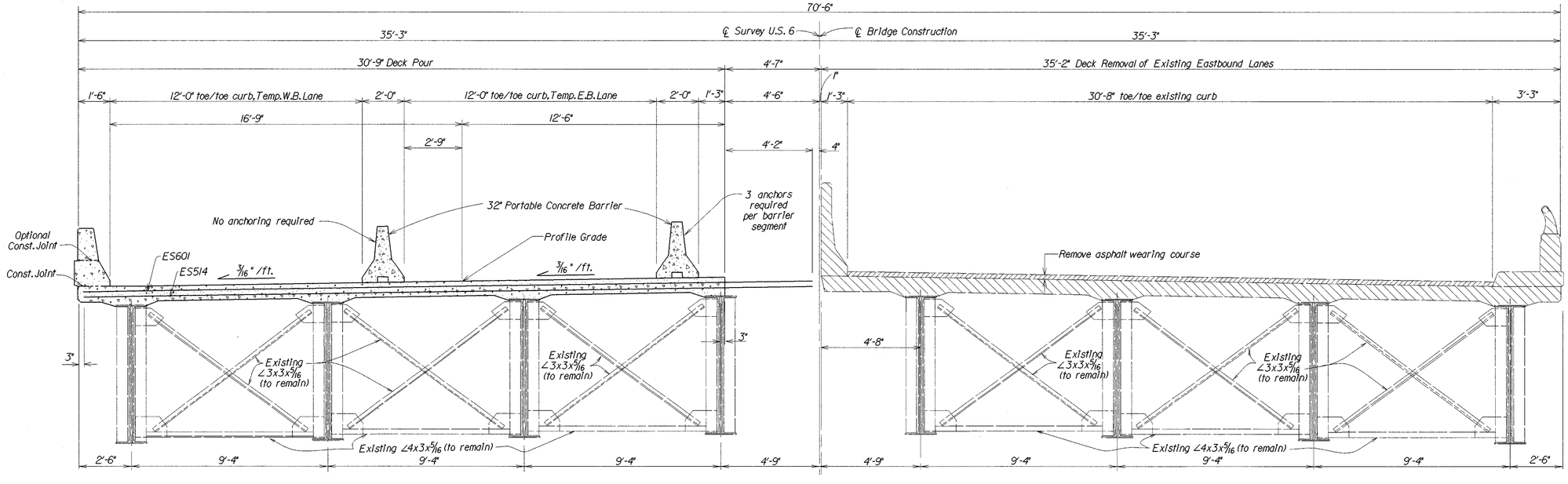
50/85

\SRV\NPDODOT\SA617PC.DGN



STAGE 2: TRANSVERSE DECK CONSTRUCTION
WESTBOUND LANES DECK CONSTRUCTION AND EXISTING EASTBOUND LANES DECK REMOVAL OVER ROLLED-BEAMS

E.B. = Eastbound
W.B. = Westbound



STAGE 2: TRANSVERSE DECK CONSTRUCTION
WESTBOUND LANES DECK CONSTRUCTION AND EXISTING EASTBOUND LANES DECK REMOVAL OVER BUILT-UP PLATE GIRDERS

Concrete Deck Removal Area

Proposed High Performance Concrete

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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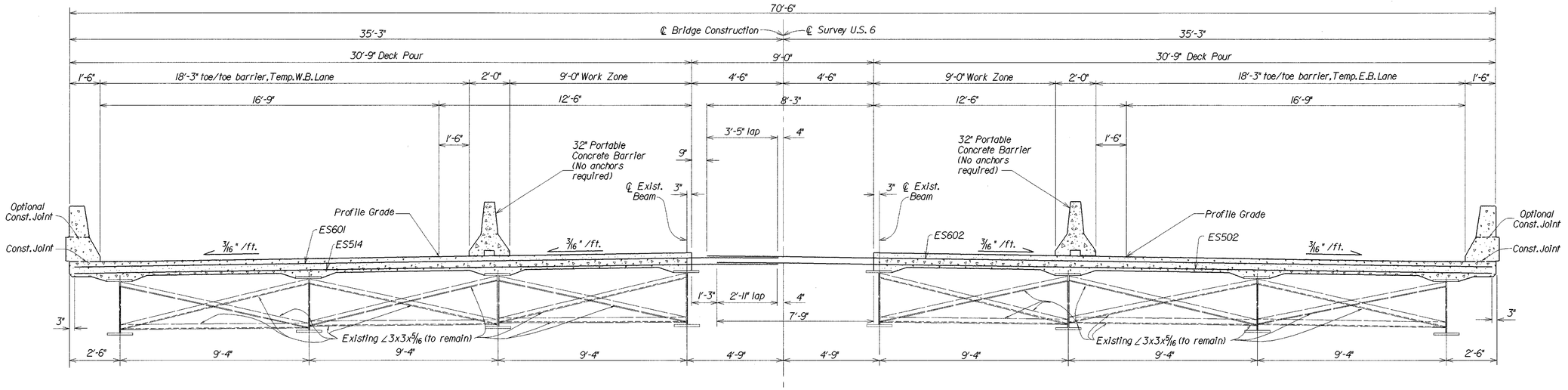
TRANSVERSE DECK CONSTRUCTION-STAGE 2
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

16/50

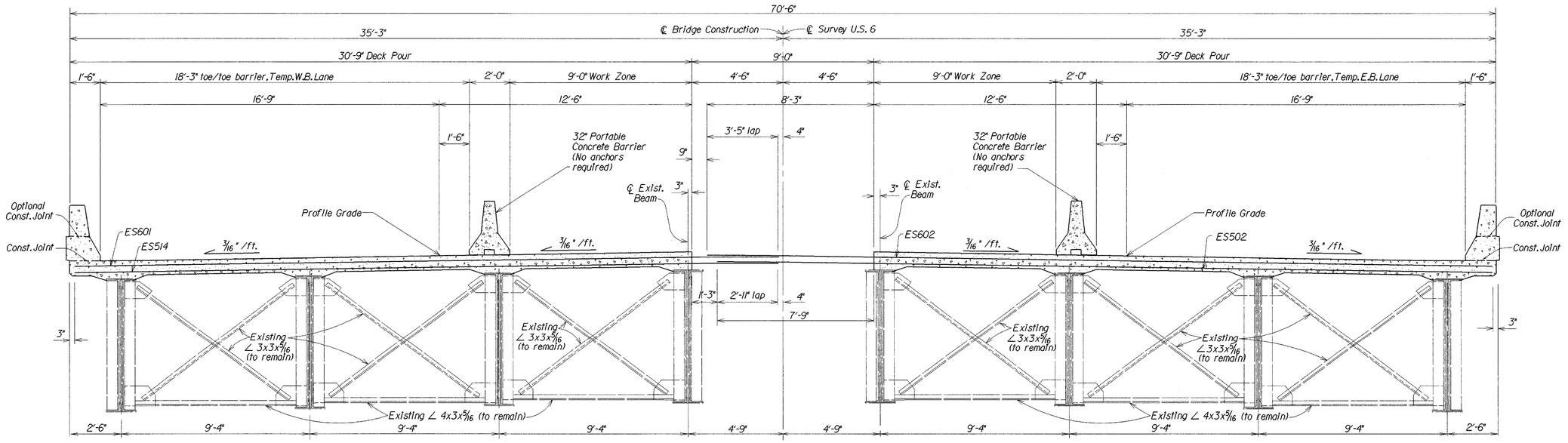
51/85

\SRV\PDOOOT\SA617P2.DGN



STAGE 3: TRANSVERSE DECK CONSTRUCTION:
EASTBOUND LANES DECK CONSTRUCTION AT ROLLED-BEAMS

E.B. = Eastbound
W.B. = Westbound



STAGE 3: TRANSVERSE DECK CONSTRUCTION
EASTBOUND LANES DECK CONSTRUCTION OVER BUILT UP PLATE GIRDERS

Proposed High Performance Concrete

NPDVDOT\JOE\SA6IFP3.DGN

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

REVIEWED DAB DATE 5-5-95
STRUCTURE FILE NUMBER 7200579

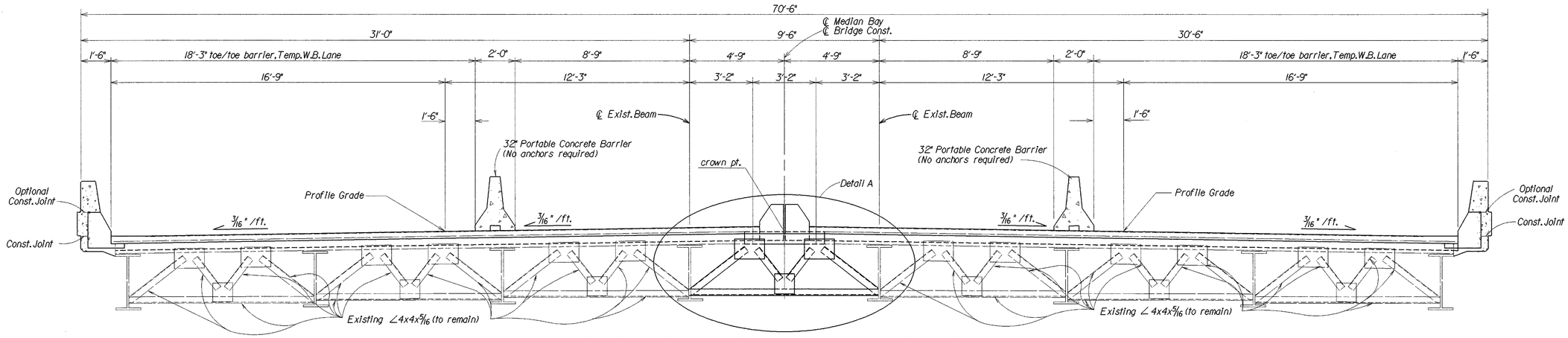
DESIGNED JML
DRAWN ALS
CHECKED LLL
REVISED

TRANSVERSE DECK CONSTRUCTION-STAGE 3
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

17/50

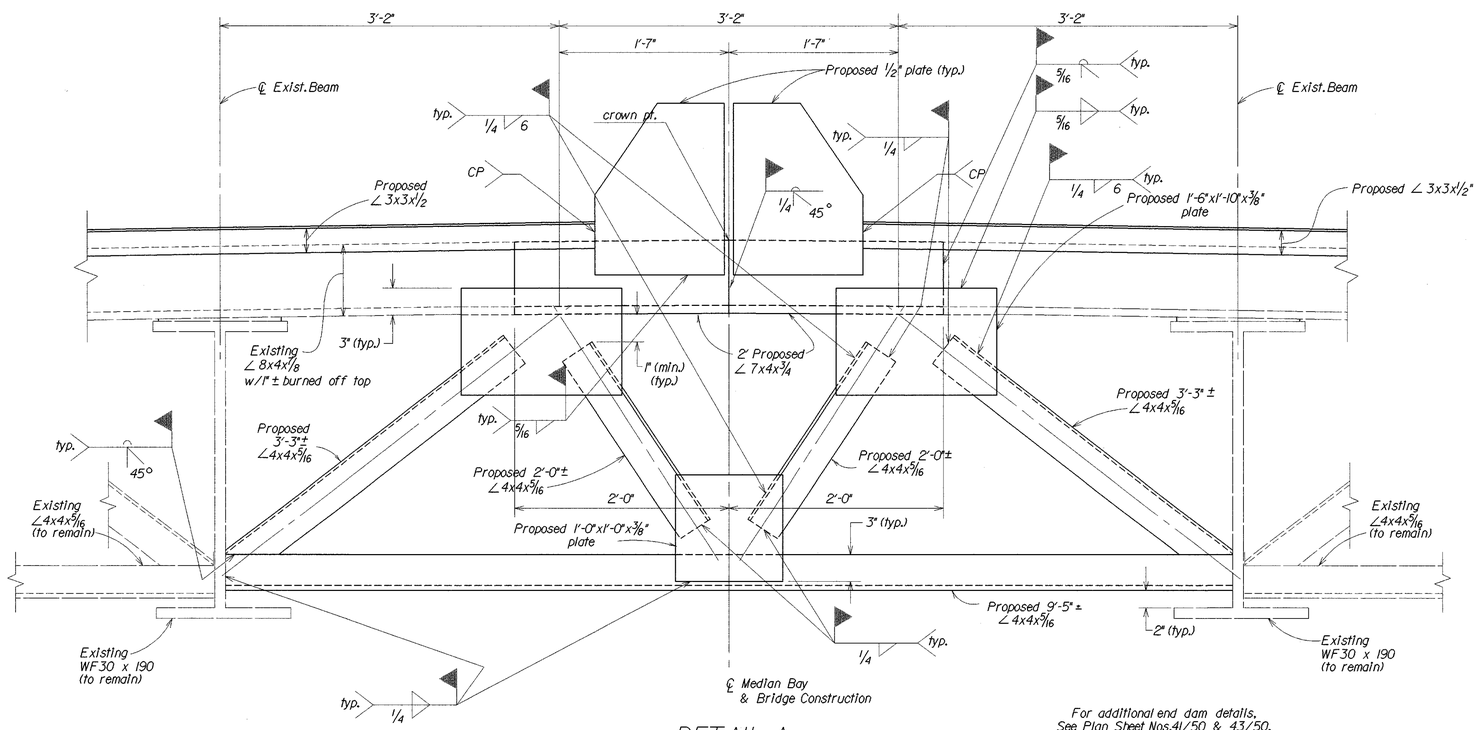
52/85



STAGE 4: TRANSVERSE DECK CONSTRUCTION:
END DAM CROSS FRAME ADDITION IN MEDIAN BAY AT ROLLED BEAMS (AT REAR ABUTMENT)

E.B. = Eastbound
W.B. = Westbound

Proposed High Performance Concrete



DETAIL A

For additional end dam details, See Plan Sheet Nos. 41/50 & 43/50.

VNPDNODOT\JOE\SA6\17P4B.DGN

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

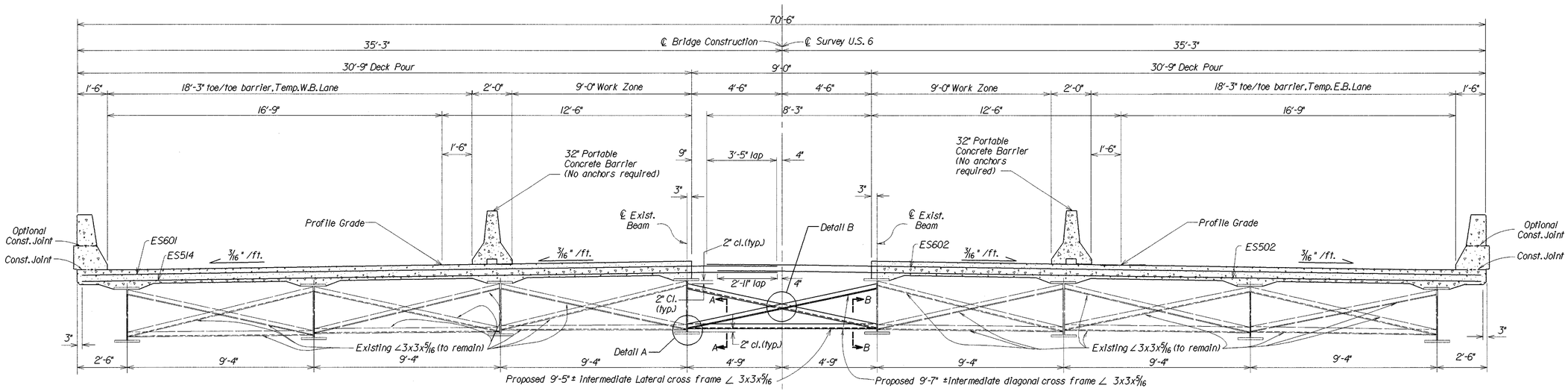
DESIGNED JML
DRAWN ALS
CHECKED LLL
REVIEWED DAB
DATE 5-5-95
REVISED
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TRANSVERSE DECK CONSTRUCTION-STAGE 4
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

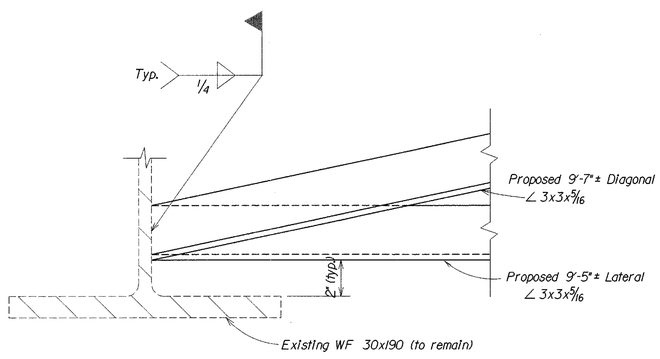
18/50

53/85

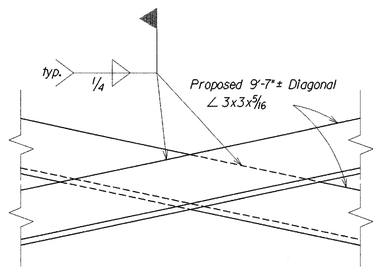


STAGE 4: TRANSVERSE DECK CONSTRUCTION: CROSS FRAME ADDITION IN MEDIAN BAY AT ROLLED-BEAMS

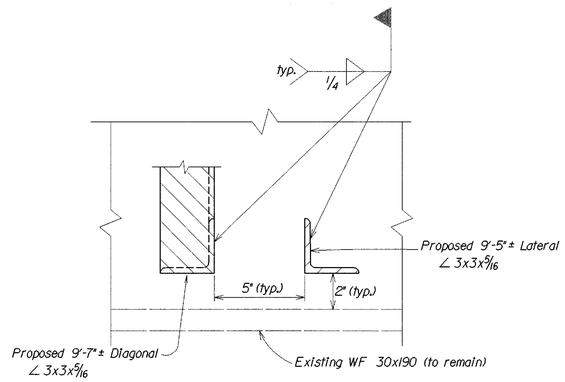
E.B.= Eastbound
W.B.= Westbound



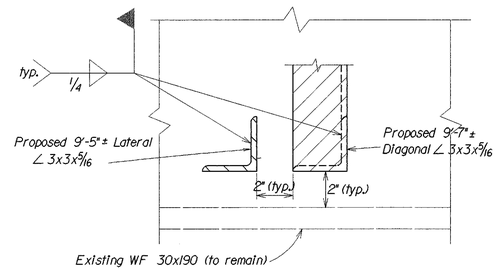
DETAIL A



DETAIL B



SECTION A-A



SECTION B-B

Proposed High Performance Concrete

\SRV\NPDO\DOT\SA6\TP4C.DGN

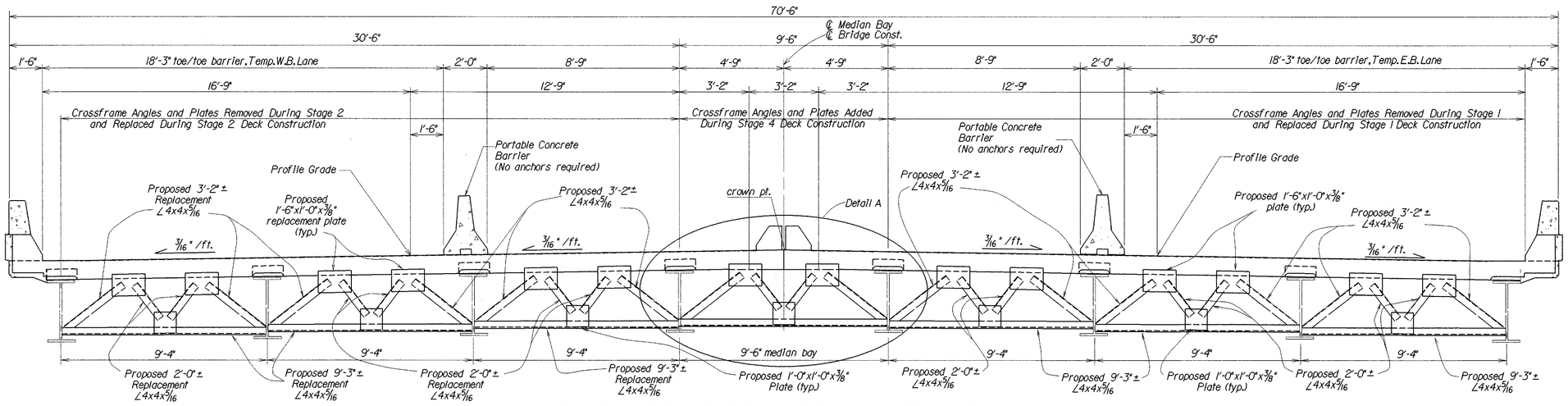
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | REVIEWED DAB 5-5-95 DATE | STRUCTURE FILE NUMBER 7200579
CHECKED LLL | REVISED

TRANSVERSE DECK CONSTRUCTION-STAGE 4
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

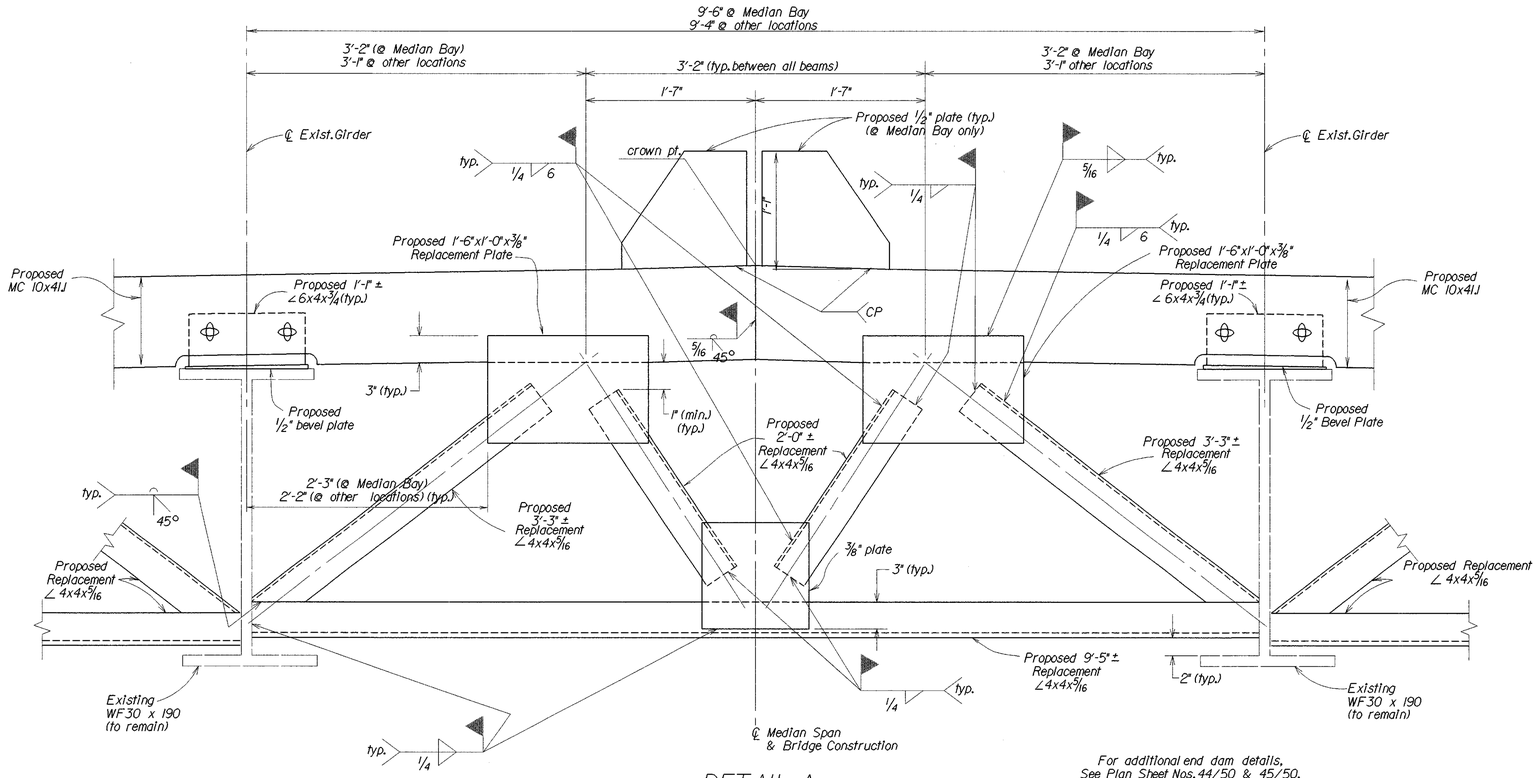
19/50
54/85



STAGE 4: TRANSVERSE DECK CONSTRUCTION:
END DAM CROSS FRAME DETAILS AT ROLLED BEAM AT PIER 3

E.B. = Eastbound
W.B. = Westbound

Note: All existing crossframe angles and plates to be replaced with new crossframe angles and plates here at Pier 3.



