STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

I-480-3(4)153

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO	I-480-3(4)153	

1/375

NOTE: Project Designation LOR-80-18.62 appearing thru-out this plan shall be understood to read LOR-480-0.00

LORAIN COUNTY
LOR.- 480- 0.00

CONVENTIONAL SIGNS

Center Line		Existing Sewer	
Existing R/W		Proposed Sewer	
Proposed R/W		Existing Manhole	○
Limited Access Line	—LA—	Proposed Manhole	●
Temporary R/W	—T—	Existing Catch Basin	⊕
Work Agreement Line		Proposed Catch Basin	■
Property Line	—P/L—	Manhole Abandoned	⊠
Original Lot Line	O.L. 78 / O.L. 79	Catch Basin Abandoned	⊠
Water Line	—W—	Existing Guard Rail	
Water Valve		Proposed Guard Rail	
Water Hydrant		Fence	—x—x—
Gas Line	—G—	Existing Retaining Wall	
Gas Valve		Railroad	
Telephone Underground	—T—	Existing Trees Removed	⊠
Electric Underground	—E—	County Line	
Power Pole			
Light Pole			
Telephone Pole			

LOR-480-0.00
LORAIN COUNTY
CUYAHOGA COUNTY
CITY OF NORTH OLMSTED
CITY OF NORTH RIDGEVILLE

SHEETS DELETED FROM THIS PLAN
Sht. Nos. 22, 210-217, 243, 266 & 355

SHEETS ADDED TO THIS PLAN
Sht. Nos. 20A, 24A, 24B, 241A, 241B, 241C 366A, 367A, 240A

INDEX OF SHEETS

Sheets 274 & 275 revised 5-11-78 EBL

LINE DATA

Begin Project-Sta. 975+50.00 to Sta. 998+03.01 (Bk) @ I-480 E.B. = 2,253.01 L.F.
Sta. 0+30.17 (Ah) to Sta. 32+31.00 (Toll Plaza) @ I-480 E.B. = 3,200.83 L.F.
Sta. 37+31.00 (Toll Plaza) to Sta. 74+11.39 @ I-480 E.B. = 3,680.39 L.F.
Sta. 74+11.39 to Sta. 100+00.00 @ I-480 End Project = 2,588.61 L.F.
LENGTH OF PROJECT = 11,722.84 L.F. or 2.220 MILES

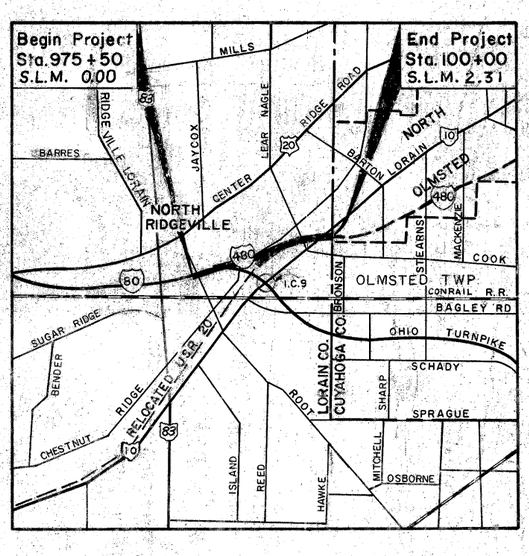
ADD FOR WORK
Lorain Rd. (S.R.10)
Sta. 1137+30.00 to Sta. 1153+80.00 = 1,650.00 L.F.

I-480
Sta. 973+35.00 to Sta. 975+50.00 = 215.00 L.F.
Sta. 100+25.34 to Sta. 105+37.00 = 511.66 L.F.
LENGTH OF ADDITIONAL WORK = 2,376.66 L.F.
ADD PROJECT LENGTH = 11,722.84 L.F.