DETAIL A
(Typical Crossframe Replacement Detail Between Rolled Beams)

For additional end dam details, See Plan Sheet Nos. 44/50 & 45/50.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

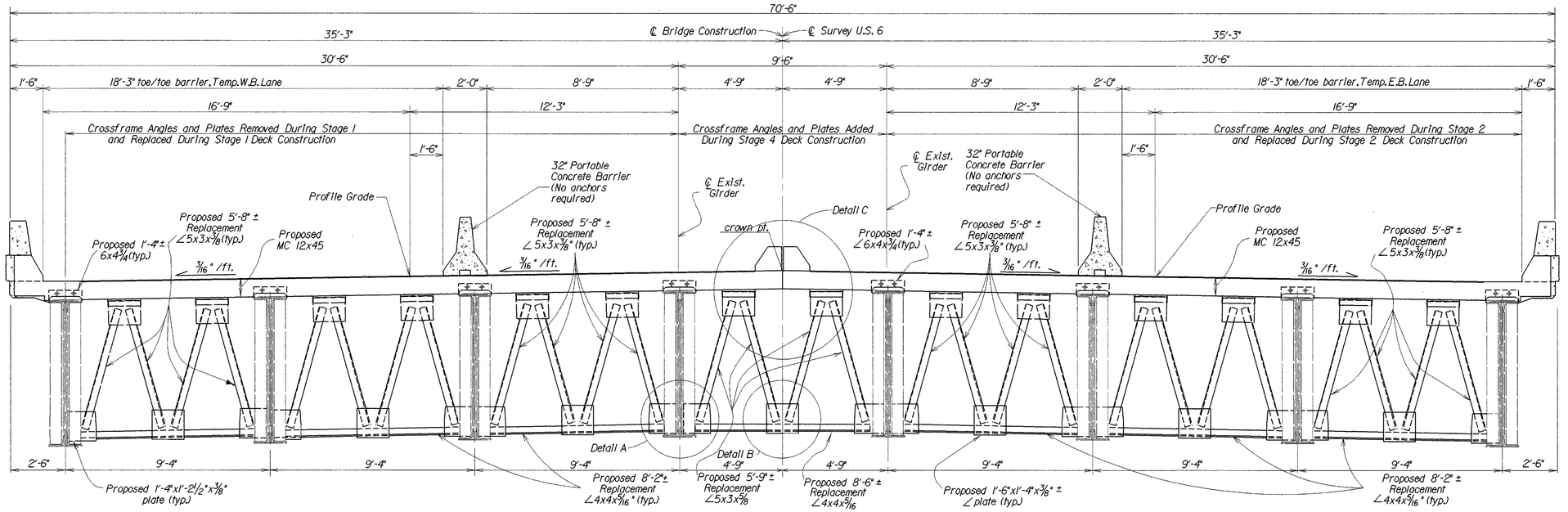
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JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

TRANSVERSE DECK CONSTRUCTION-STAGE 4
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

20/50
55/85

\SRV\PDOOT\S46\7P5B.DGN

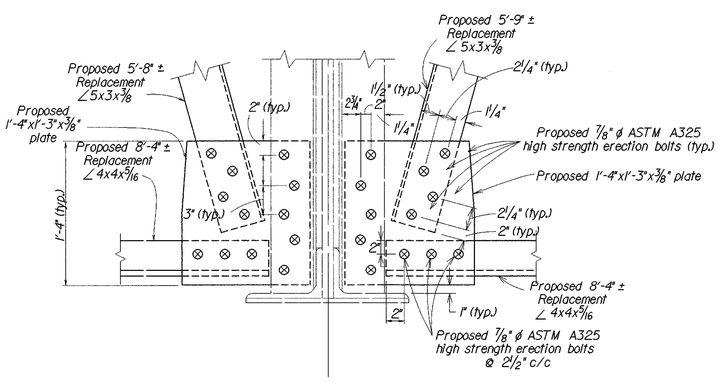


E.B. = Eastbound
W.B. = Westbound

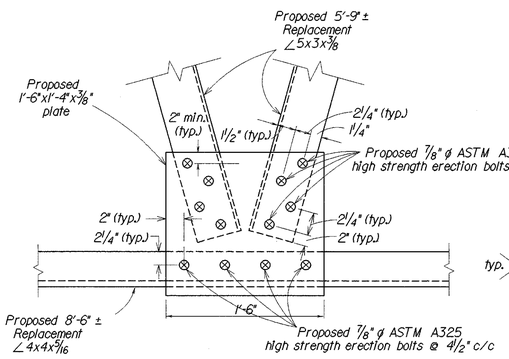
STAGE 4: TRANSVERSE DECK CONSTRUCTION:

END DAM CROSS FRAME DETAILS AT BUILT-UP PLATE GIRDERS AT PIER 3

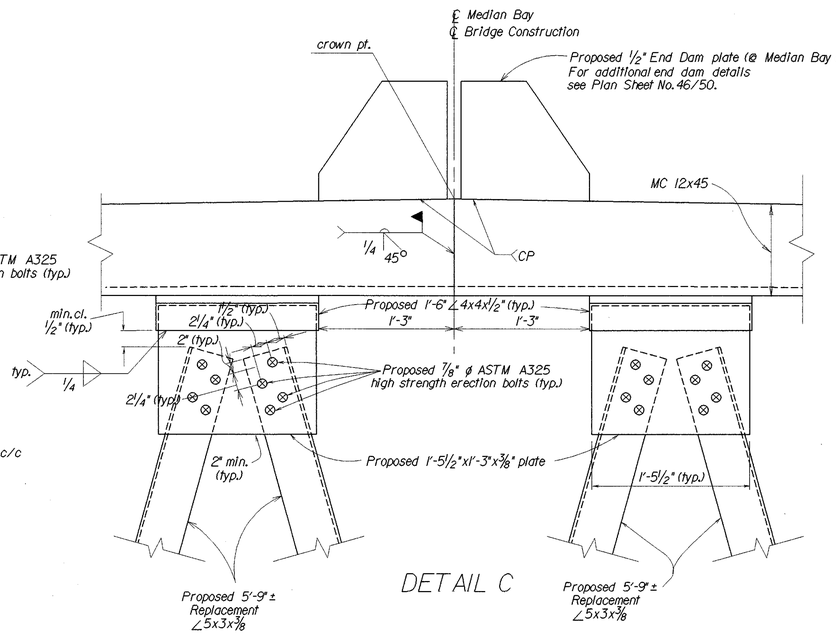
Note: All existing cross frame angles and plates to be replaced with new crossframe angles and plates here at Pier 3.



DETAIL A



DETAIL B



DETAIL C

Note: Bolt spacing and plate dimensions in Details A, B, and C are typical for all locations between plate girders @ Pier 3

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OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

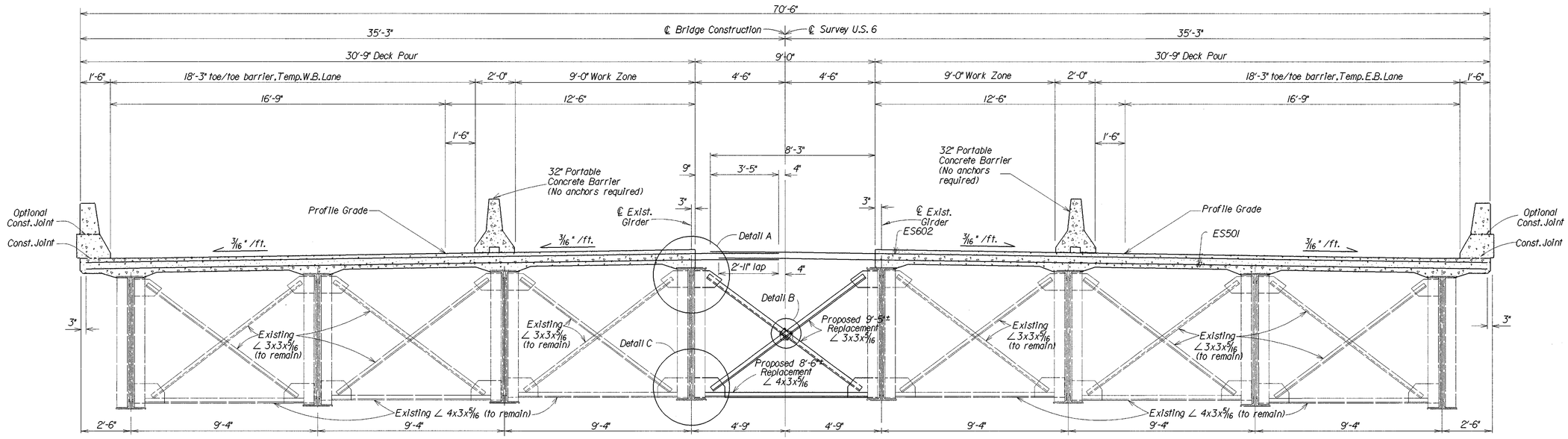
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JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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TRANSVERSE DECK CONSTRUCTION-STAGE 4
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

21/50

56/85

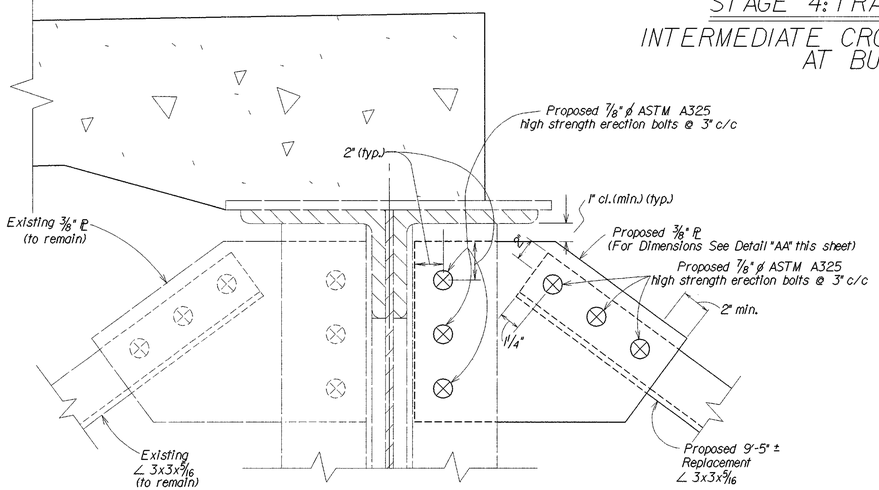


STAGE 4: TRANSVERSE DECK CONSTRUCTION:

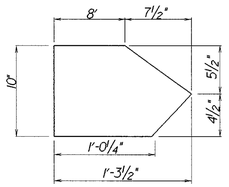
INTERMEDIATE CROSS FRAME ADDITION IN MEDIAN BAY AT BUILT-UP PLATE GIRDERS

E.B. = Eastbound
W.B. = Westbound

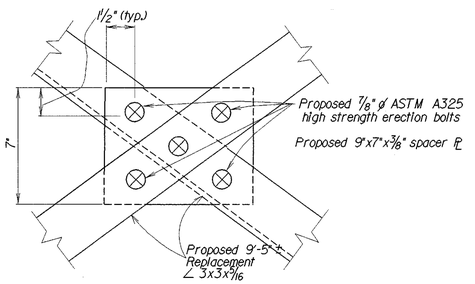
Proposed High Performance Concrete



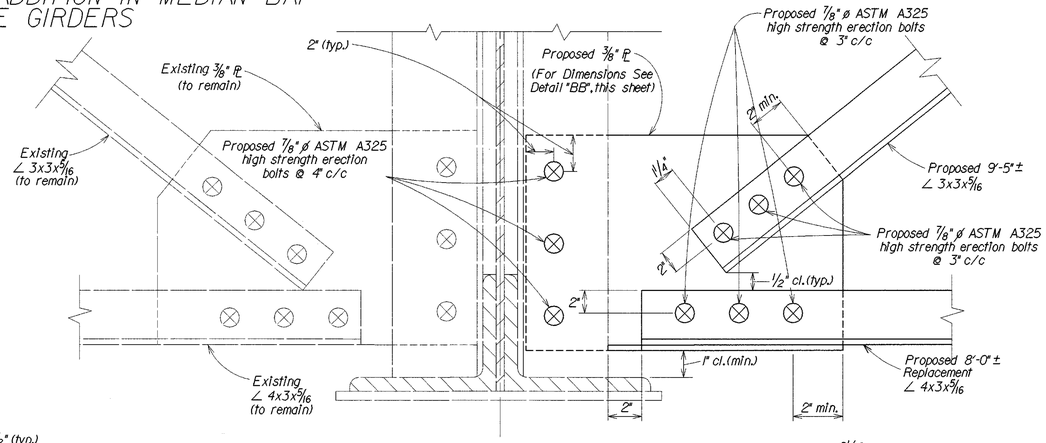
DETAIL A



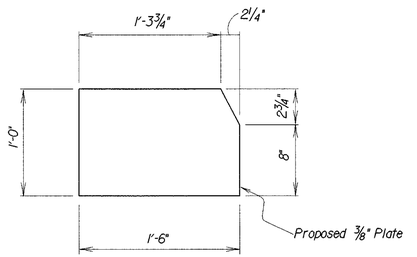
DETAIL AA



DETAIL B



DETAIL C



DETAIL BB

\SRVNPDN0DOT\SA6IFP4A.DGN

DESIGNED JML
DRAWN ALS
CHECKED LLL
REVISED

REVIEWED DAB 5-5-95
DATE
STRUCTURE FILE NUMBER 7200579

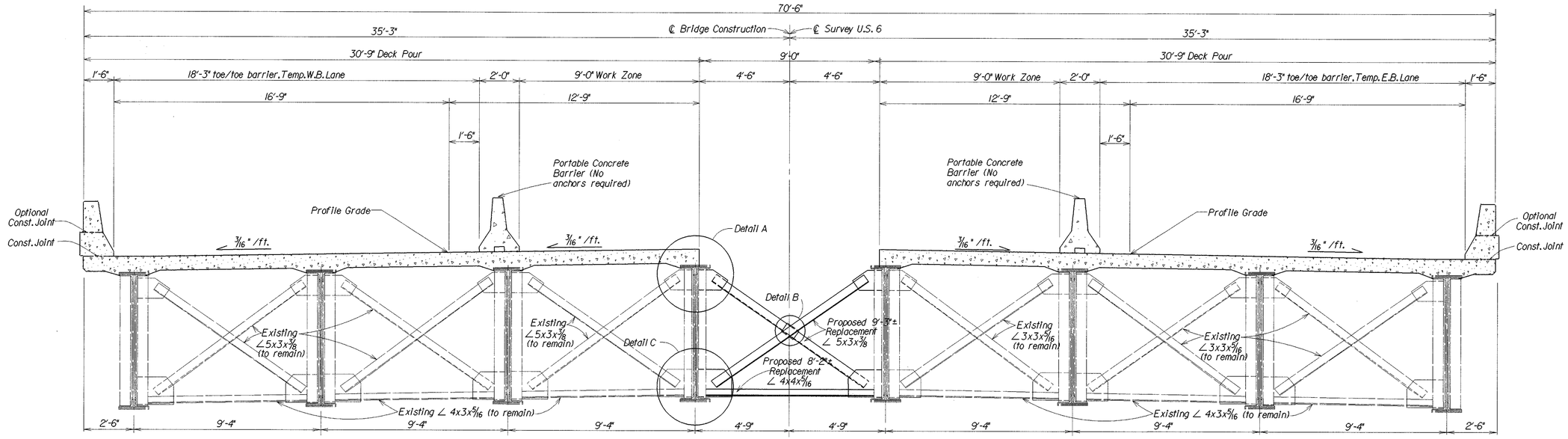
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

TRANSVERSE DECK CONSTRUCTION-STAGE 4
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

22/50

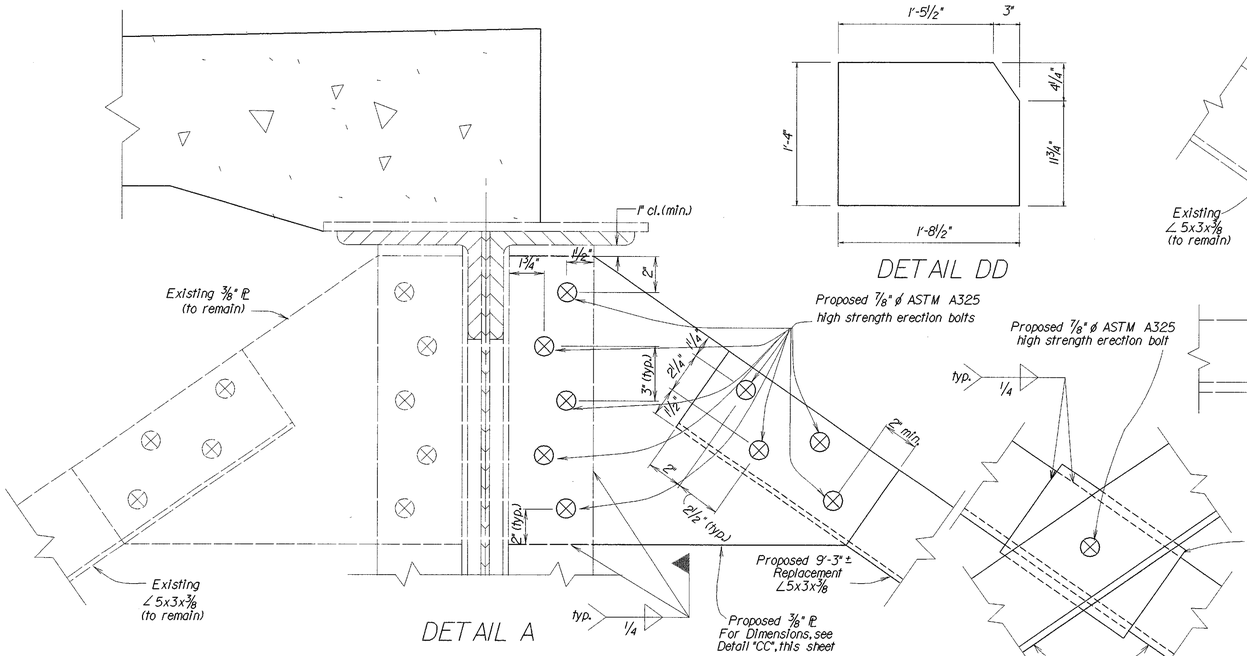
57/85



E.B. = Eastbound
W.B. = Westbound

STAGE 4: TRANSVERSE DECK CONSTRUCTION:
CROSS FRAME ADDITION IN MEDIAN SPAN AT BUILT-UP PLATE GIRDERS (OVER PIERS ONLY)

Proposed High Performance Concrete



OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

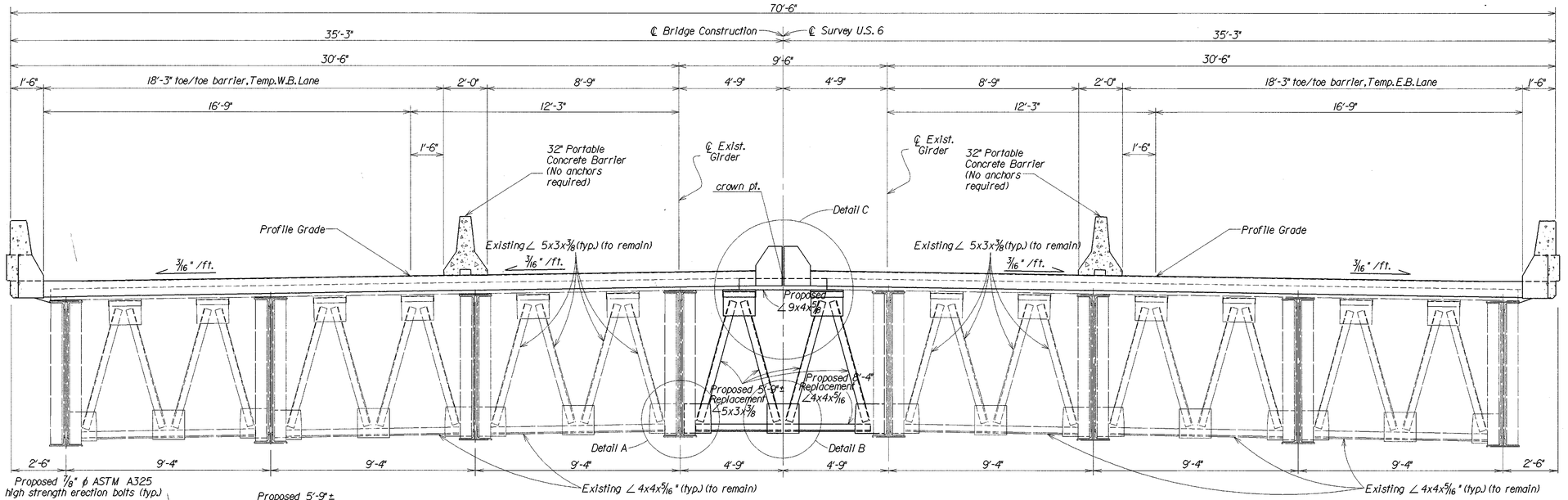
DESIGNED JML | DRAWN ALS | REVISED | CHECKED LLL
REVIEWED DAB 5-5-95 | STRUCTURE FILE NUMBER 7200579

TRANSVERSE DECK CONSTRUCTION-STAGE 4
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

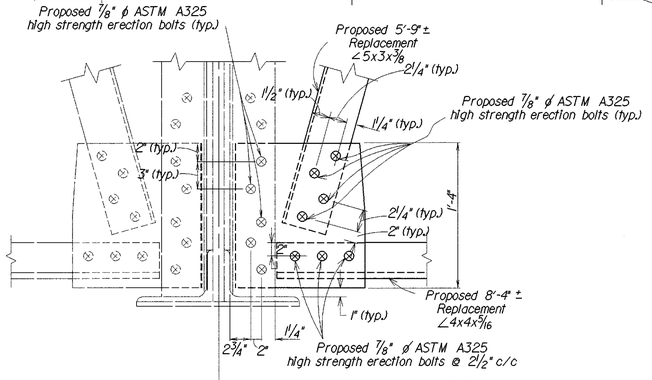
23/50
58/85

\SRV1\PD\ODOT\SA6\TP4E.DGN

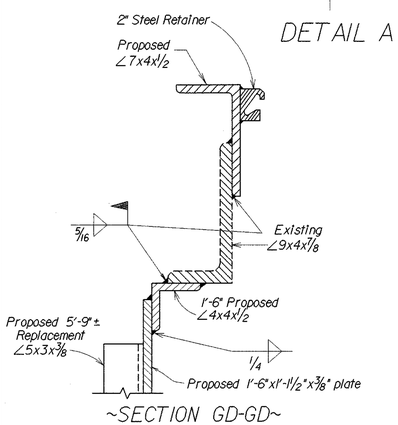


STAGE 4: TRANSVERSE DECK CONSTRUCTION:
END DAM CROSS FRAME ADDITION IN MEDIAN BAY AT BUILT-UP PLATE GIRDERS (AT FORWARD ABUTMENT)

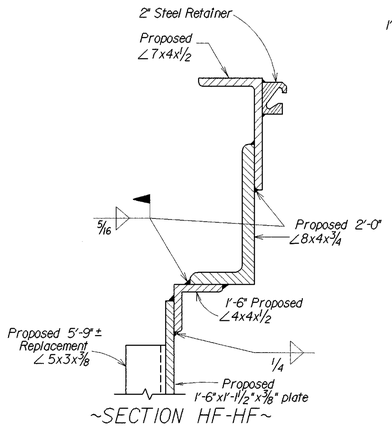
E.B. = Eastbound
W.B. = Westbound



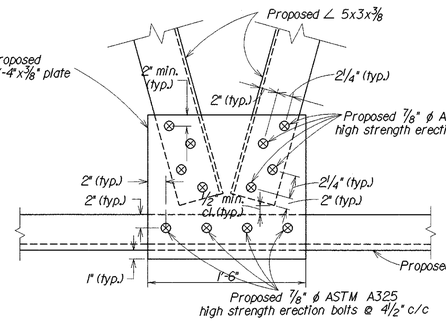
DETAIL A



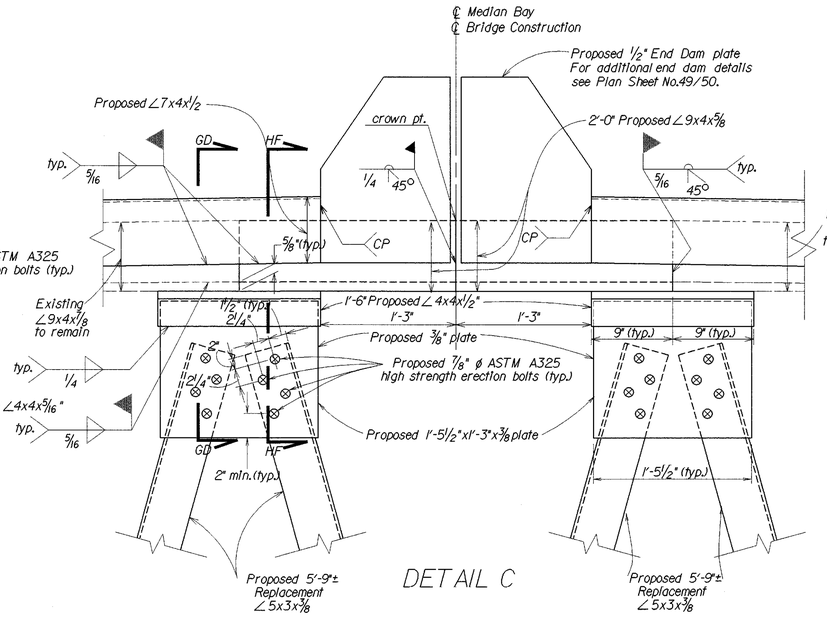
~SECTION GD-GD~



~SECTION HF-HF~



DETAIL B



DETAIL C

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

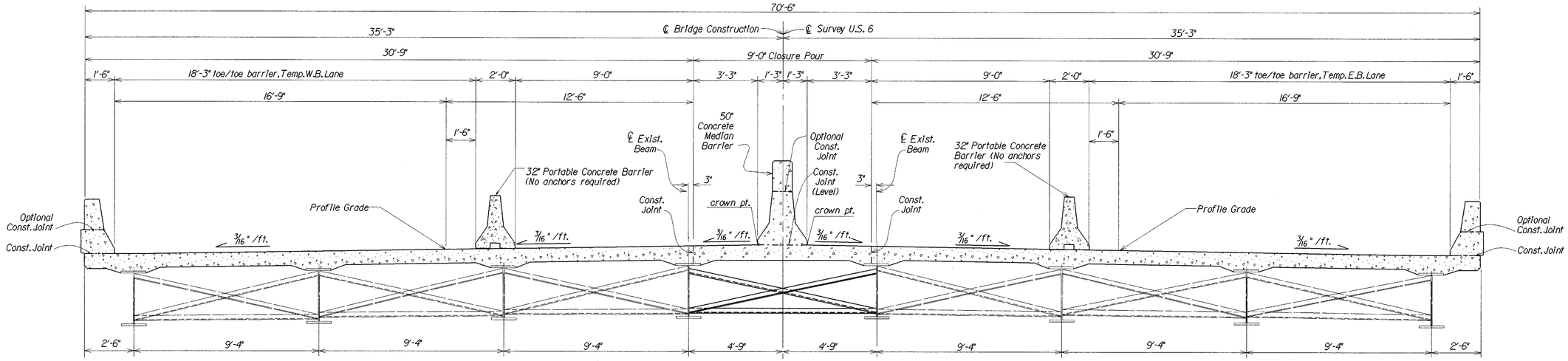
TRANSVERSE DECK CONSTRUCTION-STAGE 4
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

24/50

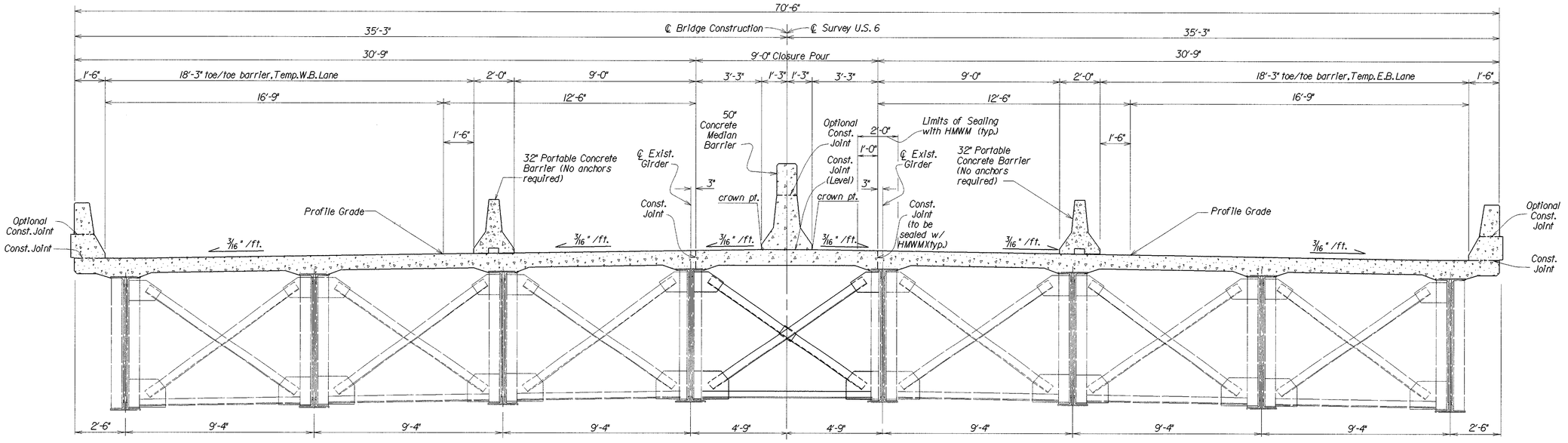
59/85

\SRV\PD\DOT\SAG17\P40.DGN



STAGE 5: TRANSVERSE DECK CONSTRUCTION:
CLOSURE POUR IN MEDIAN BAY AT ROLLED-BEAMS

E.B. = Eastbound
W.B. = Westbound



STAGE 5: TRANSVERSE DECK CONSTRUCTION:
CLOSURE POUR IN MEDIAN BAY AT BUILT-UP PLATE GIRDERS

Proposed High Performance Concrete

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

TRANSVERSE DECK CONSTRUCTION-STAGE 5
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

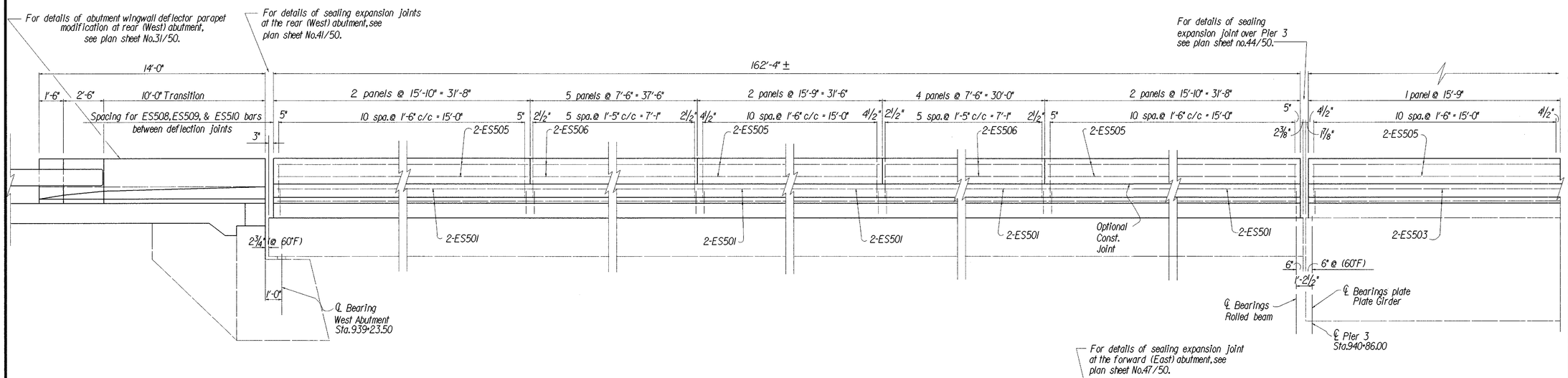
25/50

60/85

\SRV\PDOOOT\SA6\TP5ADGN

NOTES: Deflection joints are to be sawcut (see General Notes).
If the Contractor chooses to use slipforming for the parapet construction, the longitudinal reinforcing steel located above the optional construction joint shall be made continuous and the lengths of these bars shall match the lengths of the reinforcing bars located below the optional construction joint (See Proposal Note).

Minimum Lap Length for No. 5 Longitudinal Bars is 1'-11".



DESIGN AGENCY
O.D.O.T DIST. 2
DESIGN DEPT.

DATE REVIEWED
5-5-95
DAB
STRUCTURE FILE NUMBER
7200579

DRAWN
ALS
REVISED

DESIGNED
JML
CHECKED
LLL

SUPERSTRUCTURE DETAILS
PARAPET AND DEFLECTION JOINTS
Br. No. SAN-6-17.51 OVER SANDUSKY RIVER

SAN-6-17.51

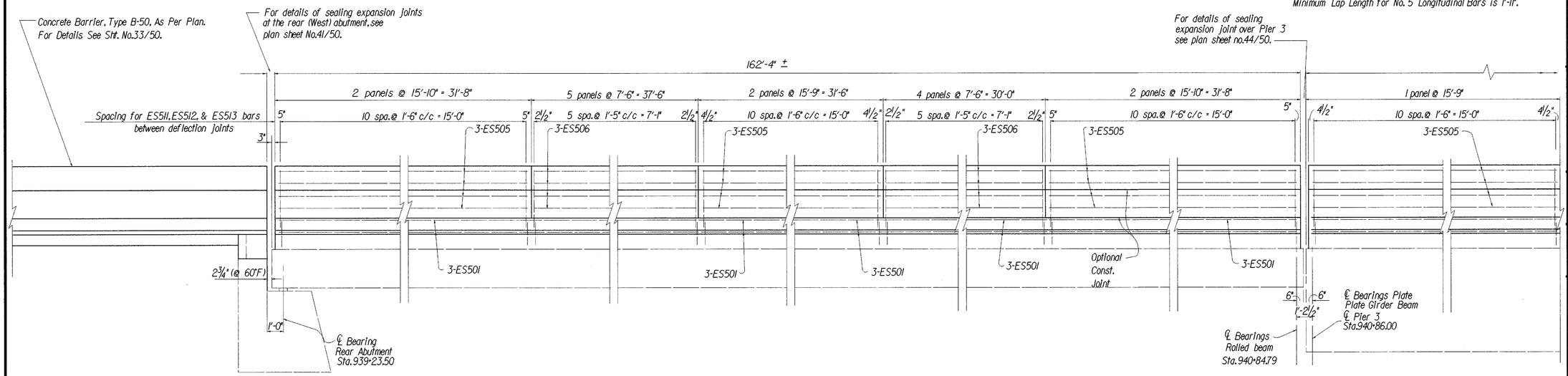
26/50

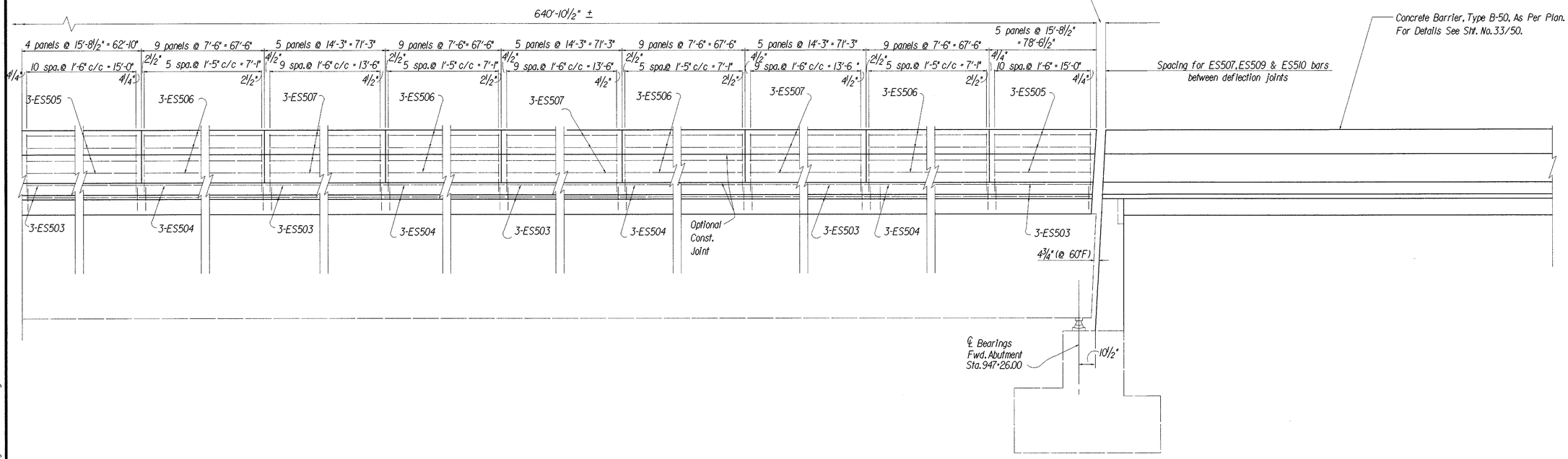
61/85

I:/pd/odot/lee/ss6708

NOTES: Deflection joints are to be sawcut (see General Notes).
If the Contractor chooses to use slipforming for the concrete median barrier construction, the longitudinal reinforcing steel located above the optional construction joint shall be made continuous and the lengths of these bars shall match the lengths of the reinforcing bars located below the optional construction joint (See Proposal Note).

Minimum Lap Length for No. 5 Longitudinal Bars is 1'-11".





SUPERSTRUCTURE DETAILS
MEDIAN BARRIER AND DEFLECTION JOINTS
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 3
DESIGN DEPARTMENT

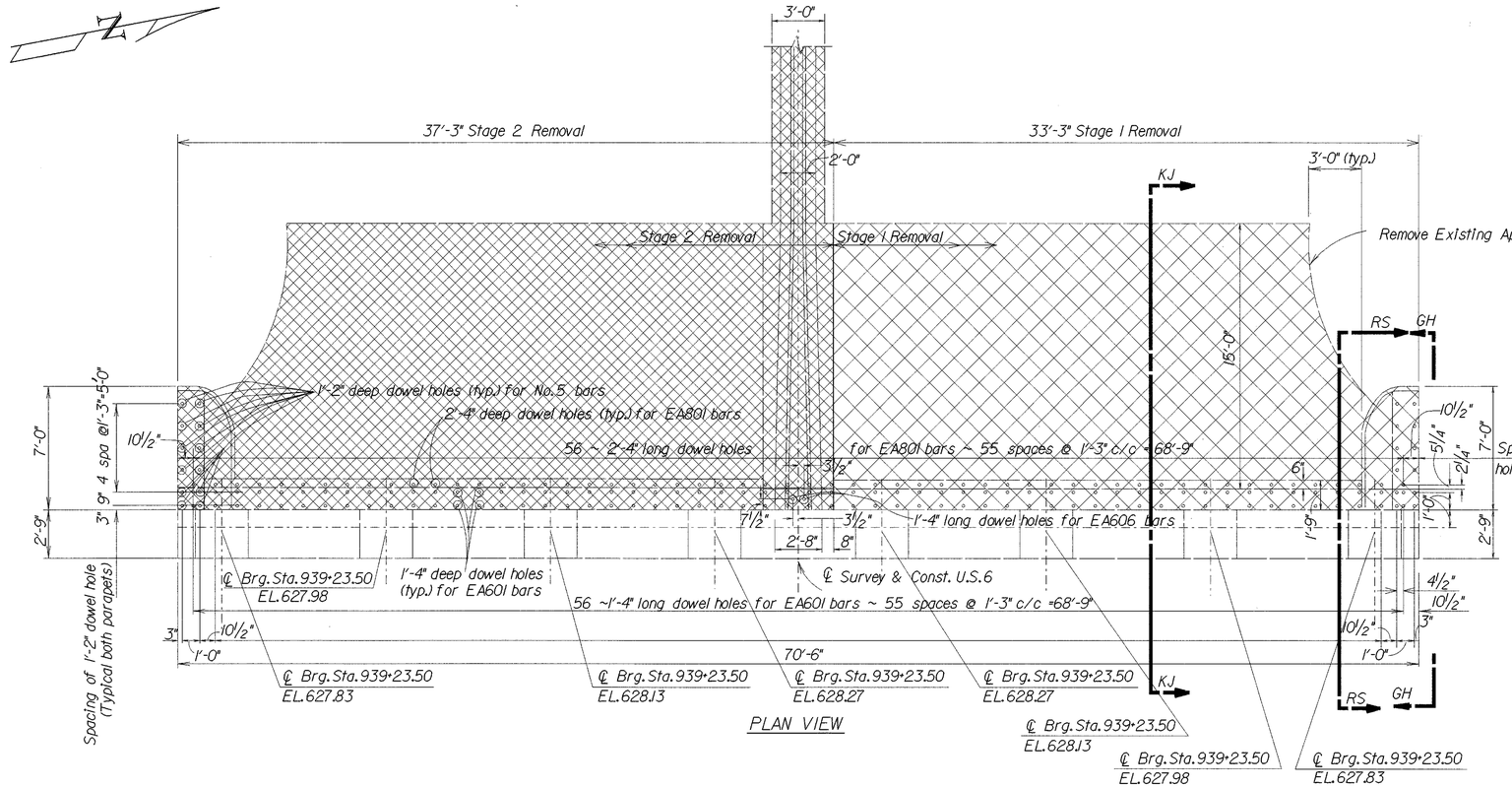
DESIGNED	DRAWN	REVISED	DATE
JML	ALS		5-5-95
CHECKED	REVISED		STRUCTURE FILE NUMBER
LLL			7200579

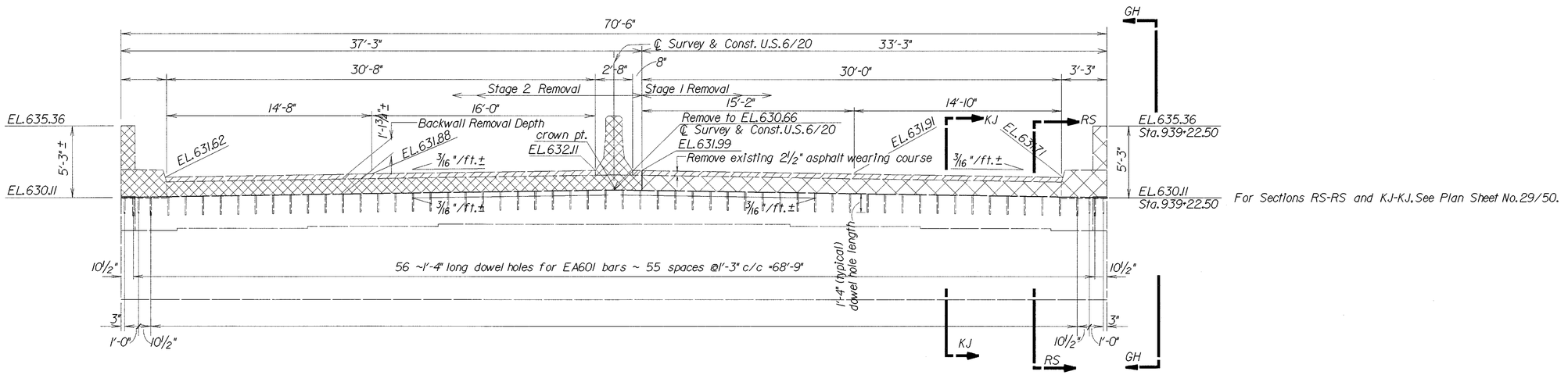
SAN-6-17.51

27/50

62/85

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OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

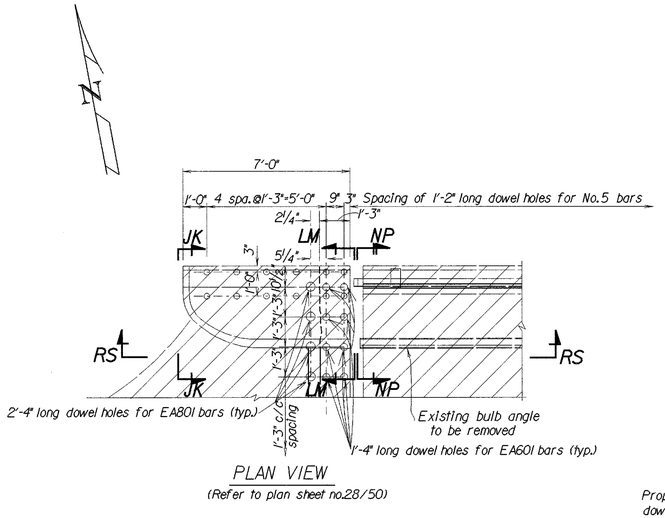
REAR (WEST) ABUTMENT REMOVAL DETAILS
EXISTING BACKWALL, WINGWALL AND APPROACH SLAB
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

28/50

63/85

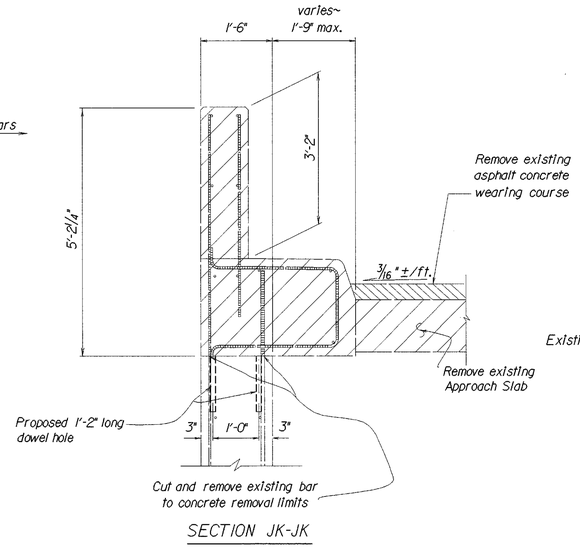
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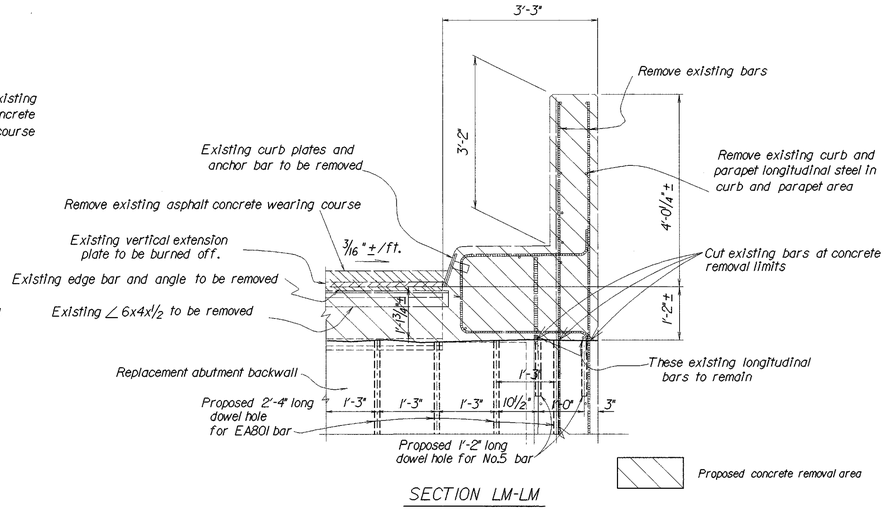
PLAN VIEW

(Refer to plan sheet no.28/50)

NOTE: Left, trailing (northwest) wingwall removal details are shown. Removal details for right, leading (southwest) wingwall (not shown) are similar.



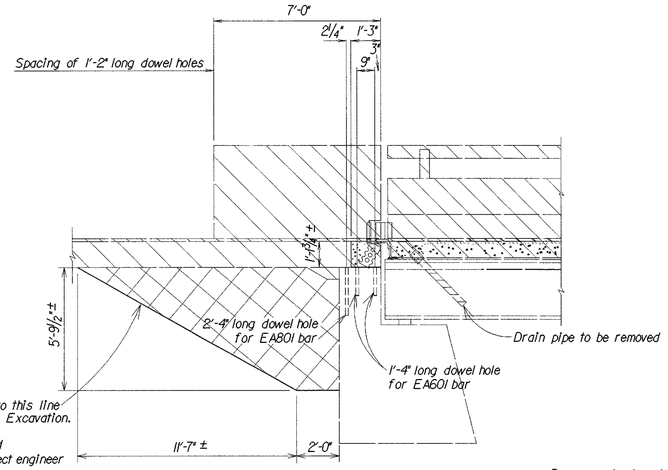
SECTION JK-JK



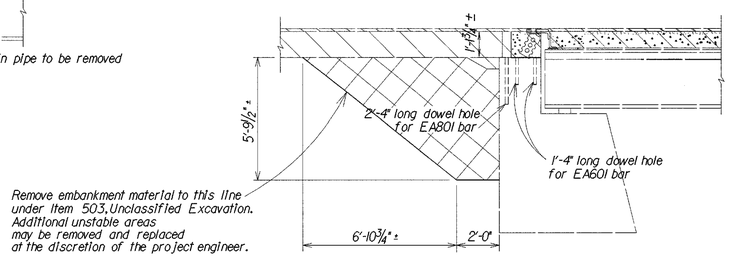
SECTION LM-LM

or Proposed concrete removal area

Item 503, Unclassified Excavation

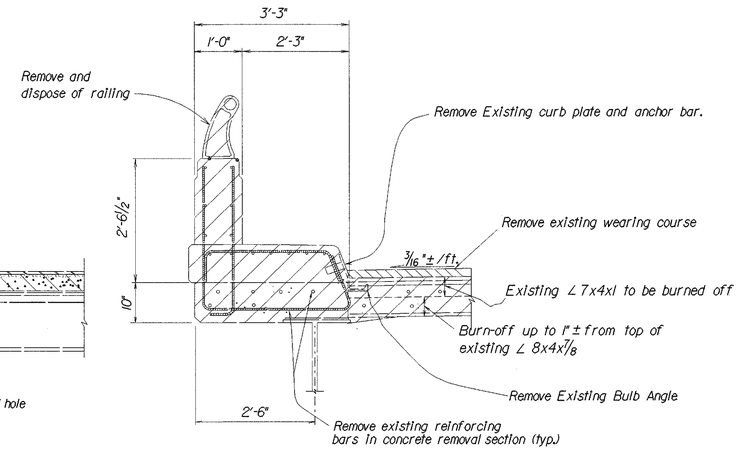


SECTION RS-RS



SECTION KJ-KJ

(Refer to plan sheet no.28/50)



SECTION NP-NP

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED JML
DRAWN ALS
CHECKED LLL
REVIEWED DAB
DATE 5-5-95
REVISED
STRUCTURE FILE NUMBER 7200579

REAR (WEST) ABUTMENT REMOVAL DETAILS
EXISTING WINGWALL PARAPET
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

I:/pd/odot/joe/sa6l767

BACKWALL CONCRETE: In addition to the provisions of 511.08, backwall concrete above the optional construction joint at the approach slab seat shall not be placed until after the deck concrete in the span adjacent to the abutment has been placed.

POROUS BACKFILL with filter fabric, 2 feet thick shall extend up to the plane of the subgrade, to one foot below the embankment surface, and laterally to the ends of the wingwalls. Geotextile fabric shall conform with 712.09, Type A. The bottom of the porous backfill shall be sloped (6 inch per foot minimum) laterally to drain. Geotextile fabric is included with porous backfill for payment.

For Sections AC-AC, AF-AF, AW-AW, GF-GF, and HK-HK, See Plan Sheet No. 33/50.

For View TS-TS and TR-TR Plan Sheet No. 32/50.

For Section ZZ-ZZ, See Plan Sheet No. 31/50.

NOTE: EA606 bars used at backwall median barrier only

PLAN VIEW

ELEVATION

Proposed High Performance Concrete

Sealing of Concrete Surfaces

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | REVIEWED DAB | DATE 5-5-95
CHECKED LLL | REVISED | STRUCTURE FILE NUMBER 7200579

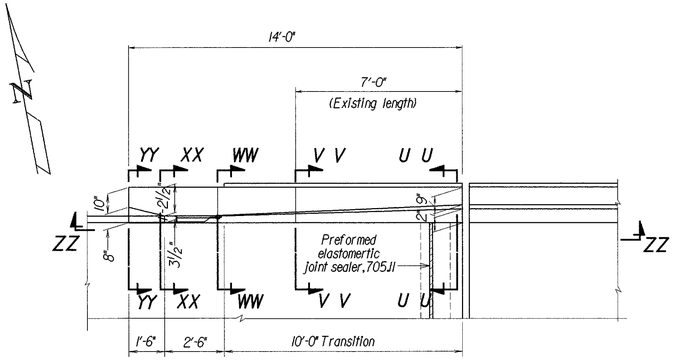
REAR (WEST) ABUTMENT DETAILS
PROPOSED BACKWALL, WINGWALL AND APPROACH SLAB
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

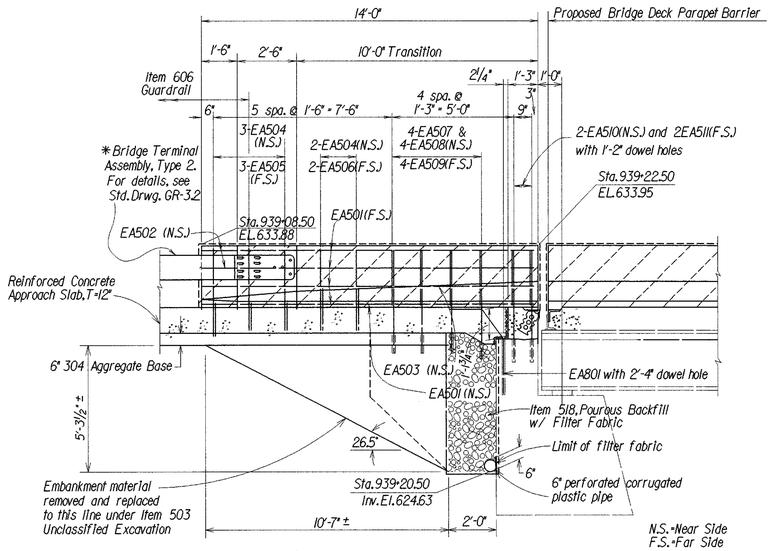
30 / 50

65 / 85

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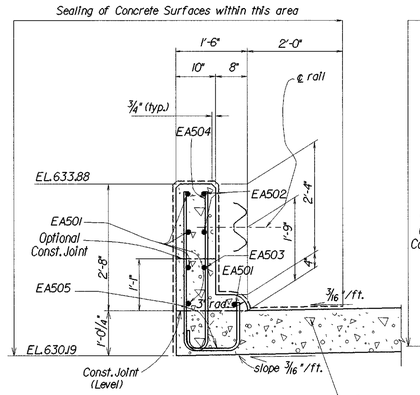


PLAN

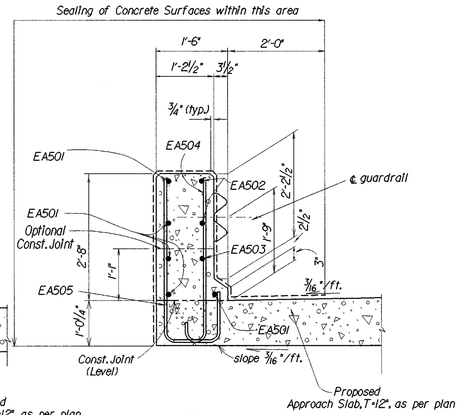


* ~ NOTE: Proposed left, trailing (northwest) wingwall details (with attached Type 2 Bridge Terminal Assembly) are shown. Proposed right, leading (southwest) wingwall details (not shown) (with attached Type 1 Bridge Terminal Assembly) are similar.