LENGTH OF WORK = 14,099.50 L.F. or 2.670 MILES

SUPPLEMENTAL SPECIFICATIONS	
NUMBER	DATE
801	4-25-77
808	1-1-71
814	1-1-69
836	3-12-75
838	1-13-77
839	11-25-70
844	11-8-74
846	4-25-77
948	2-19-74
950	4-25-77
951	4-25-77
S625	1-11-74
S773	1-11-74
1001	1-3-77

FILE NUMBER	LORAIN COUNTY LOR- 480-0.00
	DATE OF LETTING
	CONTRACT NUMBER



LOCATION MAP

SCALE OF MILES 0 1 2 3

Portion To Be Improved
State Routes
U.S. Routes
Interstate Routes
City Streets
To be Improved Under Separate Contract

SCALES

PLAN	0 50	1"=50'
PROFILE: HORIZ.	0 50	1"=50'
VERT.	0 10-20	1"=20' or 1"=10'
CROSS SECTIONS	0 10	1"=10'
PAVEMENT DETAILS	0 20	1"=20'

STANDARD DRAWINGS	
Number	Date
BP-1	6-1-65
BP-2	12-6-76
BP-3	12-6-76
BP-4	12-6-76
BP-5	8-11-75
BP-7	12-6-76
BP-9	12-6-76
BP-10	1-3-75
CB-3	1-1-76
CB-3A	1-1-76
CB-5	9-1-69
CB-6	6-1-65
F-1	5-1-76
BP-6	6-1-65
F-3	5-1-76
F-5	5-1-76
F-6	5-1-76
GR-1	12-6-76
GR-2B	12-6-76
GR-3	12-6-76
GR-4	12-6-76
GR-4A	7-26-76
GR-5	1-1-71
GR-6	1-1-71
HW-4	1-1-70
MC-1	6-13-69
MC-3	6-1-73
MC-4	7-26-76
MC-6	6-1-65
MC-7	10-15-76
MC-8	6-12-75
MC-10	5-1-76
MH-1	6-12-75
MH-3	6-12-75
MH-5	6-12-75
L-1	6-1-73
AS-1-72	6-30-72
BR-1-67	10-15-71
RB-1-55	2-2-59
SD-1-69	6-12-69
SP-53	6-30-61
HL-1	9-6-73
HL-2	7-27-73
HL-3	7-27-73
HL-4	1-21-76
HL-5	9-6-73
HL-6	3-22-77
HL-7	1-21-76
HL-8	1-21-76
HL-9	3-22-77
HL-10	1-21-76
HL-11	4-6-73
HL-12	4-6-73
HL-15	1-21-76
HL-16	4-6-73
HL-19	3-22-77

STANDARD DRAWINGS					
Number	Date	Number	Date	Number	Date
		TC-32.11	8-27-76	TC-61.10	8-19-77
		TC-41.10	8-19-77		
TC-22.20	8-19-77	TC-41.20	4-1-77	TC-71.10	12-1-75
TC-7.65	10-1-74	TC-41.50	4-1-77	TC-72.20	8-29-77
TC-12.30	10-1-74	TC-42.10	8-19-77		
TC-21.10	10-1-74	TC-42.20	4-1-77		
TC-21.40	8-19-77	TC-51.10	6-2-75		
TC-22.10	10-1-74	TC-51.11	6-2-75		
TC-31.21	8-27-76	TC-52.10	4-1-77		
TC-32.10	8-27-76	TC-52.20	4-1-77		

PLANS PREPARED BY
ALDEN E. STILSON & ASSOCIATES
CONSULTING ENGINEERS
75 PUBLIC SQUARE
CLEVELAND OHIO

DESIGN DESIGNATION
1970 A.D.T. = 18,000
1987 A.D.T. = 40,000
D.H.V. = 2,000
D. (directional distribution) 67%
T. (percent B&C trucks) 5%
V. (design speed) 60 M.P.H.

"LIMITED ACCESS"

This improvement is especially designed for thru traffic and has been declared a Limited Access Highway or Freeway by action of the Director of Transportation, in accordance with the provisions of Sec. 5511.02 of The Revised Code of Ohio.

1977 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.

The Right of Way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway to traffic and that provisions for maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved H. D. Reader
Date 1-30-76 District Deputy Director of Transportation
Approved Robert B. Pfeiffer
Date 12-21-77 Engineer, Bureau of Bridges and Structural Design
Approved R.E. Bathie
Date 12-22-77 Chief Engineer, Planning and Design
Approved David L. Weir
Date 12-22-77 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE:

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

2
375

LORAIN COUNTY
LOR-480-0.00

CITY OF NORTH RIDGEVILLE

Begin Work
Sta. 973+35

OHIO TURNPIKE WEST

Sta. 975+50

Begin Project
LOR. 480-0.00

Ohio Turnpike
S.L.M.-17.82+
S.L.M.-0.00
I.R. 480

995

BRIDGE Nº LOR-480-0020

ROOT ROAD

Begin Work
Sta. 993+00

995

BRIDGE Nº LOR-480-0034

995

998+03.01 BACK
= 0+30.17 Fwd.