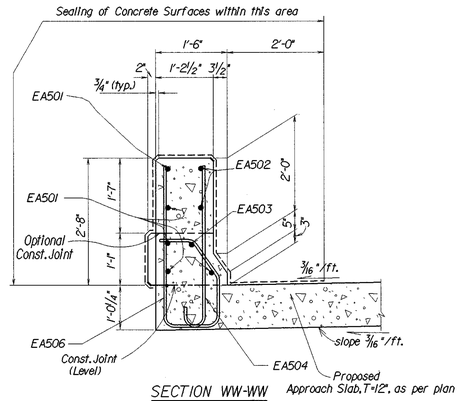
SECTION ZZ-ZZ
(From Sht. 30/50)



SECTION YY-YY



SECTION XX-XX



SECTION WW-WW

SECTION V V-V V

SECTION U U-U U

High Performance Concrete

Sealing of Concrete Surfaces

Type A Waterproofing

Filter Fabric

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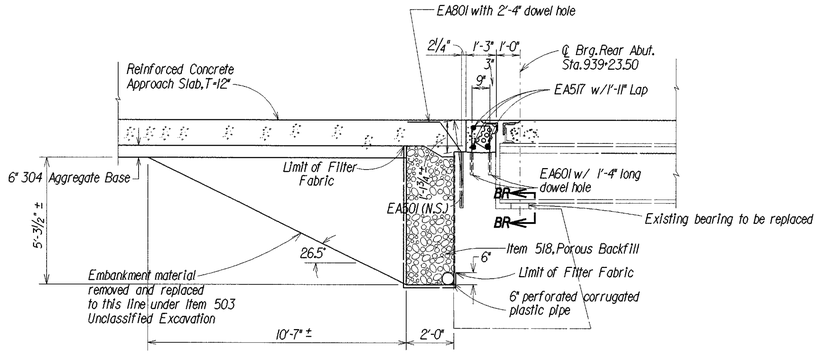
DESIGN AGENCY: O.D.O.T DIST. 2 DESIGN DEPT.
DATE REVIEWED: DAB 5-5-95
STRUCTURE FILE NUMBER: 7200579
DRAWN: ALS
REVISED:
DESIGNED: JML
CHECKED: LLL

REAR (WEST) ABUTMENT DETAILS
PROPOSED WINGWALL DEFLECTION PARAPET
Br. No. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

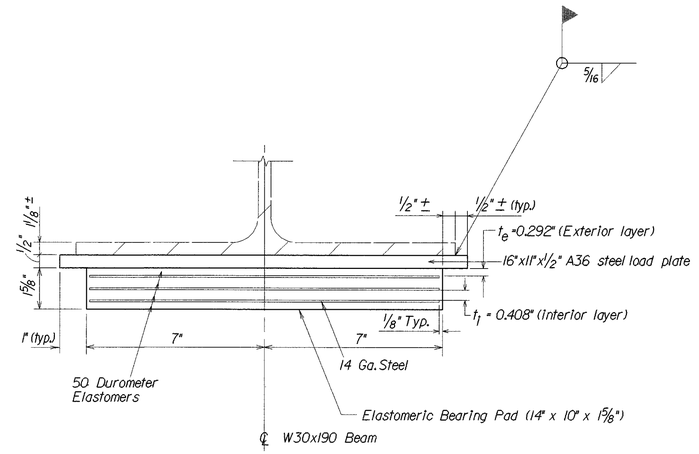
31/50

66/85



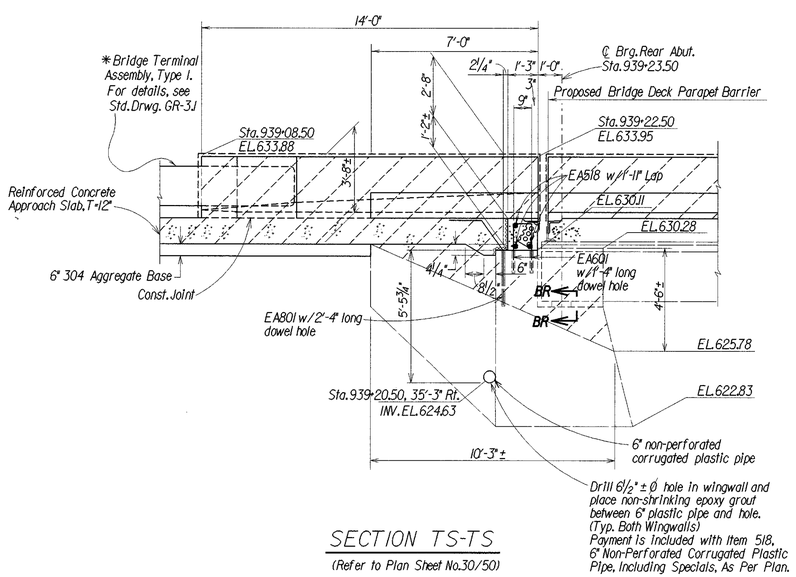
SECTION TR-TR

(Refer to Plan Sheet No.30/50)



VIEW BR-BR

TYPICAL DETAILS FOR ELASTOMERIC BEARING PADS AT REAR ABUTMENT



SECTION TS-TS

(Refer to Plan Sheet No.30/50)

SECTION DETAIL BR-BR

LAMINATED ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL BE 50 DUROMETER HARDNESS. THE STEEL PLATES BETWEEN LAMINATES SHALL BE A36 STEEL.

DESIGN LOADS:
THE LAMINATED ELASTOMERIC BEARINGS ARE DESIGNED FOR THE FOLLOWING LOADS:
DEAD LOAD REACTION = 34 KIPS
LIVE LOAD REACTION = 48 KIPS
MAX. DESIGN LOAD = 82 KIPS

WELDING OF LOAD PLATE OF ELASTOMERIC BEARINGS TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 200 DEGREES F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

BEARING REPOSITIONING: IF DECK CONCRETE IS PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F (+/-) 10° F, THE BEAMS OR GIRDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F (+/-) 10° F.

PAYMENT FOR LABOR, MATERIAL INSTALLATION, AND INCIDENTALS OF STEEL LOAD PLATES SHALL BE INCLUDED IN ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES [redacted] AND LOAD PLATE (NEOPRENE) (10"x14"x1 5/8" WITH 11"x16"x5/8" LOAD PLATE), AS PER PLAN

Elastomeric Bearings shall comply with Item 516 and Articles 18.2.5 through 18.2.8 of Section 18, Bearing Devices, Division II, Construction of the AASHTO Standard Specification for Highway Bridges. Bearings shall be Grade 3, 50 durometer elastomer, and shall be subjected to the load testing requirements corresponding to Design Method A. Testing shall be included in the unit price bid for the bearings, each.

High Performance Concrete

and ——— Sealing of Concrete Surfaces

○○○○○○○○○○ Type A Waterproofing

——— Filter Fabric

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	CHECKED	REVISED	DATE	STRUCTURE FILE NUMBER
JML	ALS	LLL		DAB 5-5-95	7200579

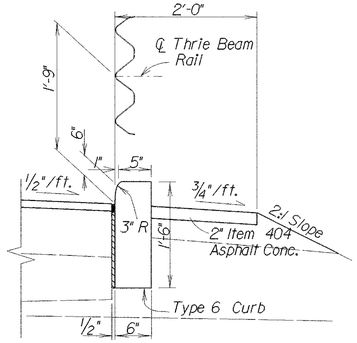
REAR (WEST) ABUTMENT DETAILS
AND PROPOSED ELASTOMERIC BEARING DETAIL
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

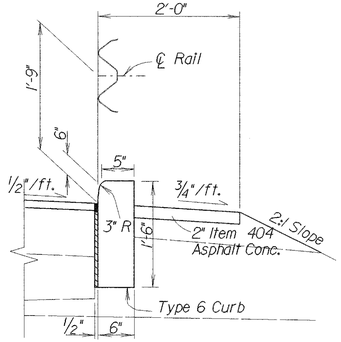
32/50

67/85

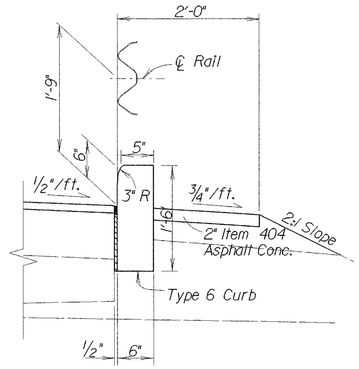
I:/pd/cdot/joe/sas6171.dgn



SECTION AC-AC
(Refer to plan sheet nos.30/50)



SECTION AW-AW
(Refer to plan sheet no.30/50)

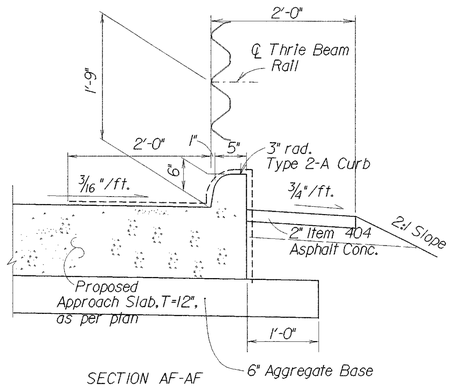


SECTION AD-AD
(Refer to plan sheet no.36/50)

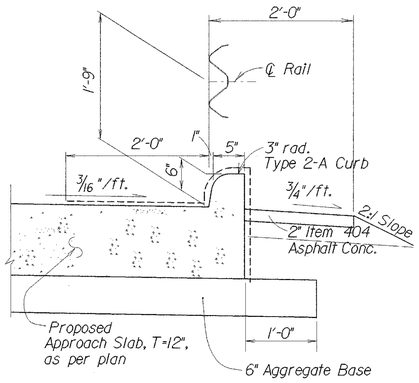
---------- Sealing of Concrete Surfaces

NOTE:
Section AC-AC refers to Plan Sheet Nos.30/50 & 36/50.
Sections AF-AF refers to Plan Sheet No.30/50
Sections AD-AD refers to Plan Sheet No.36/50
Sections AW-AW refers to Plan Sheet Nos.30/50 & 36/50.
Sections AX-AX refers to Plan Sheet No.30/50.

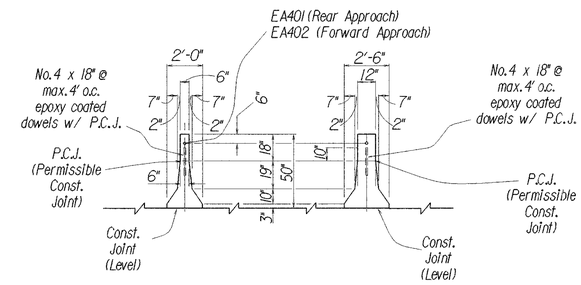
All Concrete Is High Performance Concrete
(See Roadway General Notes)



SECTION AF-AF
(Refer to plan sheet no.30/50)



SECTION AX-AX
(Refer to plan sheet no.30/50)

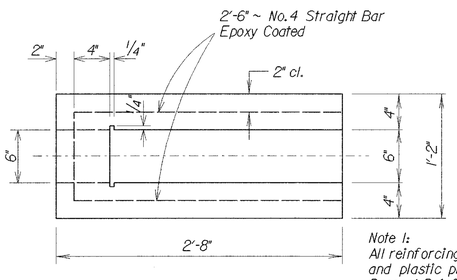


SECTION HK-HK SECTION GF-GF

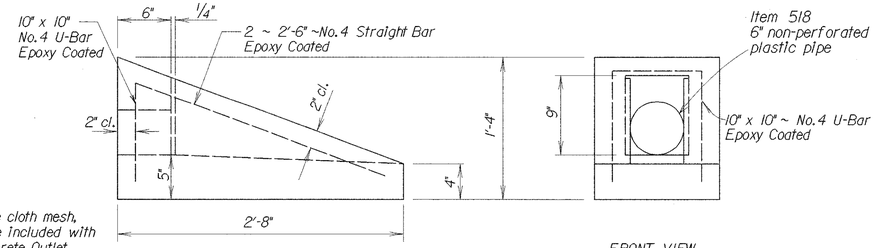
CONCRETE BARRIER,
TYPE B-50, AS PER PLAN

Sections HK-HK and GF-GF Refer to Plan Sheets 30/50 & 36/50.

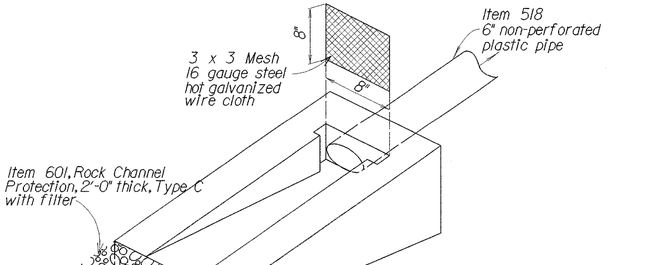
NOTE: Epoxy coated No.4 bars (EA401 and EA402) are included in Item 509, Epoxy Coated Reinforcing Steel, Grade 60.



PLAN VIEW



ELEVATION VIEW



FRONT VIEW

Note 1:
All reinforcing steel, wire cloth mesh, and plastic pipe is to be included with Precast Reinforced Concrete Outlet for payment.
Note 2: All steel shall be epoxy coated.
Note 3:
The concrete outlet shall meet the requirements of Item 604 in the CMS. Payment shall be made on an EACH basis. Payment shall include the cost of the wire cloth.

~DETAIL A~
Precast Reinforced Concrete Outlet
(Refer to plan sheet no. 30/50 & 36/50)

NOTE: Mortar or other material approved by the engineer is to be placed to fill any gap created between pipe wall and receiving hole on the backside of the structure.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
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DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

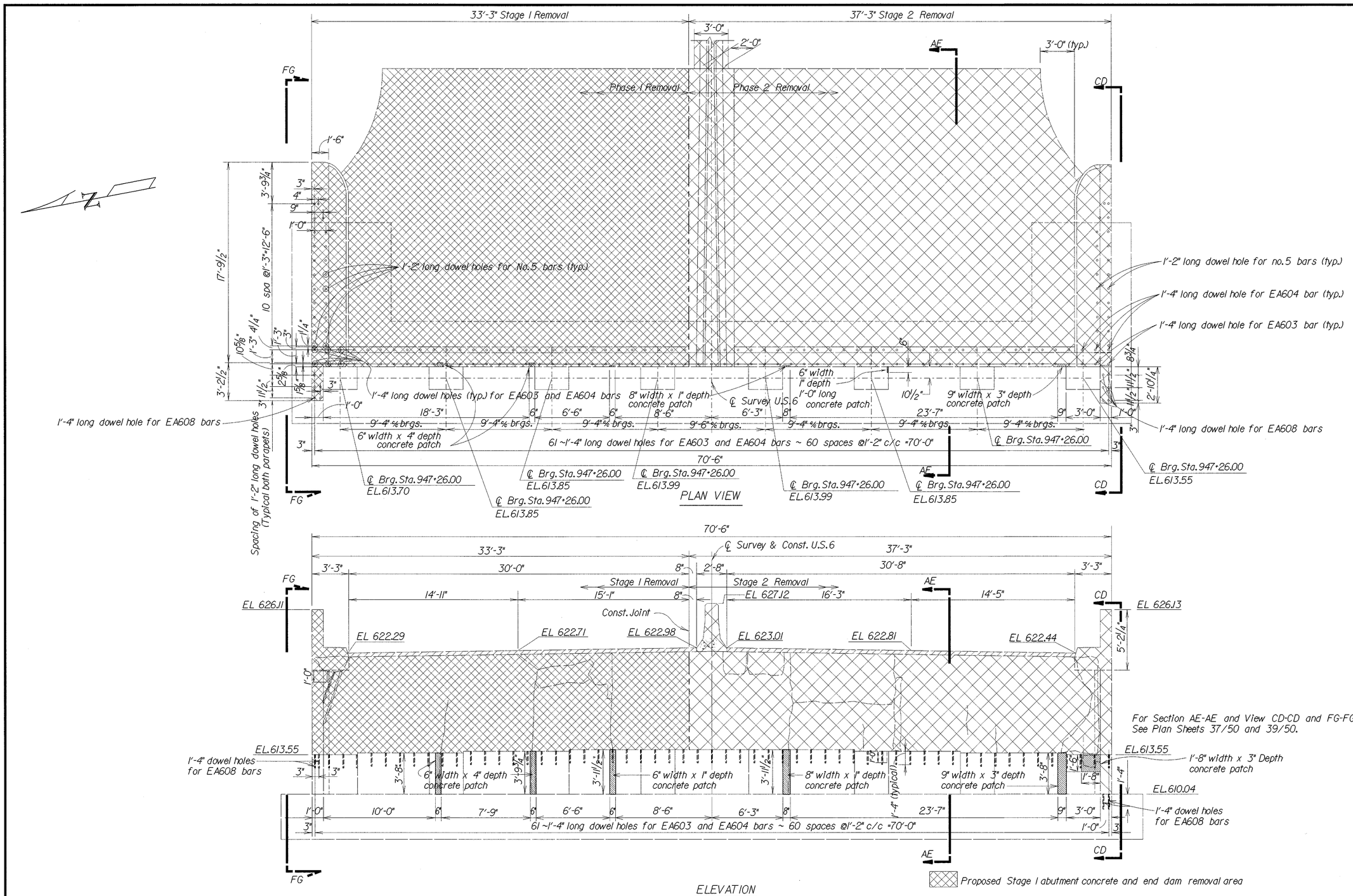
APPROACH SLAB CURB AND CONCRETE OUTLET DETAILS
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

33 / 50

68 / 85

/SRVI/PD/000T/S4617CCDGN



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LLL		7200579	

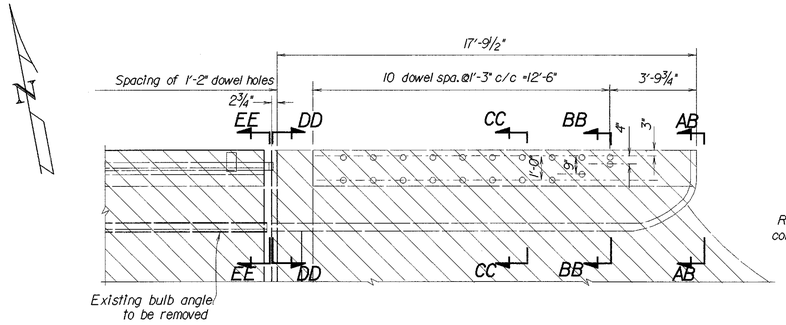
FORWARD (EAST) ABUTMENT REMOVAL DETAILS
EXISTING BACKWALL, WINGWALLS AND APPROACH SLAB
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

34 / 50

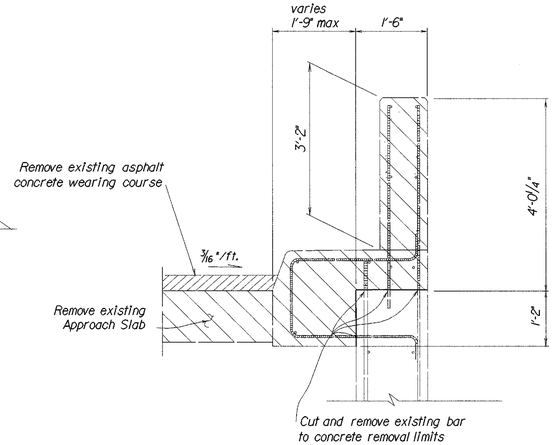
69 / 85

/SRVI/PD/ODOT/SA6I740.DGN

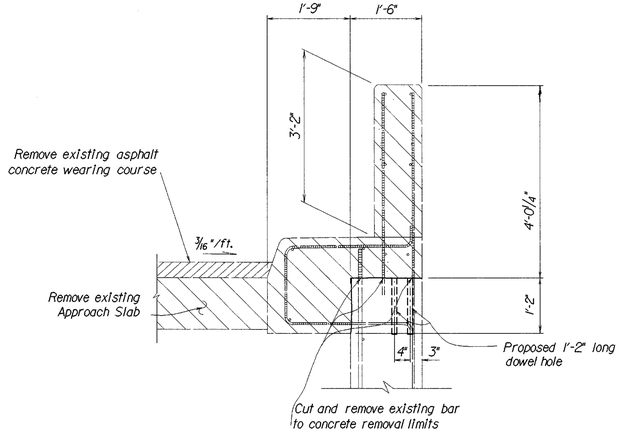


PLAN VIEW

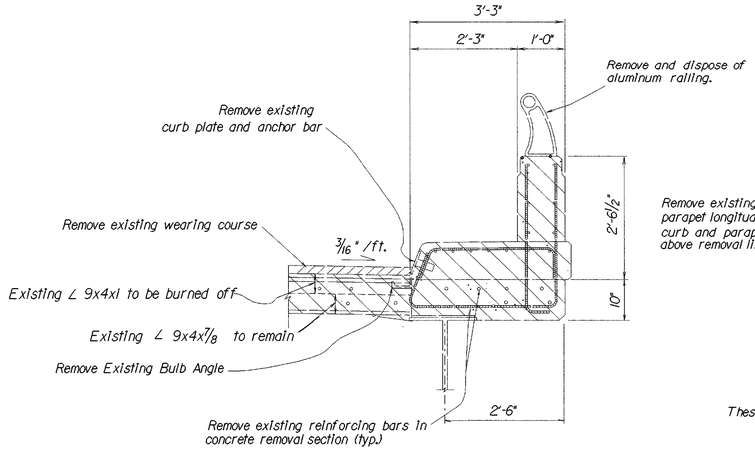
NOTE: Left, leading (Northeast) wingwall removal details as shown
Removal details for right, trailing (Southeast) wingwall (not shown) are similar.



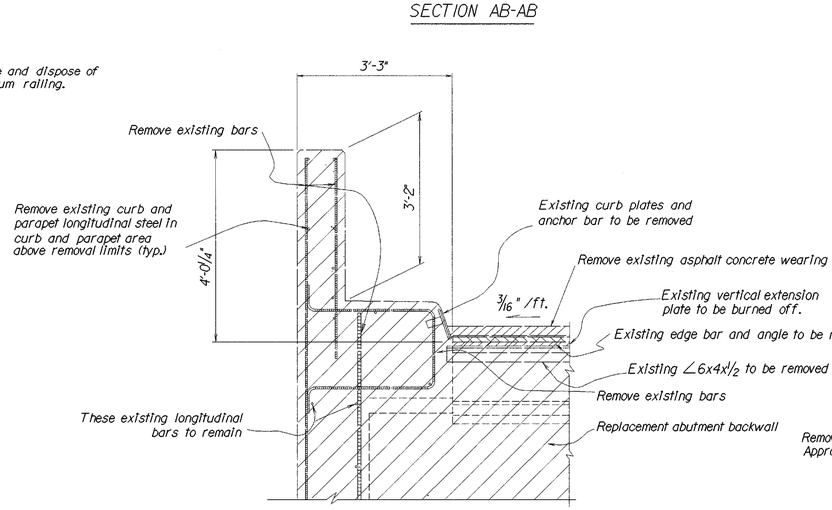
SECTION AB-AB



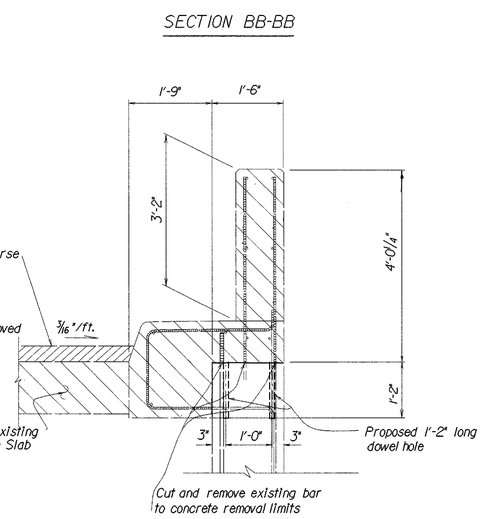
SECTION BB-BB



SECTION EE-EE



SECTION DD-DD
(Over East Abutment backwall)



SECTION CC-CC

Proposed concrete removal area

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

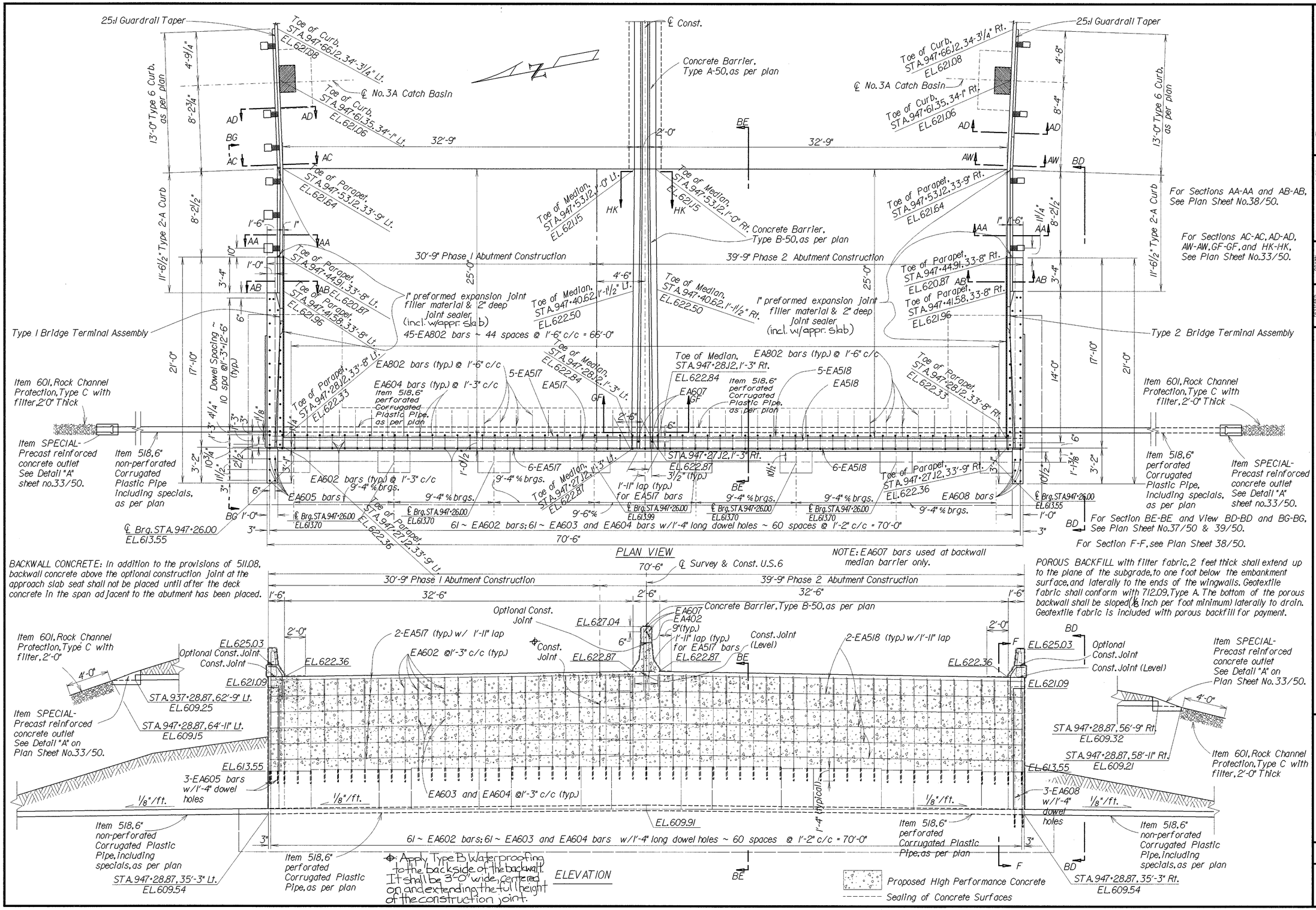
FORWARD (EAST) ABUTMENT REMOVAL DETAILS
EXISTING WINGWALL PARAPET
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

35/50

70/85

/SRVI/PD/ODOT/SA61763.DGN



/SRVI/PD/ODOT/SA6IT4.DGN

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

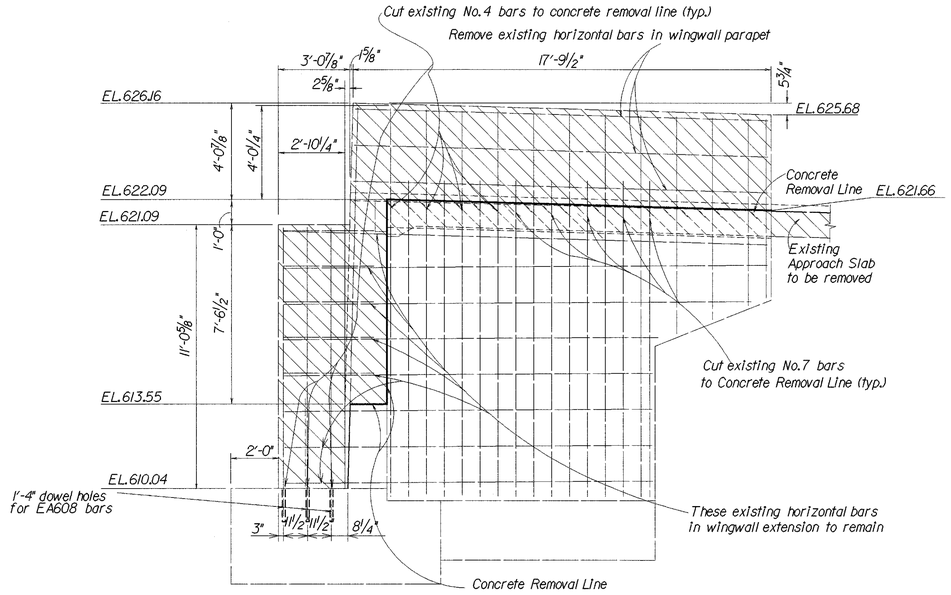
DESIGNED JML | DRAWN ALS | CHECKED LLL | REVISED | REVISED DAB | DATE 5-5-95 | STRUCTURE FILE NUMBER 7200579

FORWARD (EAST) ABUTMENT DETAILS
PROPOSED BACKWALL, WINGWALL AND APPROACH SLAB
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

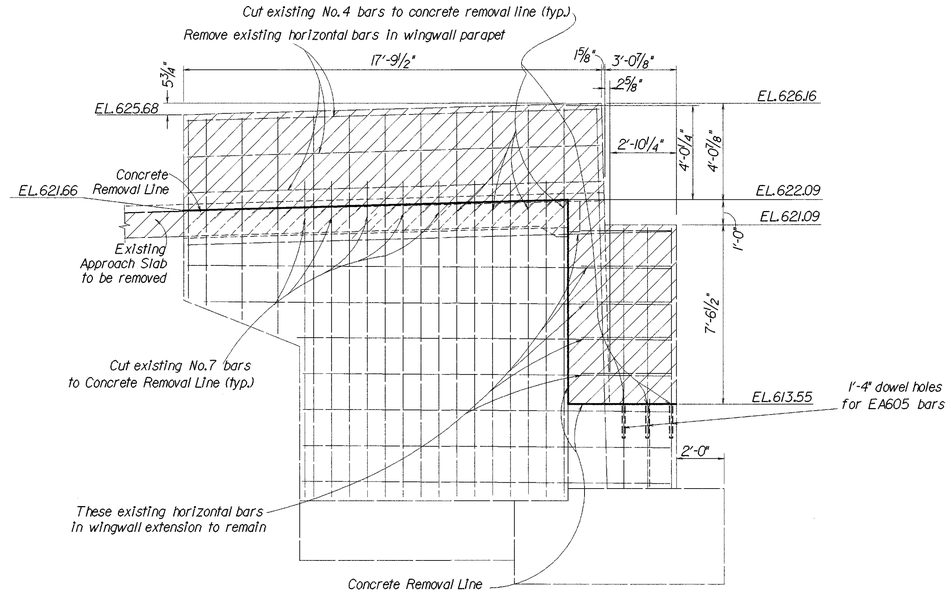
36 / 50

71 / 85



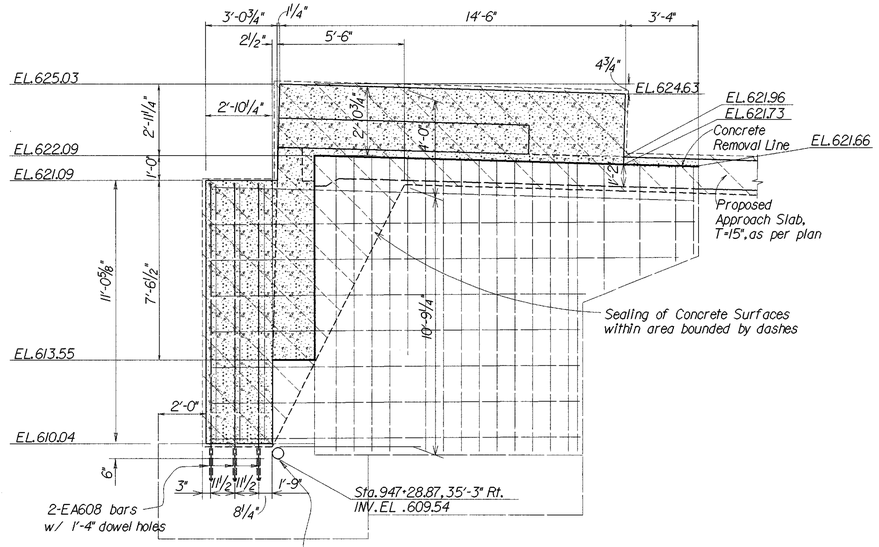
VIEW CD-CD

(See Sheet 34/50)



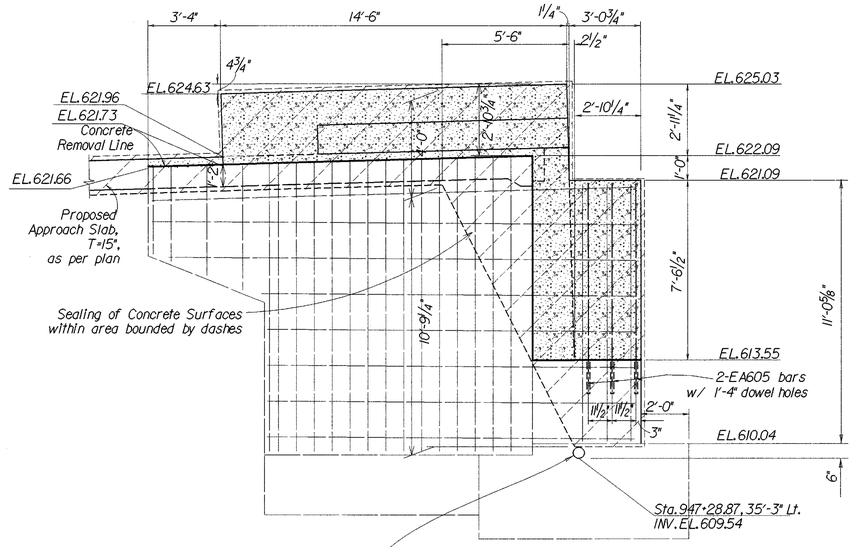
VIEW FG-FG

(See Sheet 34/50)



VIEW BD-BD

(See Sheet 36/50)



VIEW BG-BG

(See Sheet 36/50)

Proposed High Performance Concrete

& Sealing of Concrete Surfaces

/SRV1/PD/ODOT/SA6IT60.DGN

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 12
DESIGN DEPARTMENT

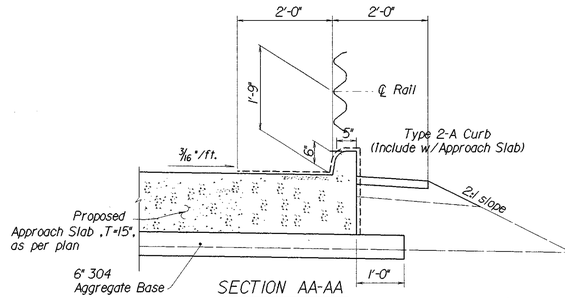
DESIGNED JML | DRAWN ALS | REVIEWED DAB | DATE 5-5-95
CHECKED LLL | REVISED | STRUCTURE FILE NUMBER 7200579

FORWARD (EAST) ABUTMENT REMOVAL DETAILS
PROPOSED BACKWALL, WINGWALL AND APPROACH SLAB
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

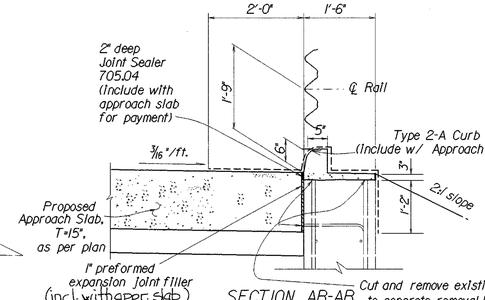
SAN-6-17.51

37/50

72/85

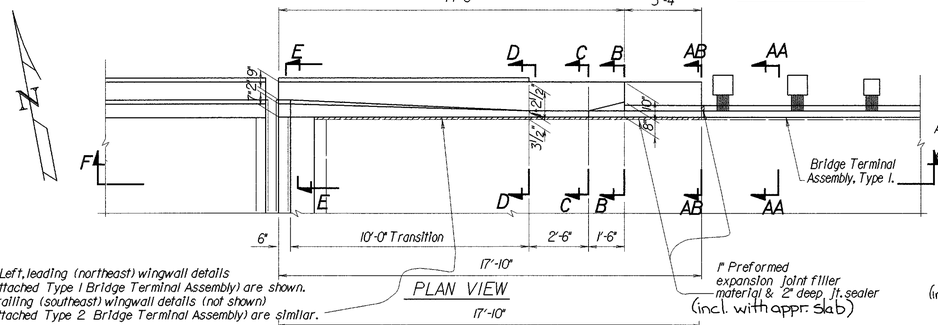


SECTION AA-AA



SECTION AB-AB

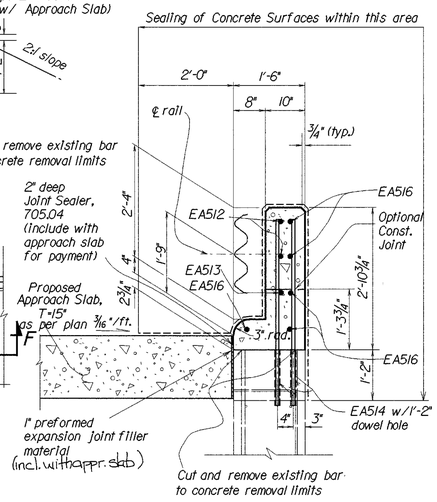
Cut and remove existing bar
to concrete removal limits



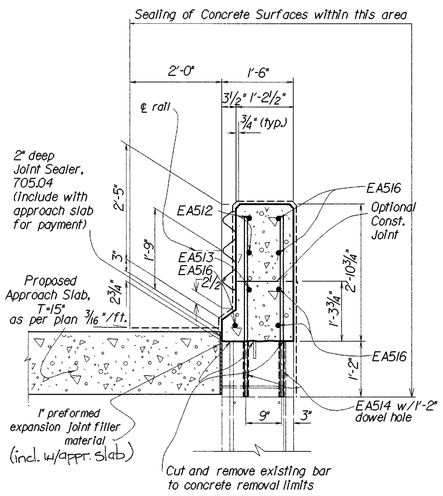
NOTE: Left, leading (northeast) wingwall details
(with attached Type I Bridge Terminal Assembly) are shown.
Right, trailing (southeast) wingwall details (not shown)
(with attached Type 2 Bridge Terminal Assembly) are similar.

PLAN VIEW

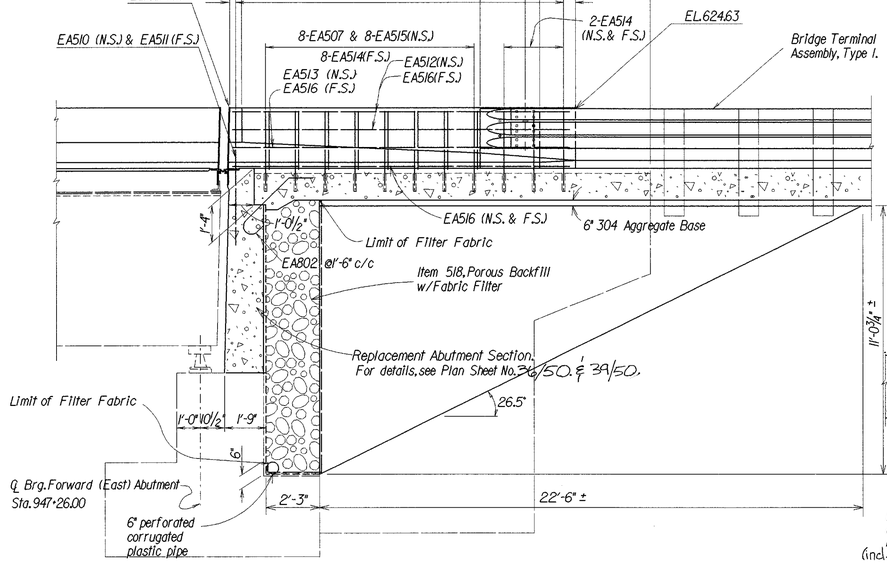
1" Preformed
expansion joint filler
material & 2" deep, Jt. sealer
(incl. with appr. Slab)



SECTION B-B



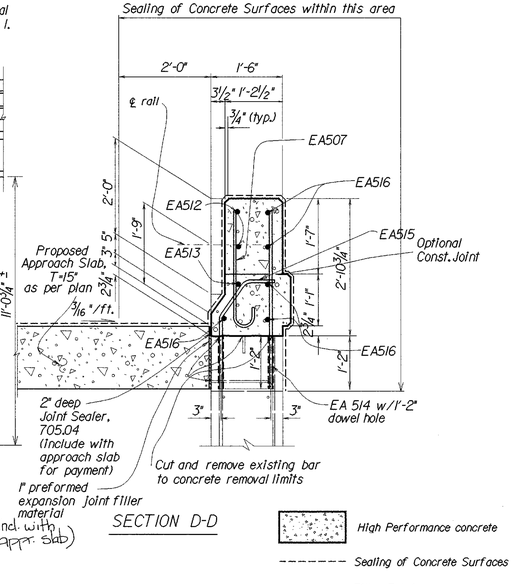
SECTION C-C



SECTION F-F

(See Sheet 36/50)

N.S. = Near Side
F.S. = Far Side

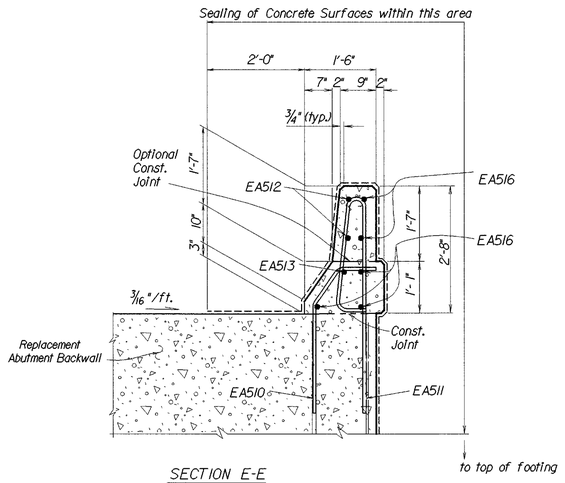


SECTION D-D

High Performance concrete

Sealing of Concrete Surfaces

Filter Fabric



SECTION E-E

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED JML
DRAWN ALS
CHECKED LLL
REVISED
REVIEWED DAB 5-5-95
DATE
STRUCTURE FILE NUMBER 7200579

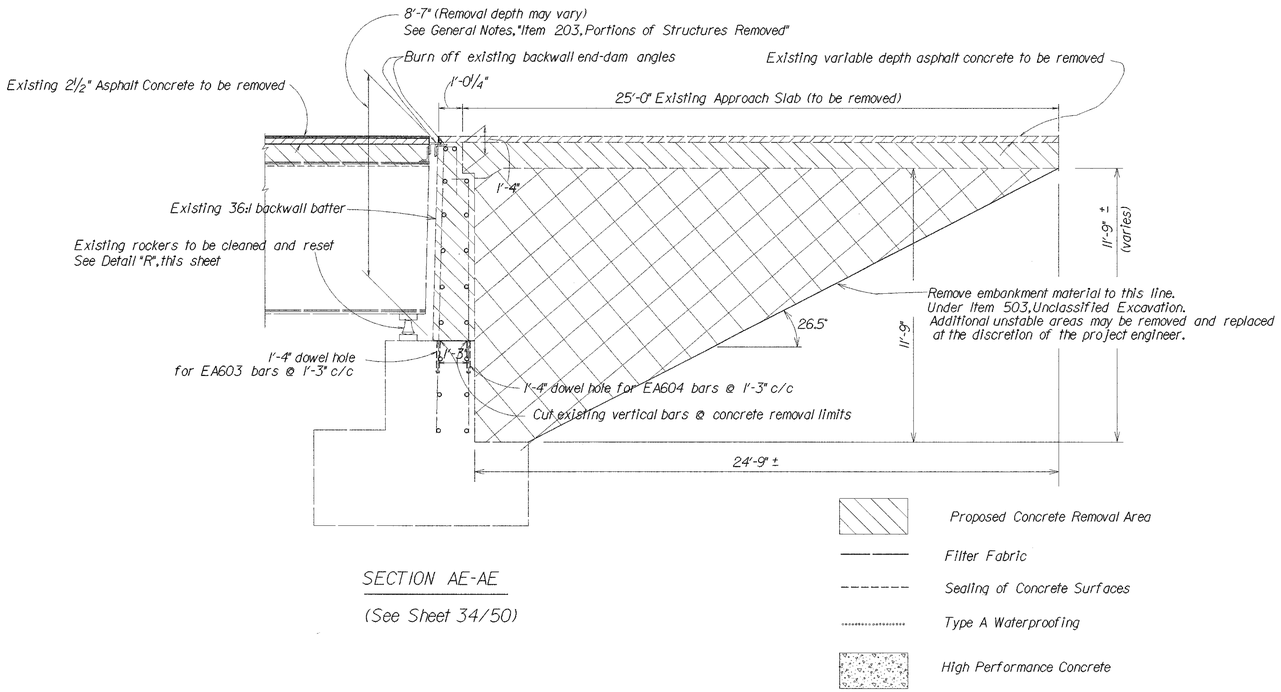
FORWARD (EAST) ABUTMENT DETAILS
PROPOSED WINGWALL DEFLECTOR PARAPET
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

38/50

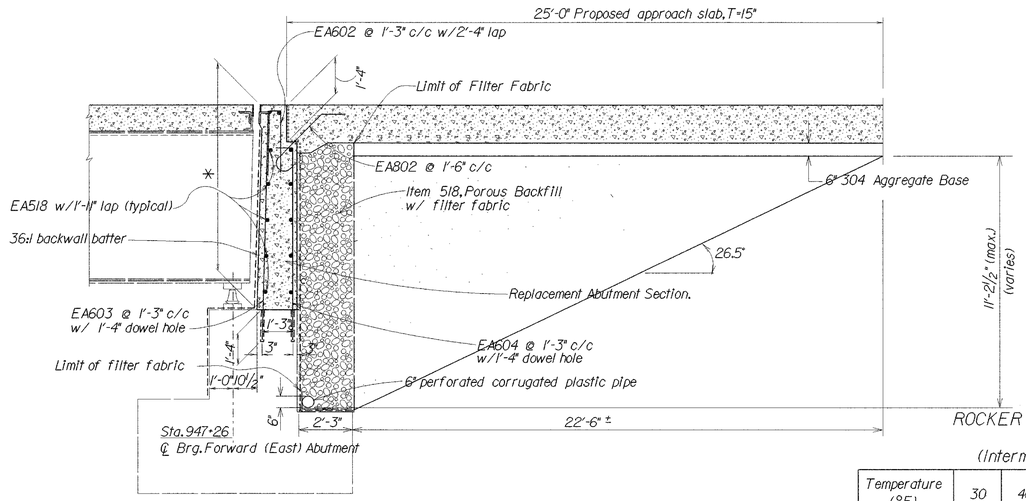
73/85

/1/pd/odot/SA6176I.DGN



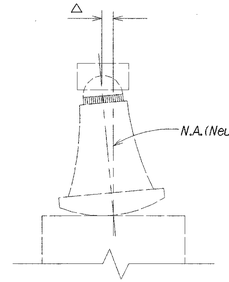
SECTION AE-AE

(See Sheet 34/50)



SECTION BE-BE

(See Sheet 36/50)



DETAIL R

ROCKER RESETTING TABLE
Pier 3
(Intermediate Hinge Joint)

Temperature (°F)	30	40	50	60	70	80	90
△-Offset (Inches)	11/16	7/16	1/4	0	1/4	7/16	11/16

ROCKER RESETTING TABLE
Forward Abutment

Temperature (°F)	30	40	50	60	70	80	90
△-Offset (Inches)	9/16	3/8	3/16	0	3/16	3/8	9/16

NOTE: "△" is the distance of centerline of the top rocker plate from the vertical neutral axis of the rocker (See Detail "R", this sheet)

✳ ~ Backwall height varies
See Plan Sheet No. 36/50.
For proposed backwall elevations

NOTE:
SECTION AE-AE (Existing and Proposed),
refers to Plan Sheet No. 69/85.
SECTION BE-BE
refers to Plan Sheet No. 71/85.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

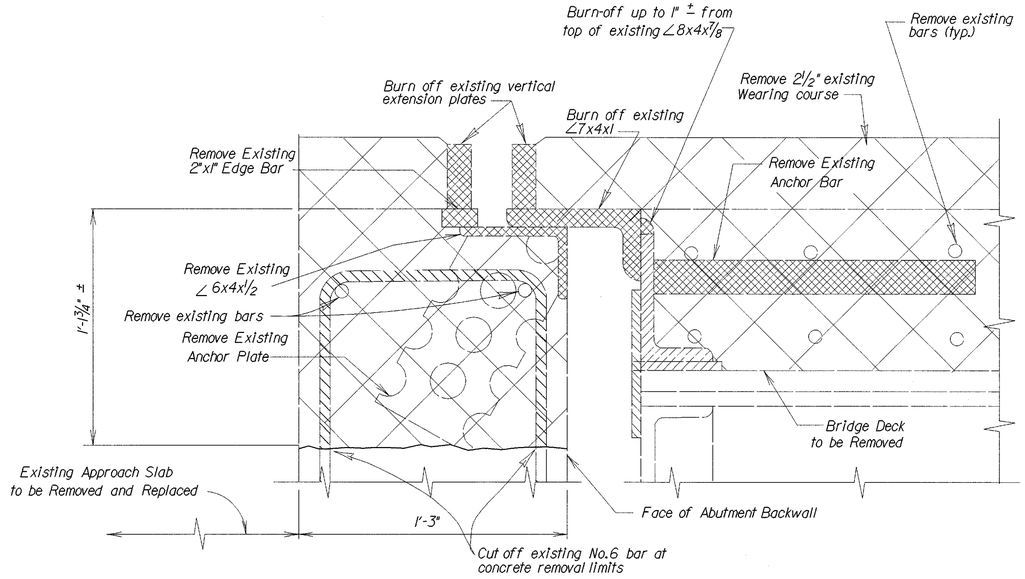
FORWARD (EAST) ABUTMENT REMOVAL DETAILS
PROPOSED BACKWALL, WINGWALL AND APPROACH SLAB
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

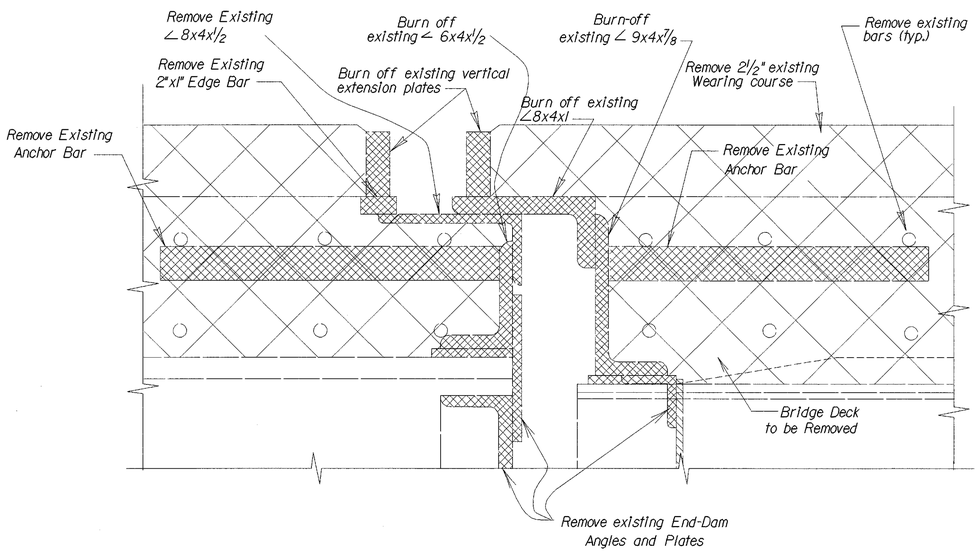
39/50

74/85

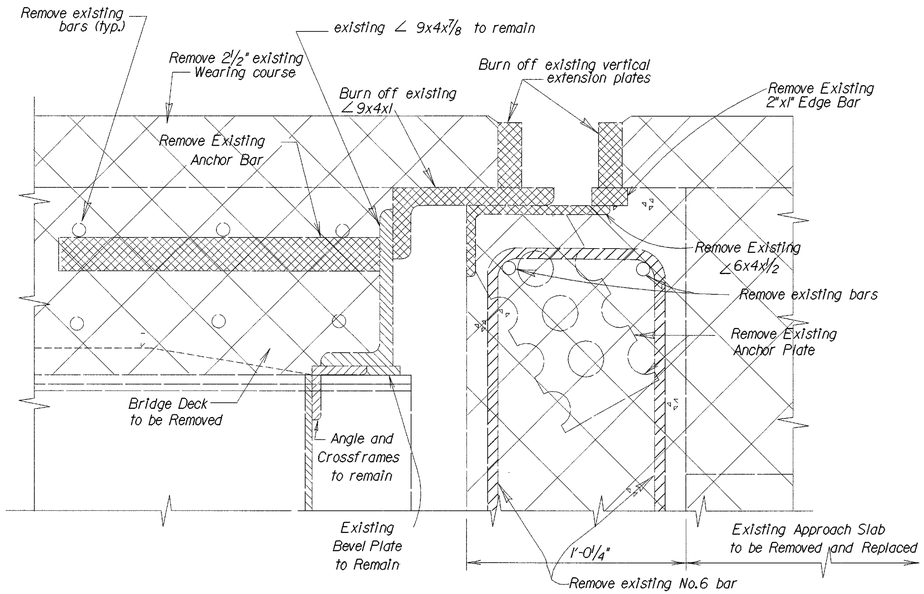
/SRV1/PD/ODOT/SA6T60.DGN



~DETAIL "A"~
Existing End Dam Removal
at Rear (West) Abutment
(Shown @ ℄ of Existing Beam)



~DETAIL "B"~
Existing End Dam Removal
at Pier 3
(Shown @ ℄ of Existing Beam & Girder)



~DETAIL "C"~
Existing End Dam Removal
at Forward (East) Abutment
(Shown @ ℄ of Existing Girder)

LEGEND:

Existing Concrete and Wearing Course (to be removed)

Existing End-Dam Structural Steel (to be removed)

Existing End-Dam Structural Steel (to remain)

/SRV1/PD/ODOT/SA6I168.DGN

OHIO DEPARTMENT OF TRANSPORTATION
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DESIGN DEPARTMENT

DESIGNED JML | DRAWN ALS | CHECKED LLL | REVISED

REVIEWED DAB 5-5-95 | DATE

STRUCTURE FILE NUMBER 7200579

DECK EXPANSION JOINT END DAM
REMOVAL DETAILS
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

40/50

75/85

30'-9" Stage 2 Deck Construction | 4'-6" Stage 5 Deck Construction Closure Pour | 4'-6" Stage 5 Deck Construction Closure Pour | 30'-9" Stage 3 Deck Construction

2'-6" | 1'-6" | 32'-6" | 4'-9" | 1'-3" | 1'-3" | 4'-9"

℄ Existing Rolled Beam | ℄ Existing Rolled Beam | ℄ Existing Rolled Beam

Proposed Deflector Parapet

Face of Proposed Deflector Parapet

Curb Face of Proposed Median Barrier

Curb Face of Proposed Median Barrier

½" ϕ x4" end-welded stud anchors (typ.)