OHIO TURNPIKE EAST BOUND

1005

EXISTING LAKE
(TO REMAIN)

20

8,000

30

Sta. 33+00 W.B.
End Pavement
100% State
Participation

5

10

8,000

15

1015

BRIDGE Nº LOR-480-0082

20

EXISTING LAKES
(TO BE FILLED)

30

Sta. 32+31.00 E.B.
End Pavement
100% State
Participation

500' Toll Booth
Area, Pavement
By Others

End Work
100% State
Participation

BAINBRIDGE ROAD

CHENAULT DR.

WEST POINT DR.

BLANCHARD DR.

DAVIS DR.

DAVID DR.

I-480-3(4)153

Sta. 38+00 W.B.
Begin Pavement
Normal Participation

40

BRIDGE Nº
LOR-480-0121

MATCH LINE STA. 45

40

Sta. 37+31.00 E.B.
Begin Pavement
Normal Participation

CHESTNUT RIDGE ROAD

I-480-3(4)153

MATCH LINE STA. 1080

12,000

1025

1075

1073

12,000

USR 20 RELOCATED

1065

1060

1035

0' 200' 400'
SCALE 1" = 200'

100% State of Ohio Participation

Normal Participation

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

3/375

SCHEMATIC PLAN

LORAIN COUNTY
LOR-480-0.00

CITY OF NORTH RIDGEVILLE
BAINBRIDGE ROAD
CHESTNUT RIDGE ROAD
LEAR NAGEL ROAD
BRIDGE Nº LOR-480-0128
I-480 W.B.
STA. 74 + 11.39 ℄ W.B. I-480 = STA. 74 + 11.39 ℄ I-480 (49' LT.)
PT STA. 1106 + 19.47 ℄ U.S.R. 20 W.B. = STA. 70 + 11.30 ℄ I-480 W.B. (36' RT.)
BRIDGE Nº LOR-480-0186
Ditch Cleanout
Channel Cleanout
MATCH LINE STA. 45
U.S.R. 20 W.B.
BRIDGE Nº LOR-480-0130
I-480 E.B.
STA. 74 + 11.39 ℄ E.B. I-480 = STA. 74 + 11.39 ℄ I-480 (37' RT.)
Relocated Channel
I-480 WEST BOUND
I-480 EAST BOUND
RAMP L-1
End Work Sta. 1153+80
CITY OF NORTH RIDGEVILLE
CUYAHOGA COUNTY
BRIDGE Nº LOR-480-0216
Begin Work Sta. 1137+30
MATCH LINE STA. 1080
U.S.R. 20 E.B.
P.T. STA. 1093 + 50.10 ℄ E.B. U.S.R. 20 = S.T. STA. 58 + 05.77 ℄ E.B. I-480 (40' RT.)
End Project Lor.-20-15.99
Begin Work Lor-480-0.00
End Project Lor.-20-15.99
Begin Work Lor-480-0.00
End Work Sta. 105+37
RAMP L-2
LORAIN ROAD EXISTING S.R. 10
RAMP L-3
RAMP L-4
Relocated Channel
STA. 100 + 25.34 AHEAD
STA. 100 + 00.00 BACK
OHIO TURNPIKE
Toll Booth
Exit No. 9
COOK ROAD
CITY OF NORTH OLMSTED
LORAIN COUNTY
End Project Lor.-480-0.00
Begin Project Cuy-480-0.00
I-480-3(4) 153