Face of Abutment Backwall

Concrete Limits

Proposed ∠ 3x3x½

Existing ∠ 8x4x⅞ to remain as cut

Proposed ∠ 3x3x½

Existing ∠ 8x4x⅞ to remain as cut

Proposed ∠ 3x3x½

Existing ∠ 8x4x⅞ to remain as cut

Const. Joint

Const. Joint

Proposed Anchor Bar (typ.)

Bridge Deck Limits

Proposed ∠ 7x4x½

Steel Retainer

1'-3"

Proposed ∠ 7x4x½

Proposed ∠ 7x4x¾

Proposed ∠ 7x4x½

Steel Retainer

Const. Joint

Proposed Anchor Plate (typ.)

6"

Preformed elastometric joint sealer, 705.11

Approach Slab Seat

Abutment Backwall

Proposed Approach Slab

30'-9" Stage 1 Abutment Construction

39'-9" Stage 2 Abutment Construction

1'-6"

G | H | I | J | K | L

PLAN

For Dimension "A", See Table "B" of Std. Drwg. EXJ-4-87. and plan sheet no. 6/50

typ. ¼ ¼ 2-6

2" Steel Retainer

Burn off 1" ± from top of existing ∠ 8x4x⅞ as directed by the Engineer

½" min. to ⅝" max. Ø vent hole @ 9" c/c (typ.)

Proposed ∠ 7x4x½

"A"

1½"

Proposed ∠ 3x3x½

⅜" x6" x11" anchor plate

¼" (typ.)

Top: ES601 @ 6¾" c/c (typ.)

1'-1¾" ± Limit of Backwall Concrete Replacement with Class C concrete

4½"

6¾"

2½"

3" cl. (typ.)

2⅜" cl. (typ.)

9/16" @ ℄ top of exist. beam flange

Proposed Replacement Approach Slab, T-12" See std. drawing AS-1-81

60°

¼"

EA518

Existing ∠ 8x4x⅞ to remain ℄ Bearing

Bottom: ES514 @ 6¾" c/c (typ.)

5/16

EA601 @ 1'-3" c/c w/ 1'-4" long dowel hole

Elastomeric Strip Seal Gland

EA801 @ 1'-3" c/c w/ 2'-4" long dowel hole

5¼" | 9" | 3" (typ.) | 5⅛" @ 60°F | 5½" ± | 5" | 5" | 1'-3"

Proposed elastomeric bearing with steel load plate (See detail on plan sht. no. 32/50)

Slope face of backwall as required to obtain Dimension "A"

~SECTION K-K~

(Proposed End Dam Modification)

(@ ℄ Existing Beams)

——Type A Waterproofing

For Sections "G-G" and "H-H", see Plan Sheet No. 43/50

For Sections "I-I" and "J-J", see Plan Sheet No. 42/50

(Symmetric about) ℄ Const.

℄ Survey U.S. 6

typ. ¼ ¼ 2-6

2" Steel Retainer

For Dimension "A", See Table "B" of Std. Drwg. EXJ-4-87. and plan sheet no. 6/50

Burn off 1" ± from top of existing ∠ 8x4x⅞ as directed by the Engineer

½" min. to ⅝" max. Ø vent hole @ 9" c/c (typ.)

Anchor bars ½" x2" x1'-6", to be installed perpendicular to the joint face of the angle, and located immediately below the upper deck slab reinforcing steel

Top: ES601 @ 6¾" c/c (typ.)

Proposed ∠ 7x4x½

"A"

⅜" x6" x11" anchor plate

¼" (typ.)

Proposed ∠ 3x3x½

½" x3" x6" Plate "B"

1½"

1'-1¾" ± Limit of Backwall Concrete Replacement with Class C concrete

4½"

6¾"

2½"

3" cl. (typ.)

1½" cl. (typ.)

8¾"

3/16"

Proposed Replacement Approach Slab, T-12" See std. drawing AS-1-81

60°

¼"

EA518

Const. Jt.

EA601 @ 1'-3" c/c w/ 1'-4" long dowel hole

Elastomeric Strip Seal Gland

5/16

Existing ∠ 8x4x⅞ to remain

Bottom: ES514 @ 6¾" c/c (typ.)

EA801 @ 1'-3" c/c w/ 2'-4" long dowel hole

5¼" | 9" | 3" (typ.) | 5⅛" @ 60°F | 5½" ±

1'-3"

Slope face of backwall as required to obtain Dimension "A"

~SECTION L-L~

(Proposed End Dam Modification)

(between Interior Beams)

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED | DRAWN | REVIEWED | DATE

CHECKED | REVISED | STRUCTURE FILE NUMBER 7200579

DECK EXPANSION JOINT DETAILS AT REAR (WEST) ABUTMENT
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

41/50

76/85

I:\PD\ODOT\JOE\SA61715.dgn

End Dam Work During Stage 2 Abutment Construction

End Dam Work During Stage 1 Abutment Construction

Symmetric about ℄

℄ Survey U.S.6

2'-6"

32'-6" f/f

7" 2" 6" 6" 2" 7"

1" (typ.)

2½" (typ.)

6"

EA606 w/1'-4" dowel holes

EA401

7½" 7½"

3" (typ.)

Edge of ½" plate

crown pt.

Steel Retainer

Proposed ∠7x4x½

3/16"/ft.

3" (typ.)

30° (typ.)

1'-8¼" (typ.)

1'-1¾"

1'-1½"

k-2½" 1" 1'-2½"

CP

1'-6" 1'-6" 1'-6" 6" 11½" 3½" 3½" 11½" 6" 1'-6" 1'-6" 1'-6"

Anchor Bar Spacing (typ.)

½" Φ x4" end-welded stud anchors

Concrete Removal Limits

1'-6" Anchor Plate Spacing (typ.)

~SECTION J-J~

(Refer to Plan Sheet No. 41/50)

Proposed Safety Parapet Barrier. For details including reinforcement schedule, See Plan Sheet No. 9/50, 10/50, 13/50 & 16/50.

1'-6"

7" 2" 9"

1" (typ.)

7½" 3½"

3" (typ.)

Edge of ½" plate

const. joint

1'-9¼"

1'-2"

3"

Miter & Weld Steel Retainer

1'-6" c/c Anchor Bar Spacing (typ.)

1'-6" 1'-6" 6" 1'-2½"

½" Φ x4" end-welded stud anchors

~SECTION I-I ~

(Refer to Plan Sheet No. 41/50)

Sections "J-J" and "I-I" refer to West Abutment on Plan Sheet No. 41/50

▲ ~ 0" min., ½" max. to breakpoint in retainer

High Performance Concrete

I/PD/ODOT/JOE/SA61724.DGN

ODOT DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 DESIGN DEPARTMENT

DESIGNED JML DRAWN ALS CHECKED LLL REVIEWED DAB REVISED DATE 5-5-85

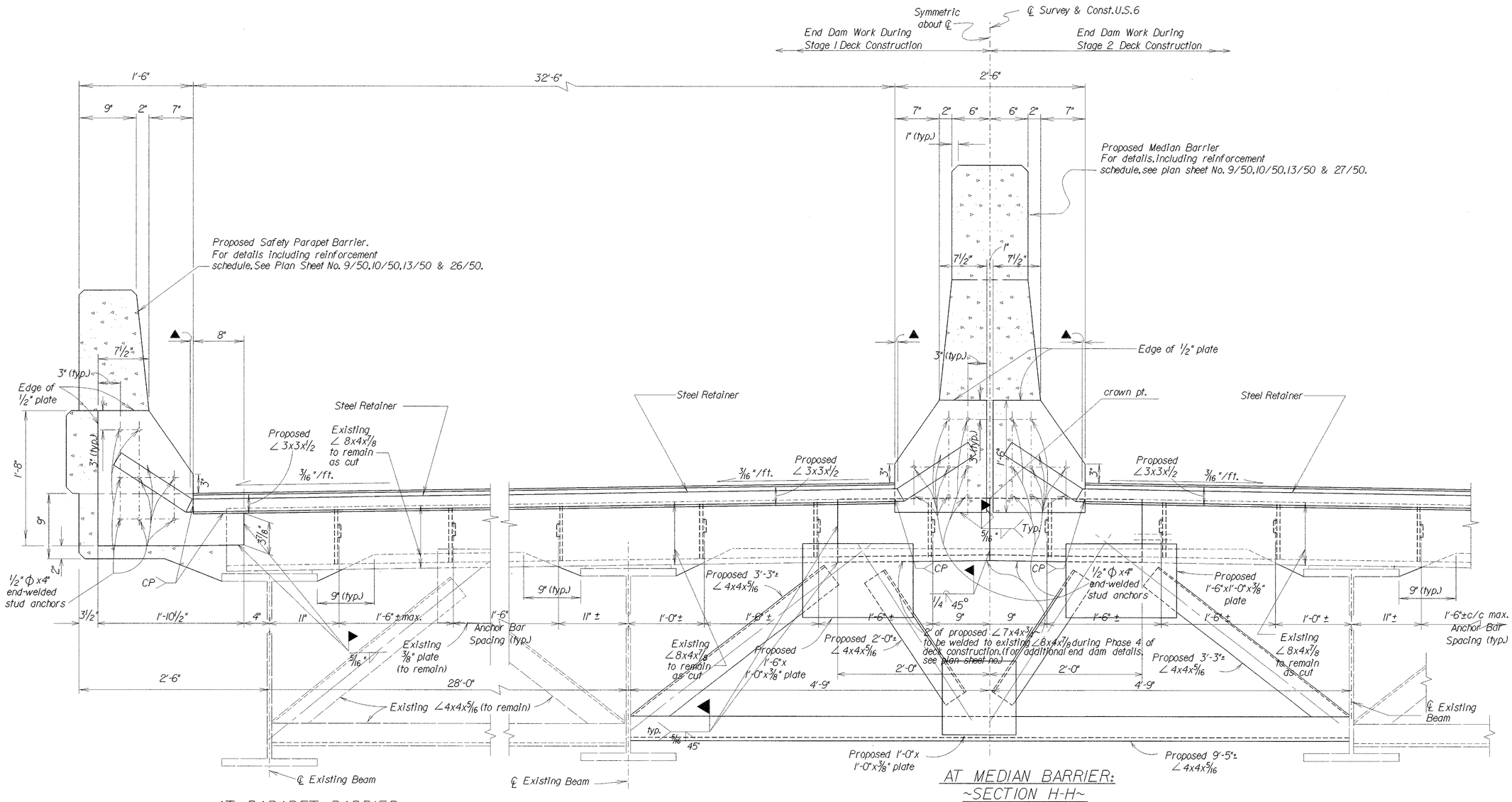
STRUCTURE FILE NUMBER 7200579

DECK EXPANSION JOINT DETAILS AT REAR (WEST) ABUTMENT BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

42 / 50

77 / 85



AT PARAPET BARRIER:
~SECTION G-G~
(Refer to Plan Sheet No. 41/50)

AT MEDIAN BARRIER:
~SECTION H-H~
(Refer to Plan Sheet No. 41/50)

▲ ~ 0" min., ½" max. to breakpoint in retainer

For Sections "G-G" and "H-H", refer to Plan Sheet No. 41/50

For additional cross framing details, see Plan Sheet No. 18/50

High Performance Concrete

I/PD/ODOT/JOE/SA6176.DGN

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED | DRAWN | CHECKED | REVIEWED | REVISED | DATE

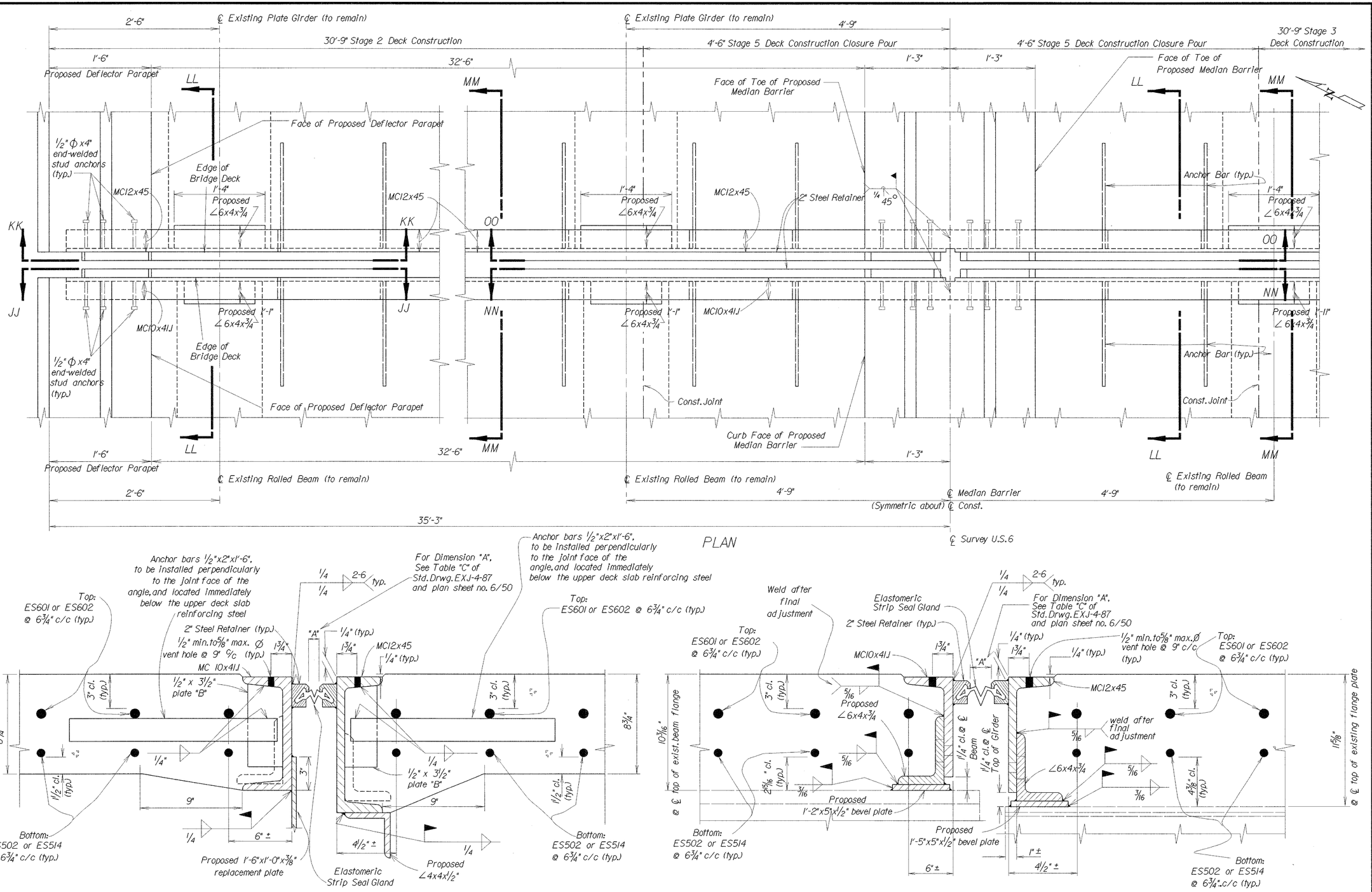
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DECK EXPANSION JOINT DETAILS
AT REAR (WEST) ABUTMENT AND
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

43/50

78/85



~SECTION MM-MM~
(Proposed End Dam Modification)
(between Interior Beams and Girders)

~SECTION LL-LL~
(Proposed End Dam Modification)
(@ ℄ Existing Beams and Girders)

For Sections "KK-KK" and "00-00", refer to Plan Sheet No. 46/50
For Sections "NN-NN" and "JJ-JJ", refer to Plan Sheet No. 45/50

I/PD/ODOT/JOE/SA6171T.DGN

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT NO. 2
DESIGN DEPARTMENT

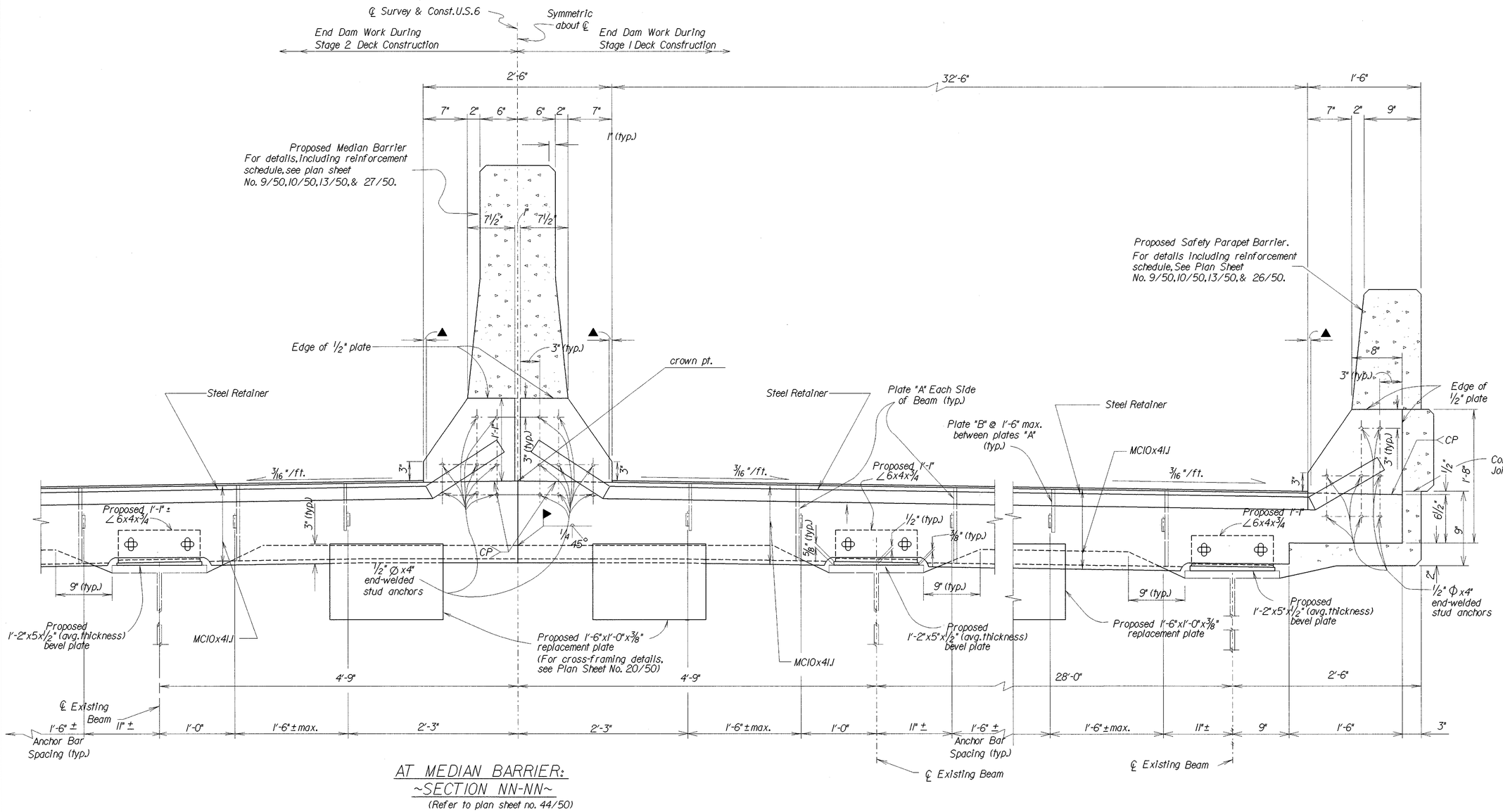
DESIGNED	DRAWN	REVIEWED	DATE
CHECKED	REVISED	STRUCTURE FILE NUMBER 7200579	

DECK EXPANSION JOINT DETAIL AT PIER 3
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

44 / 50

79 / 85



AT MEDIAN BARRIER:
~SECTION NN-NN~
(Refer to plan sheet no. 44/50)

▲ ~ 0" min., 1/2" max. to breakpoint in retainer

Sections "JJ-JJ" and "NN-NN" refer to Plan Sheet No. 44/50

High Performance Concrete

AT PARAPET BARRIER:
~SECTION JJ-JJ~
(Refer to Plan Sheet No. 44/50)

I/PD/ODOT/JOE/SA6I716.DGN

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

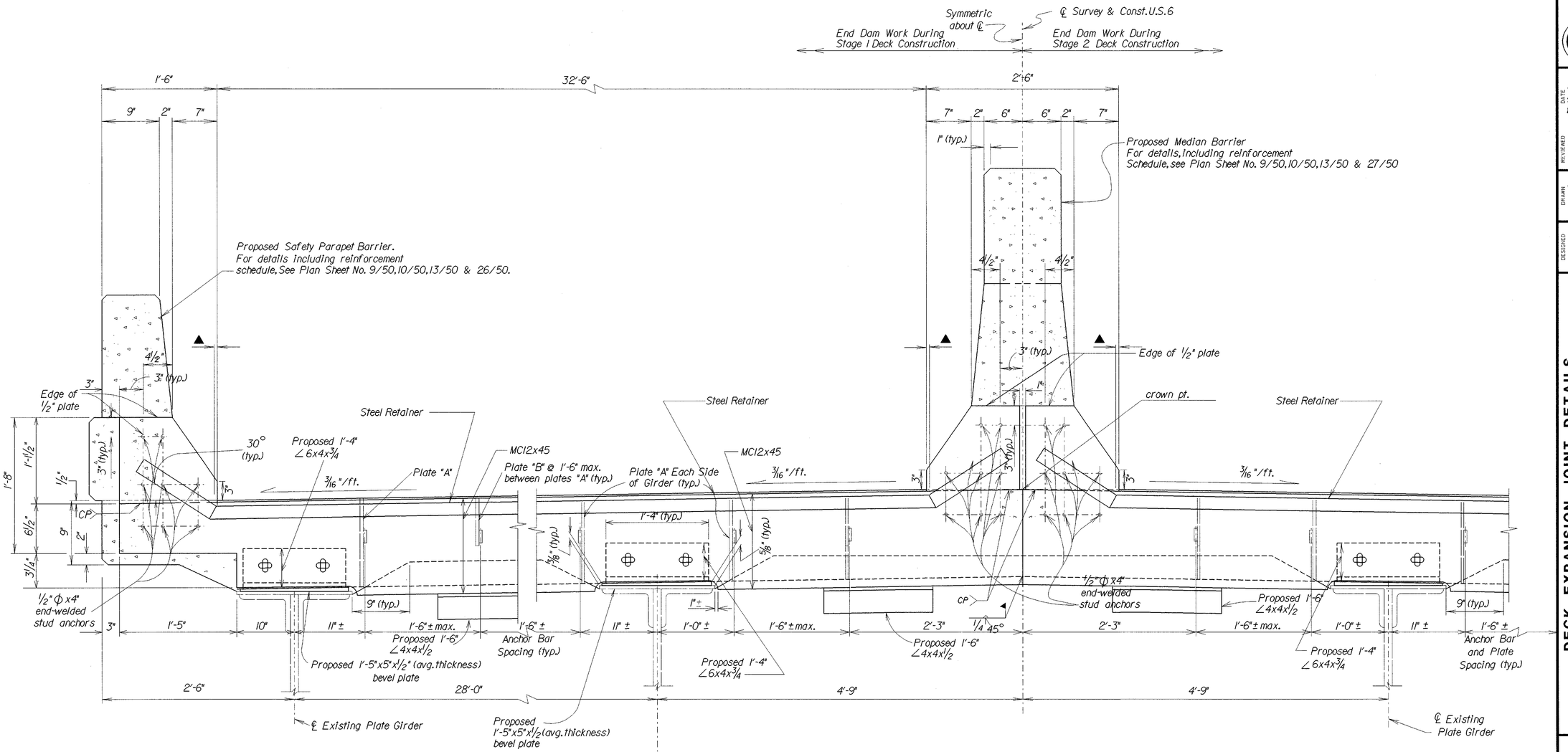
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JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

DECK EXPANSION JOINT DETAILS
AT PIER 3
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

45 / 50

80 / 85



AT PARAPET BARRIER:
~SECTION KK-KK~
(Refer to Plan Sheet No. 44/50)

AT MEDIAN BARRIER:
~SECTION 00-00~
(Refer to Plan Sheet No.44/50)

▲ ~ 0" min., ½" max. to breakpoint in retainer

For Sections "KK-KK" and "00-00", refer to Plan Sheet No. 44/50

High Performance Concrete

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OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

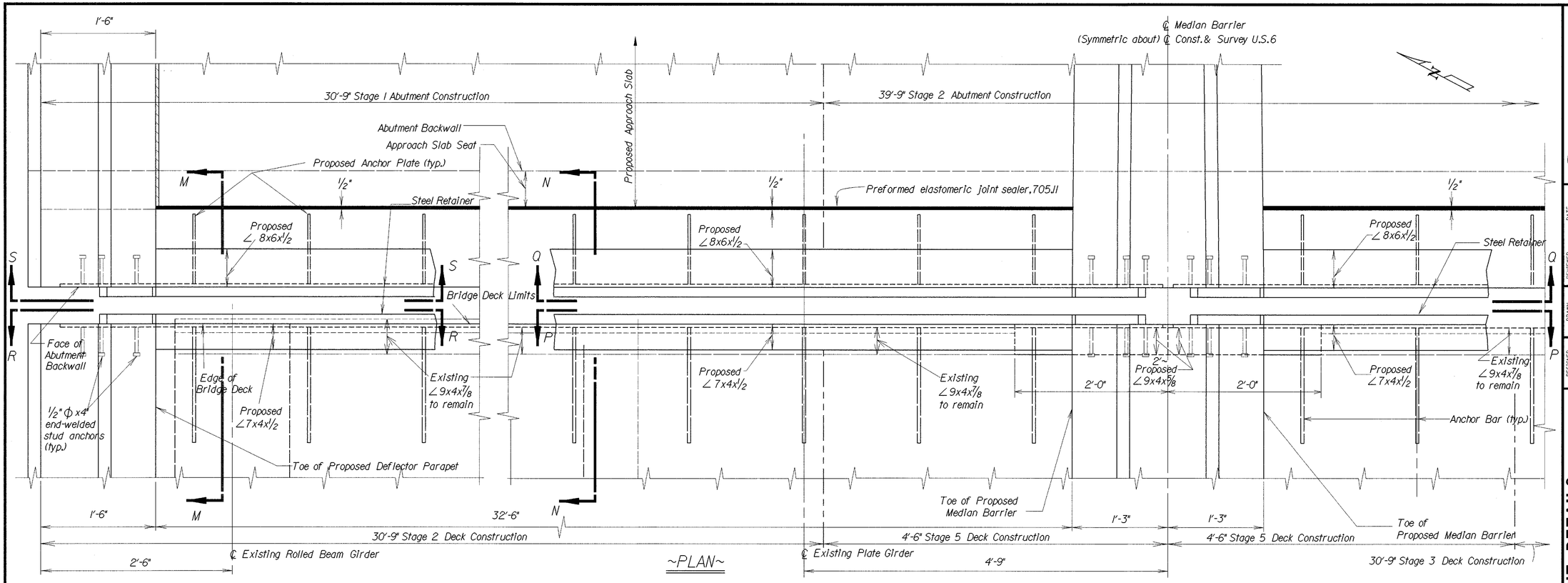
DESIGNED JML | DRAWN ALS | REVIEWED DAB | DATE 5-5-98
CHECKED LLL | REVISED | STRUCTURE FILE NUMBER 7200579

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BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

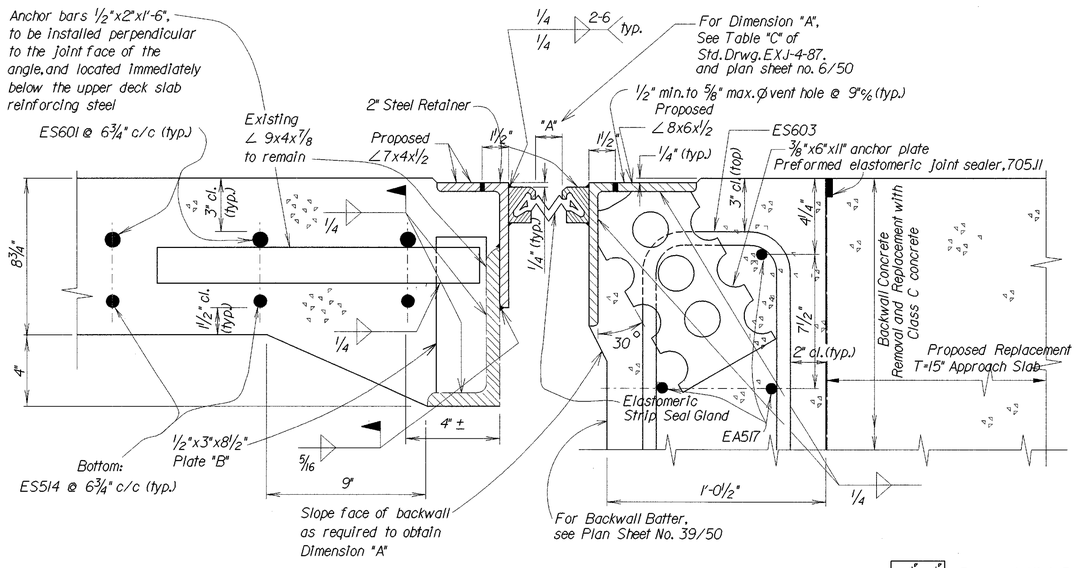
SAN-6-17.51

46 / 50

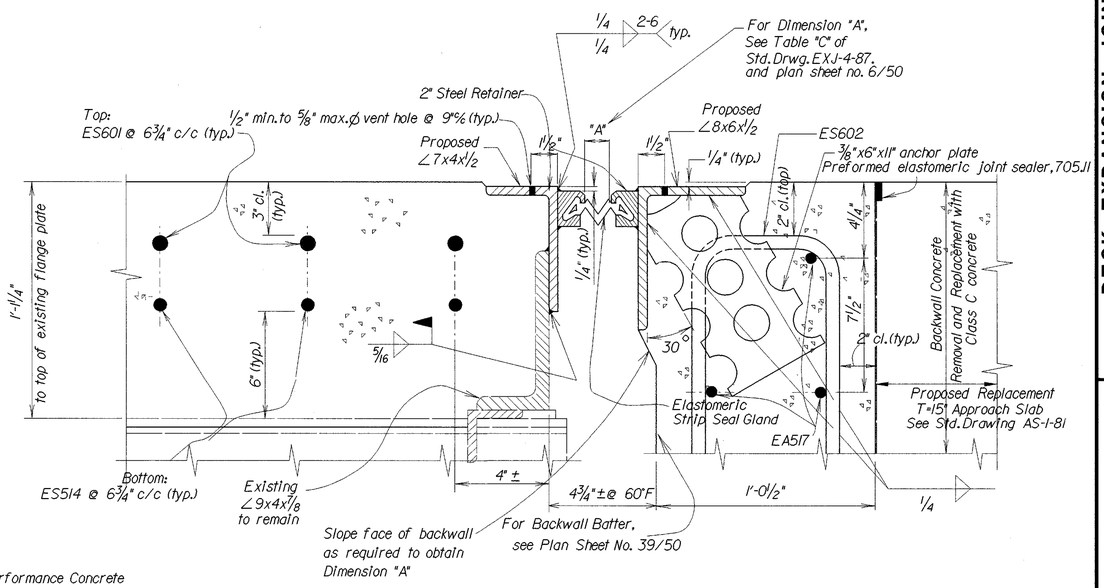
81 / 85



~PLAN~



~SECTION N-N~
(Proposed End Dam Modification)
(Between Interior Girders)



~SECTION M-M~
(Proposed End Dam Modification)
(@ ℄ Existing Girders)

Proposed High Performance Concrete

Type A Waterproofing
For Sections "R-R" and "P-P", see Plan Sheet No. 49/50
For Sections "S-S" and "Q-Q", see Plan Sheet No. 48/50

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

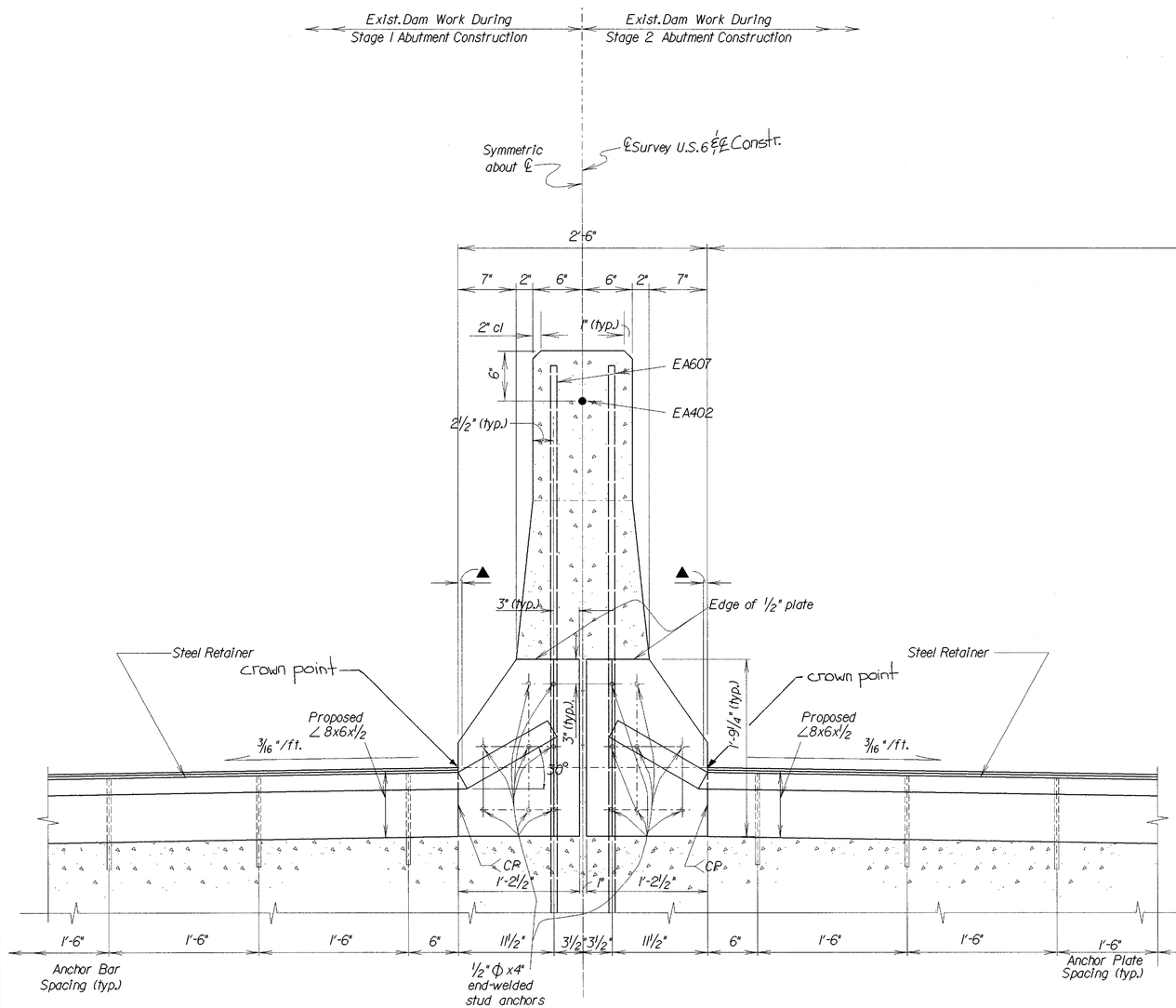
DECK EXPANSION JOINT DETAILS AT FORWARD (EAST) ABUTMENT BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

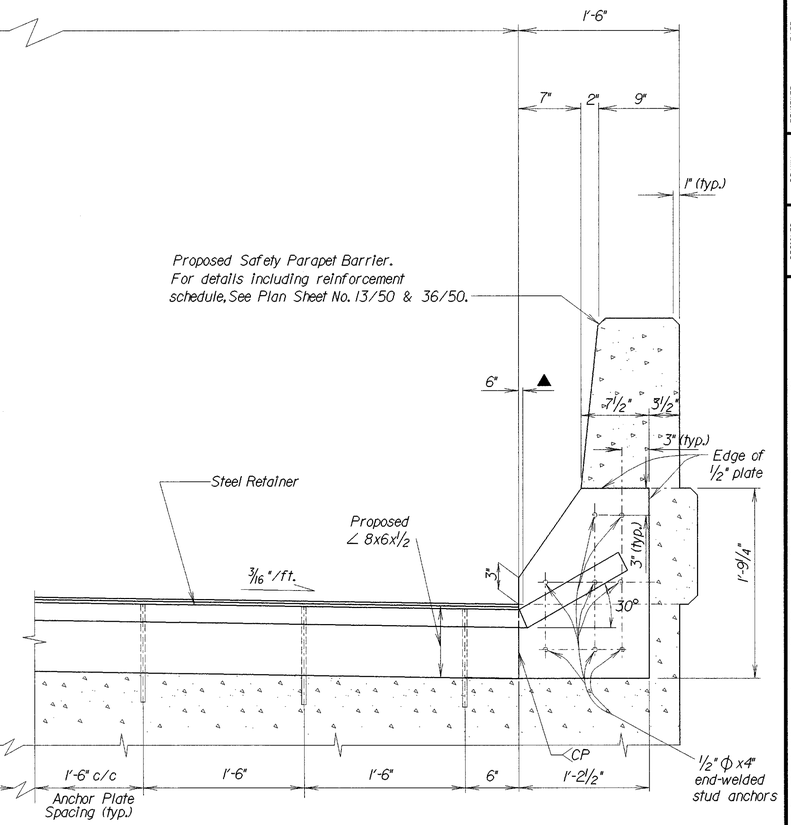
47 / 50

82 / 85

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~SECTION S-S~
(at Median Barrier)
(Refer to Sheet No. 47/50)



~SECTION Q-Q~
(at Parapet Barrier)
(Refer to Sheet No. 47/50)

▲ ~ 0" min., 1/2" max. to breakpoint in retainer

Sections "S-S" and "Q-Q" refer to Forward Abutment on Plan Sheet No. 47/50

High Performance Concrete

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JML	ALS	DAB	5-5-95
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

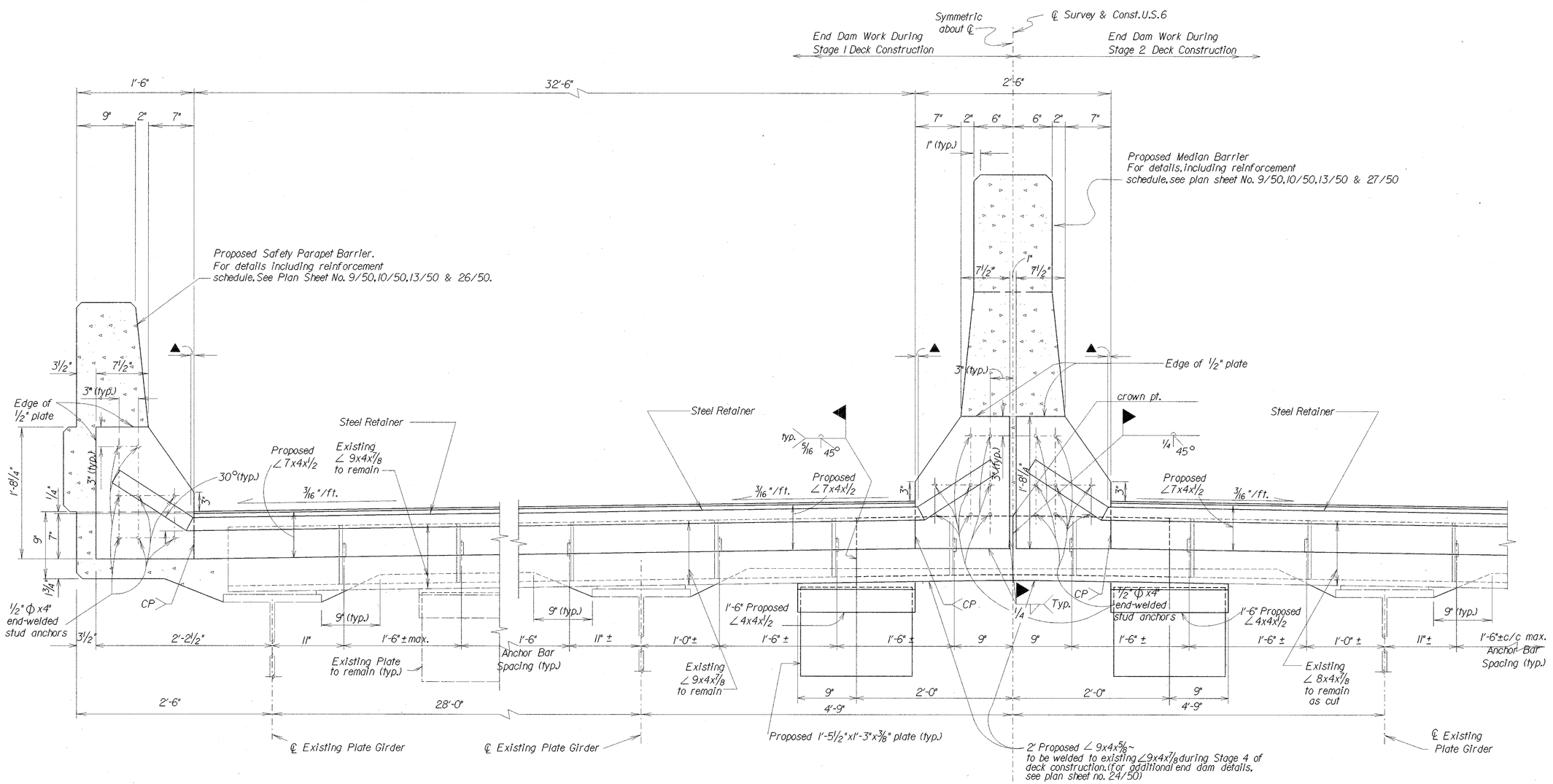
DECK EXPANSION JOINT DETAILS AT FORWARD (EAST) ABUTMENT BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

48 / 50

83 / 85

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AT PARAPET BARRIER:
~SECTION R-R~
(Refer to Plan Sheet No. 47/50)

AT MEDIAN BARRIER:
~SECTION P-P~
(Refer to Plan Sheet No. 47/50)

▲ ~ 0" min., ½" max. to breakpoint in retainer

For Sections "P-P" and "R-R", refer to Plan Sheet No. 47/50

High Performance Concrete

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OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED | DRAWN | CHECKED | REVIEWED | REVISED | DATE

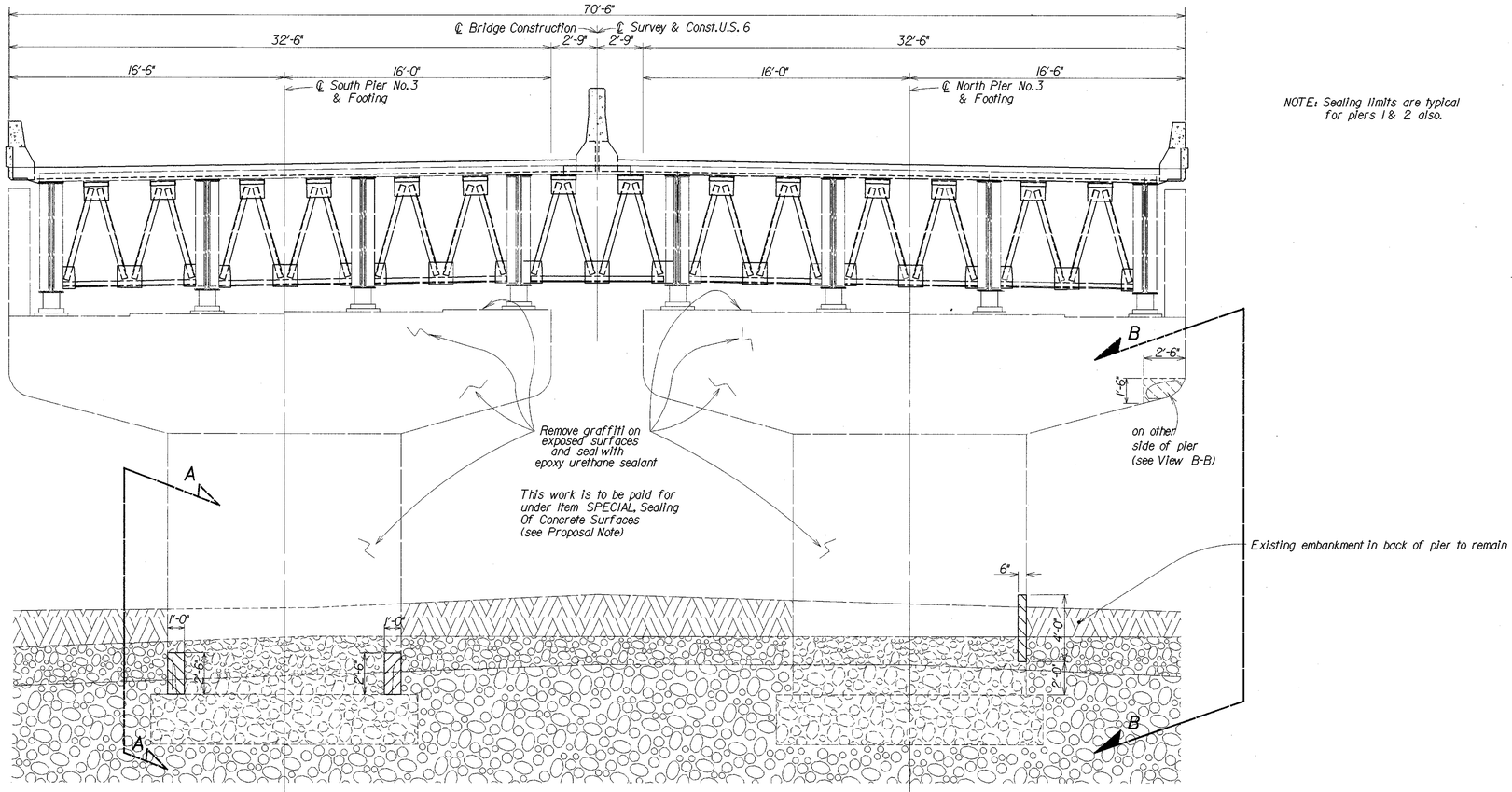
STRUCTURE FILE NUMBER 7200579

DECK EXPANSION JOINT DETAILS
AT FORWARD (EAST) ABUTMENT AND
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

49 / 50

84
85

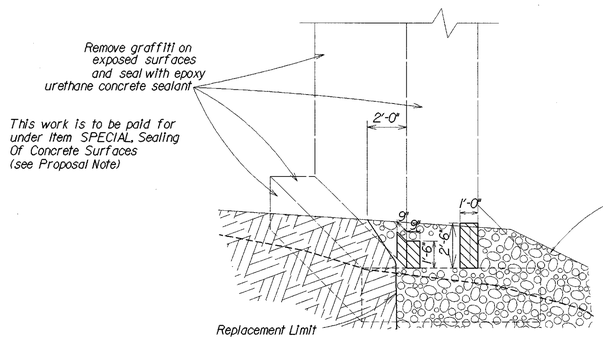


PLAN

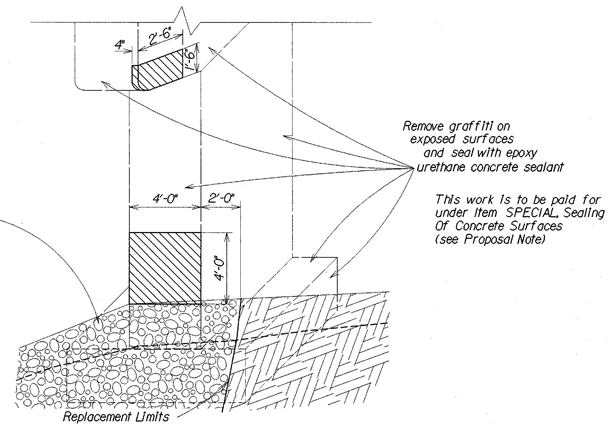
(looking Up station)

NOTE: Sealing limits are typical for piers 1 & 2 also.

Concrete Area to be patched



View A-A



View B-B

NOTE: prior to the applications of the epoxy sealant, the Engineer shall insure that all of the foreign materials/graffiti has been removed during the cleaning process.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JWL	ALS	DAB	5-5-85
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LLL		7200579	

STRUCTURE DETAILS
CONCRETE PATCHING OF PIER 3 COLUMNS
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

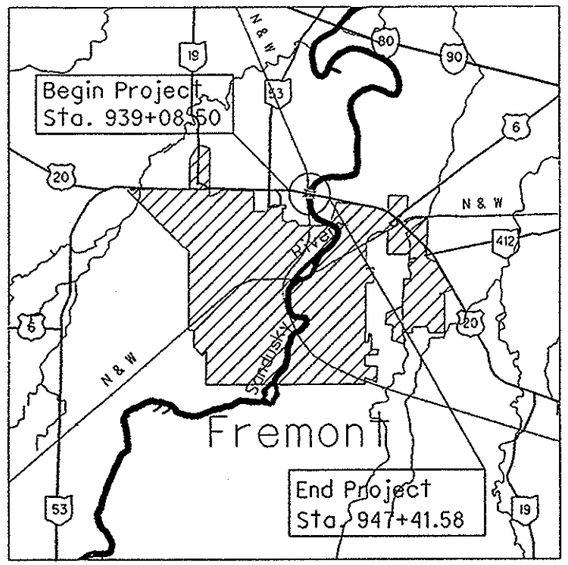
SAN-6-17.51

50 / 50

85
85

N:\DOT\JOE\SA6IT.PDLGN

2011 Exterior Parapet Rehab Plans



LOCATION MAP
41°22' LATITUDE 83°07' LONGITUDE
SCALE IN MILES
0 1 2 3 4

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
STATE & FEDERAL ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

	SAN-6
CURRENT ADT (2011)	25620
DESIGN YEAR ADT (2031)	31750
DESIGN HOURLY VOLUME (2031)	2860
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	29%
DESIGN SPEED	60MPH
LEGAL SPEED	55MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN PRINCIPAL ARTERIAL
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
ODOT - DISTRICT 2 - PRODUCTION

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SAN-6-17.51

SANDUSKY TOWNSHIP

SANDUSKY COUNTY

INDEX OF SHEETS:

TITLE SHEET	1
GENERAL NOTES AND SUMMARY	2
GENERAL PLAN	3
PARAPET DETAILS	4-5

PROJECT DESCRIPTION

REPLACEMENT OF PARAPETS ON BRIDGE OVER SANDUSKY RIVER ON U.S. 6 (SLM 17.51).

PROJECT EARTH DISTURBED AREA: 0.0 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A
(NOI Not Required)

2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE MAINTENANCE OF TRAFFIC OF THE HIGHWAY AND THAT IT WILL BE PROVIDED AS INDICATED ON STANDARD DRAWING MT-95.40.

STATE OF OHIO
DEREK A. HEITZMAN
E-73402
REGISTERED PROFESSIONAL ENGINEER

SIGNED: Derek Heitzman
DATE: 11-30-10

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
SBR-1-99					
MT-95.40				800	11/8/10
GR-2.1					
GR-3.1					
GR-3.2					
				SPECIAL PROVISIONS	

APPROVED
DATE 12-1-10 DISTRICT DEPUTY DIRECTOR

APPROVED Gene M. Molitoris
DATE 12-8-10 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E100 (725)
PID NO. 88988
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NORFOLK SOUTERN
SAN-6-17.51
1/5

SAN - US-6-17.51
110108 PID - 88988
Dist 2 2/24/2011

I:\projects\SAN\88988\Roadway\88988GT001.dgn 30-t

1. **REFERENCE SHALL BE MADE TO STANDARD DRAWING:**

SBR-1-99	DATED	1-12-99
MT-95.40	DATED	7-17-09
GR-2.1	DATED	1-16-04
GR-3.1	DATED	10-16-09
GR-3.2	DATED	10-16-09
MT-101.70	DATED	01-21-11

SUPPLEMENTAL SPECIFICATIONS:

SS 800 DATED 11-08-10

2. **DESIGN DATA:**

CONCRETE CLASS S - COMPRESSIVE STRENGTH
4500 psi (Superstructure)

REINFORCING STEEL - ASTM A615 OR A996
GRADE 60 MINIMUM YIELD
60000 psi

3. **EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

4. **ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:**

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE THE EXISTING CONCRETE PARAPETS BEING REPLACED BY NEW CONSTRUCTION. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER.

5. **ITEM 614, MAINTAINING TRAFFIC:**

SAN-6-1751 TRAFFIC WILL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT BY UTILIZING A LANE CLOSURE. THE LANE CLOSURE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING MT-95.40. THE PLACEMENT OF THE PORTABLE CONCRETE BARRIER SHALL BE AS DETAILED BELOW.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR MAINTAINING TRAFFIC IN ACCORDANCE WITH STANDARD DRAWING MT-95.40:

ITEM 614, WORK ZONE IMPACT ATTENUATOR, 2 EACH

ITEM 622, PORTABLE CONCRETE BARRIER, 32", 2120 FT

PAYMENT FOR THE FOLLOWING ITEMS REQUIRED TO MAINTAIN TRAFFIC IN ACCORDANCE WITH SD MT-95.40 SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

-WORK ZONE SIGNS AND SIGN SUPPORTS
-FLASHING ARROW PANEL
-TYPE A WARNING LIGHTS
-DRUMS
-WORK ZONE PAVEMENT MARKINGS AND MARKING REMOVAL
-BARRIER REFLECTORS AND/OR OBJECT MARKERS
-TYPE III BARRICADES

WORK UNDER THIS PAY ITEM INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO INSTALL, MAINTAIN, AND REMOVE THE ITEMS LISTED ABOVE.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

DRUM REQUIREMENTS

IN ADDITION TO THE REQUIREMENTS OF THE PLANS, SPECIFICATION AND PROPOSAL, DRUMS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY DRUMS BROUGHT ON THE PROJECT, WHICH HAVE PREVIOUSLY BEEN USED ELSEWHERE, WILL NOT BE ACCEPTED.

PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC.

BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET.

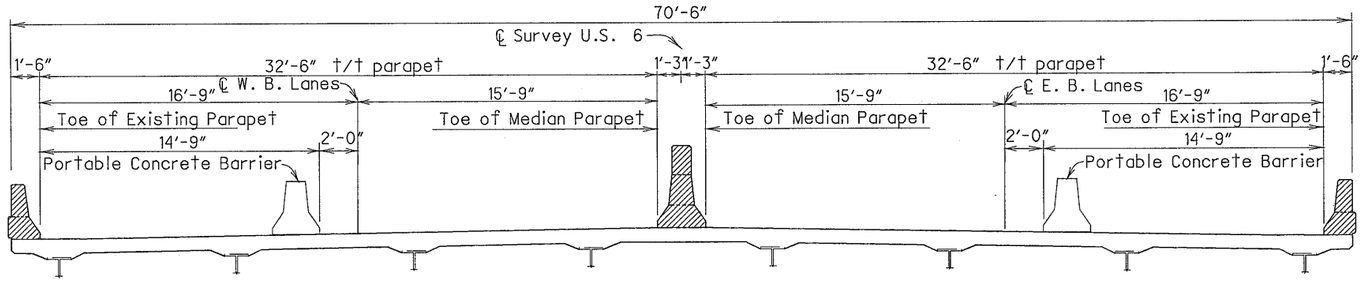
FLASHING ARROW PANEL

THE FLASHING ARROW PANEL SHALL BE LOCATED AS SHOWN IN THE MAINTENANCE OF TRAFFIC STANDARD DRAWING MT-95.40. THE PANEL WILL FEATURE A FLASHING LEFT ARROW. SPECIFICATIONS FOR THE FLASHING ARROW PANEL ARE SET FORTH IN MT-35.10.

WORK ZONE PAVEMENT MARKINGS AND MARKING REMOVAL

EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE COVERED AS PER CMS 614.11G.1.b. NON-REFLECTIVE, PREFORMED BLACKOUT TAPE SHALL COVER EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH THE TEMPORARY WORK ZONE MARKINGS.

ALL WORK ZONE PAVEMENT MARKINGS SHALL BE REMOVABLE TAPE (CMS 740.06 TYPE 1). WORK ZONE DOTTED LINES, 3 FEET IN LENGTH SEPERATED BY 9 FOOT GAPS, SHALL BE PROVIDED TO IDENTIFY THE MERGE. WORK ZONE EDGE LINES SHALL BE PROVIDED ALONG THE TANGENT SECTION.



PLACEMENT OF PORTABLE CONCRETE BARRIER

SAN-6-1751

ITEM	ITEM EXT.	UNIT	TOTAL	DESCRIPTION	ABUTS.	PIERS	SUPER	GEN.	SHEET
202	11203	LS	1	PORTIONS OF STRUCTURE REMOVED OVER 20FT SPAN. AS PER PLAN			1		
202	38000	FT	200	GUARDRAIL REMOVED				200	
202	47000	EACH	4	BRIDGE TERMINAL ASSEMBLY REMOVED				4	
509	10000	LB	38359	EPOXY COATED REINFORCING STEEL			38359		
510	10000	EACH	3656	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT			3656		
511	34400	CY	261	CLASS S CONCRETE, SUPERSTRUCTURE			261		
512	10050	SY	1475	SEALING OF CONCRETE SURFACES (NON-EPOXY)			1475		
606	13000	FT	200	GUARDRAIL, TYPE 5				200	
606	35000	EACH	2	BRIDGE TERMINAL ASSEMBLY, TYPE 1				2	
606	351000	EACH	2	BRIDGE TERMINAL ASSEMBLY, TYPE 2				2	
614	11110	HOUR	40	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE				40	
614	11000	LS	1	MAINTAINING TRAFFIC				1	
622	40020	FT	2120	PORTABLE CONCRETE BARRIER, 32"				2120	
624	10000	LS	1	MOBILIZATION				1	
614	12350	EACH	2	WORK ZONE IMPACT ATTENUATOR				2	

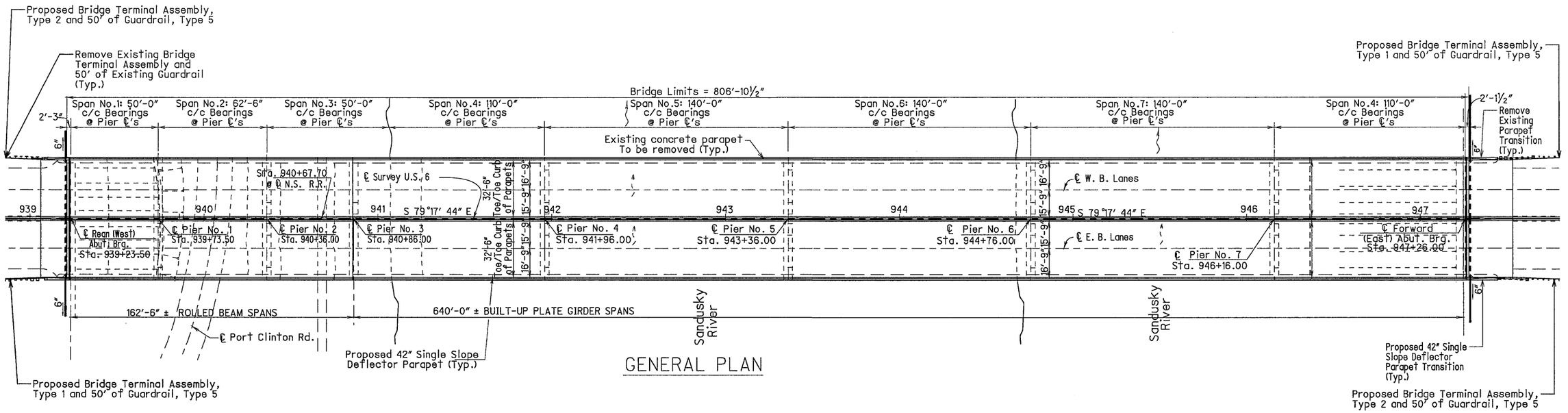
DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 5
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
DAH	DAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JTB		7200579	

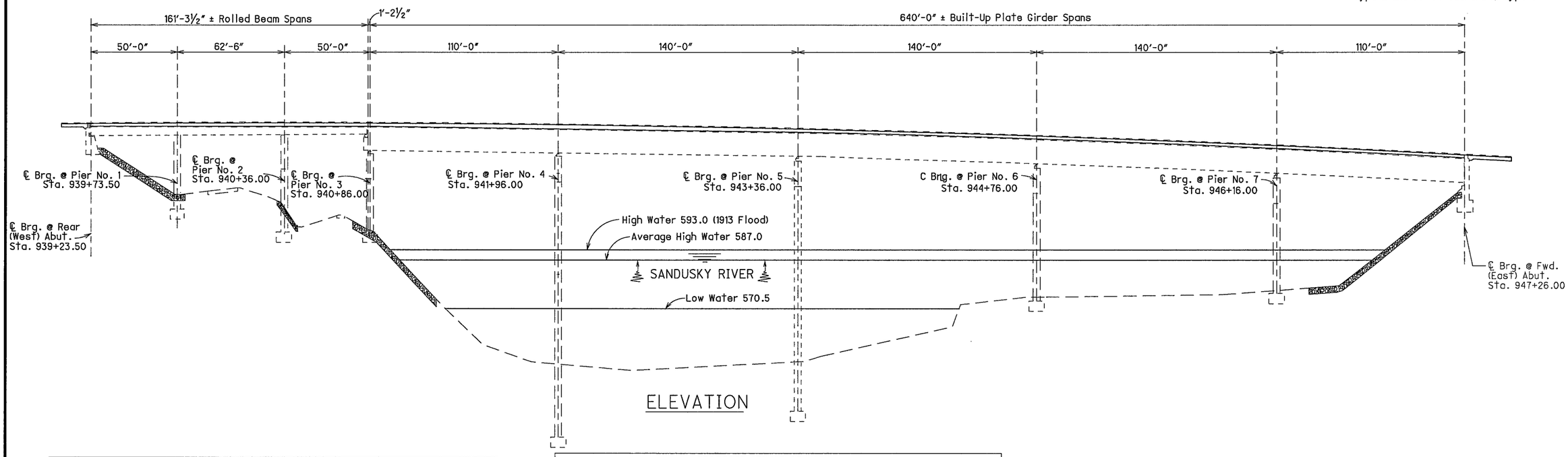
BRIDGE GENERAL NOTES
BRIDGE NO. SAN-6-1751

SAN-6-17.51

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GENERAL PLAN



ELEVATION

EXISTING STRUCTURE DATA

Br. No. SAN-6-1751

TYPE: Existing continuous steel beam - 3 Spans (Spans 1-3) with new reinforced concrete deck and existing substructure;
Existing continuous plate girder - 5 Spans (Spans 4-8) with new reinforced concrete deck and exisitng substructure.
SPANS: 50'-0", 62'-6", 50'-0", 110'-0", 140'-0", 140'-0", 140'-0", 110'-0" c/c Bearings (all dimensions +/-)
ROADWAY: 32'-6" toe to toe of parapets/median;
1'-6" wide, 2'-8" high concrete deflector parapets;
2'-6" wide, 4'-2" high concrete deflector median barrier
CROWN: 3/16" in./ft. (0.0156 ft./ft.)
LOADING: HS 20-44 (CASE I) and the Alternate Military Loading
SKEW: 0° (none)
WEARING SURFACE: Monolothic Concrete
APPROACH SLABS: AS-1-81, 15'-0" Long, Rear (West) Approach
25'-0" Long, Forward (East) Approach
ALIGNMENT: Tangent
SFN: 7200579

PROPOSED STRUCTURE WORK

1.) Existing concrete bridge parapet to be removed and replaced with 42" single slope deflector concrete parapet.

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OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

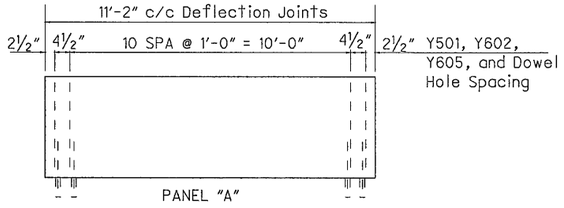
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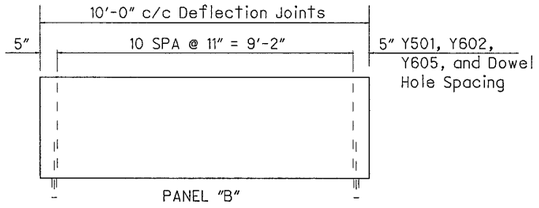
STRUCTURE FILE NUMBER 7200579

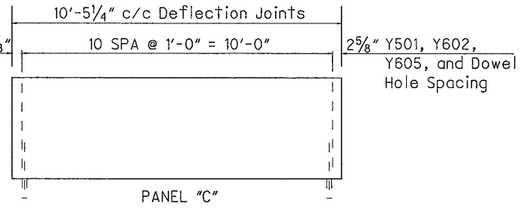
GENERAL PLAN AND ELEVATION
BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

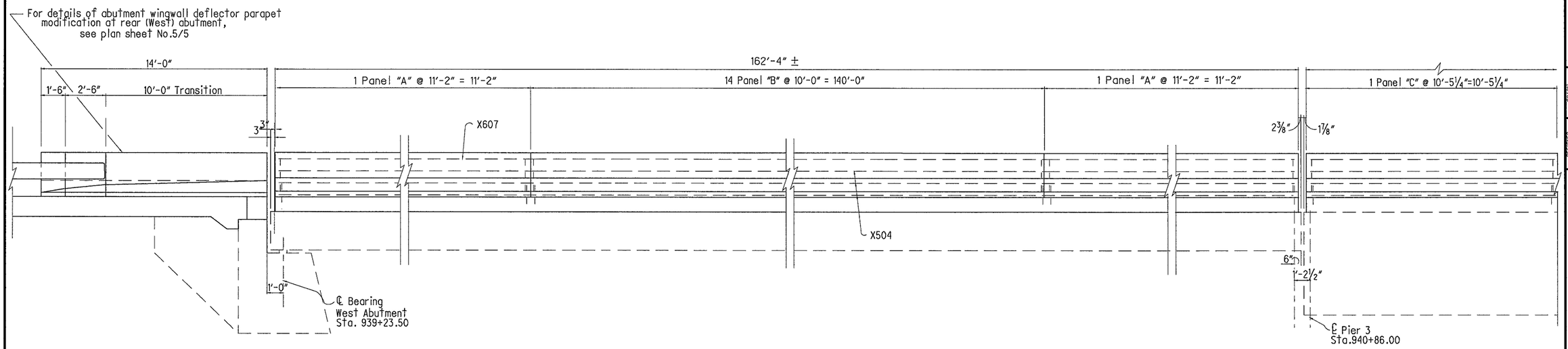
3/5

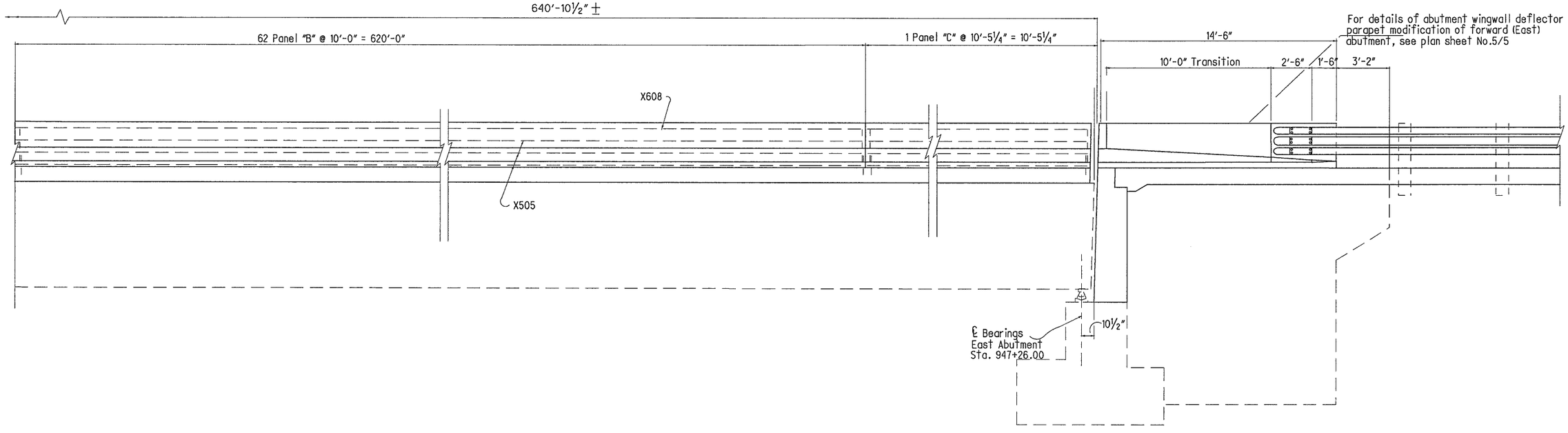






NOTES: Minimum Lap Length for No. 5 Longitudinal Bars is 1'-11".
Minimum Lap Length for No. 6 Longitudinal Bars is 2'-4".





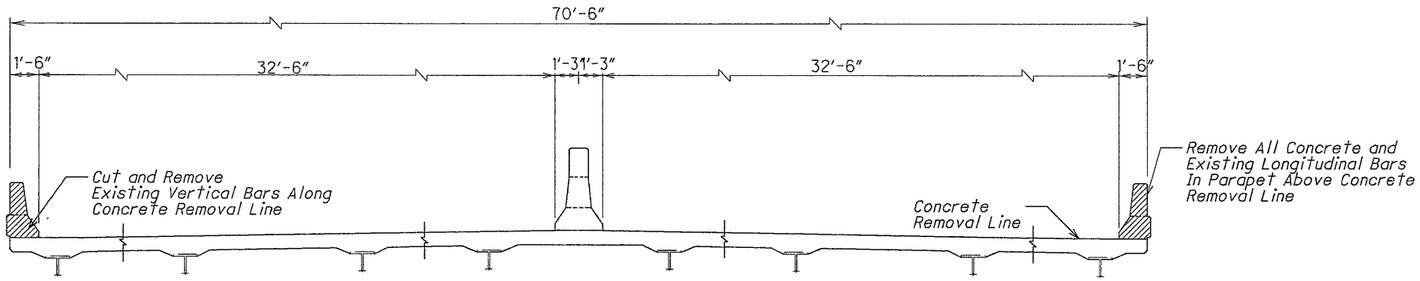
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
DAH	DAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JTB		7200579	

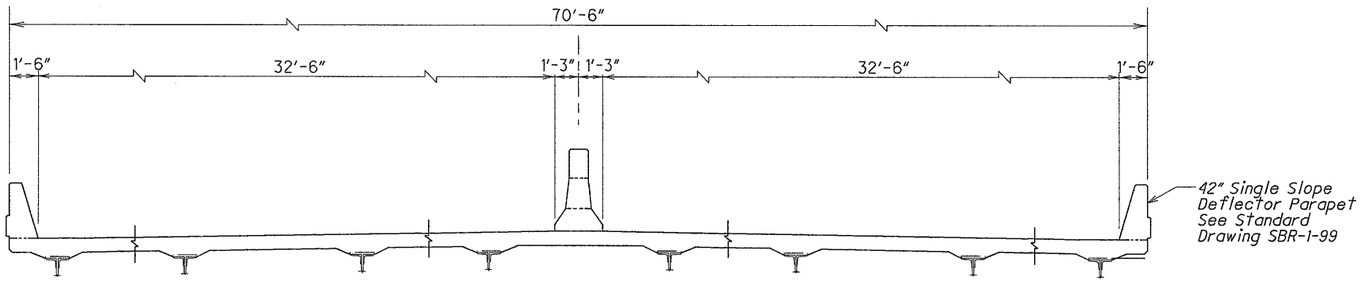
SUPERSTRUCTURE DETAILS
PARAPET AND DEFLECTION JOINTS
Br. No. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51

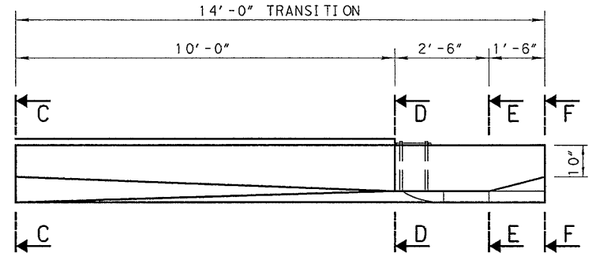
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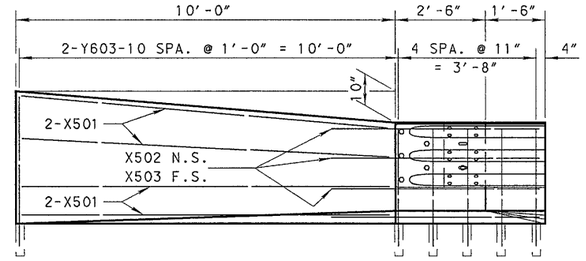
TRANSVERSE BRIDGE DECK SECTION
REMOVAL

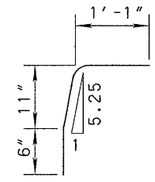


TRANSVERSE BRIDGE DECK SECTION
RECONSTRUCTION

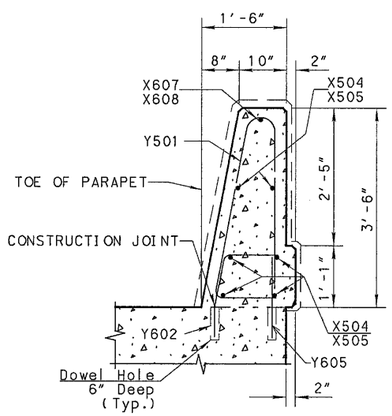


PARAPET TRANSITION

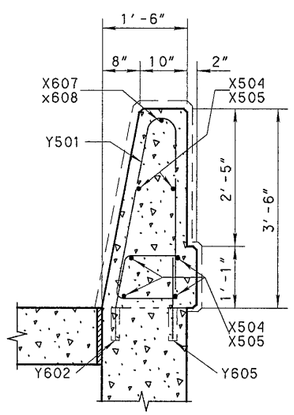




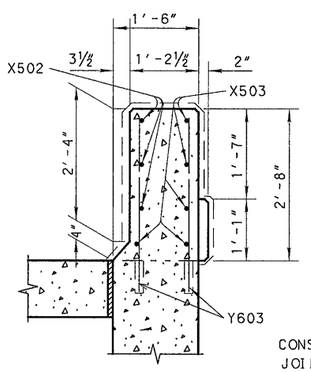
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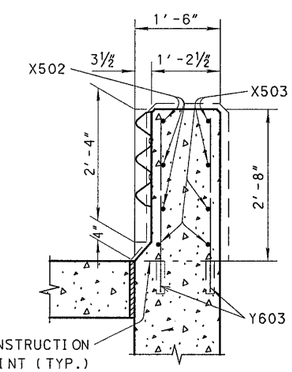
SECTION B-B



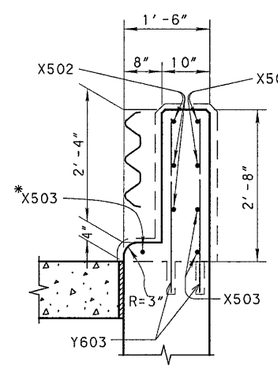
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

— — — SEALING OF CONCRETE SURFACES

* FIELD BEND IF NECESSARY

REINFORCING SCHEDULE

SAN-6-1751

MARK	NO.	LENGTH	SHAPE	WEIGHT
X501	32	10'-0"	STR.	334
Y501	1768	7'-5"	BENT	13677
X502	12	5'-6"	BENT	69
X503	20	5'-6"	STR.	115
X504	60	33'-11"	STR.	2124
X505	204	39'-6"	STR.	8406
Y602	1768	2'-5"	BENT	6418
Y603	120	3'-9"	STR.	676
Y605	1768	1'-6"	STR.	3984
X607	10	34'-3"	STR.	516
X608	34	39'-11"	STR.	2040
TOTAL				38359 lbs.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
DESIGN DEPARTMENT

DESIGNED DAH
DRAWN DAH
CHECKED JTB
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REVIEWED
DATE

STRUCTURE FILE NUMBER 7200579

PARAPET DETAILS

BR. NO. SAN-6-1751 OVER SANDUSKY RIVER

SAN-6-17.51
PID No. 88988

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