Normal Participation

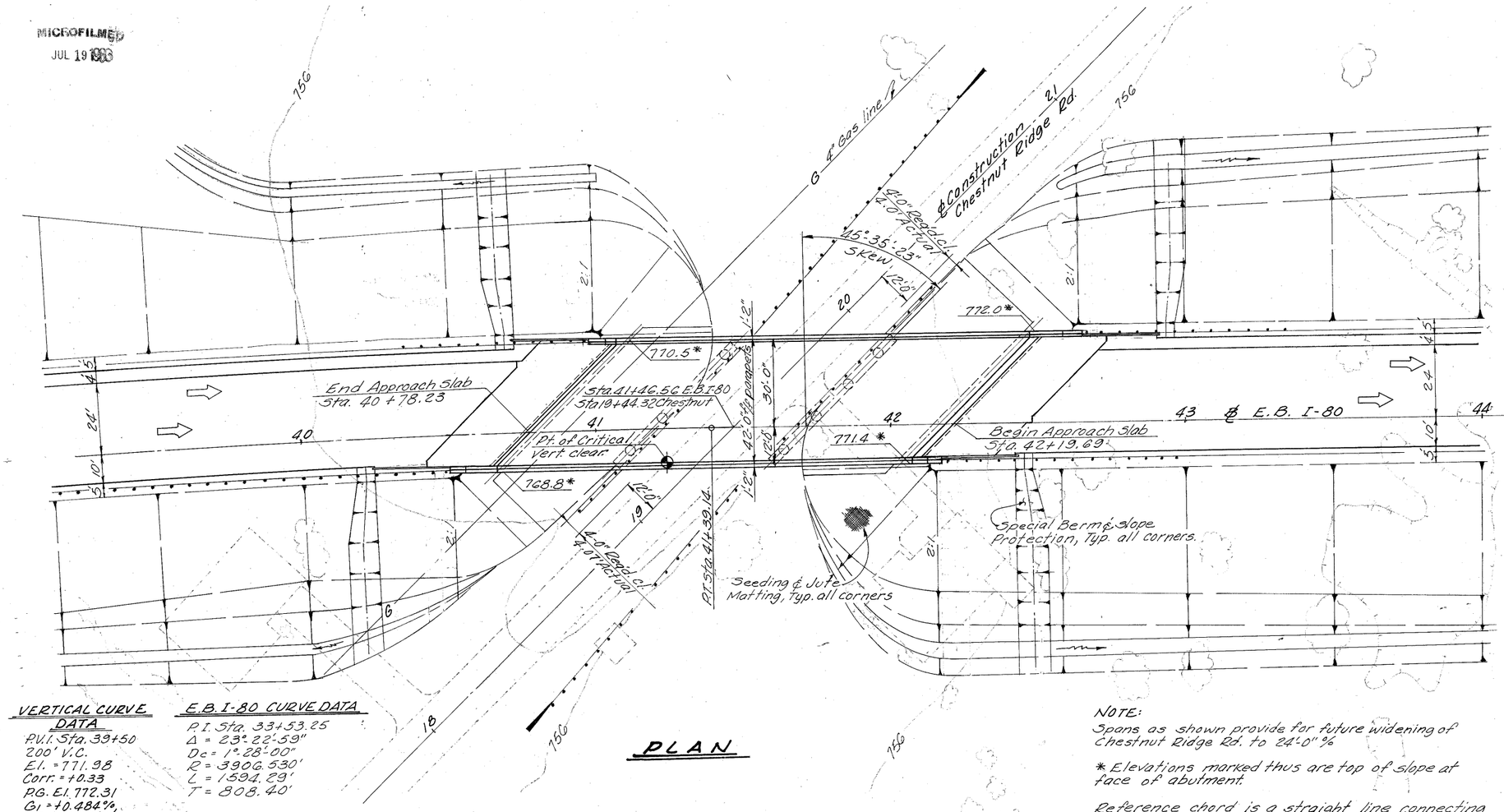
0' 200' 400
Scale 1" = 200'

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

279/375

LORAIN COUNTY
LOR - 480 - 0.00



PLAN

The tangent grade data does not apply to bridge or graphic grade elevations. The bridge elevations were obtained by adding 0.12 feet to the elevations obtained from tangent grade data.

BRIDGE NO. LOR-80-1903 APPEARING THROUGHOUT THIS BRIDGE PLAN SHALL BE CONSIDERED TO READ BRIDGE NO. LOR-480-0121

VERTICAL CURVE DATA

P.V.I. Sta. 39+50
200' V.C.
El. = 771.98
Corr: = +0.33
P.G. El. 772.31
G_1 = +0.484%,
G_2 = +1.80%

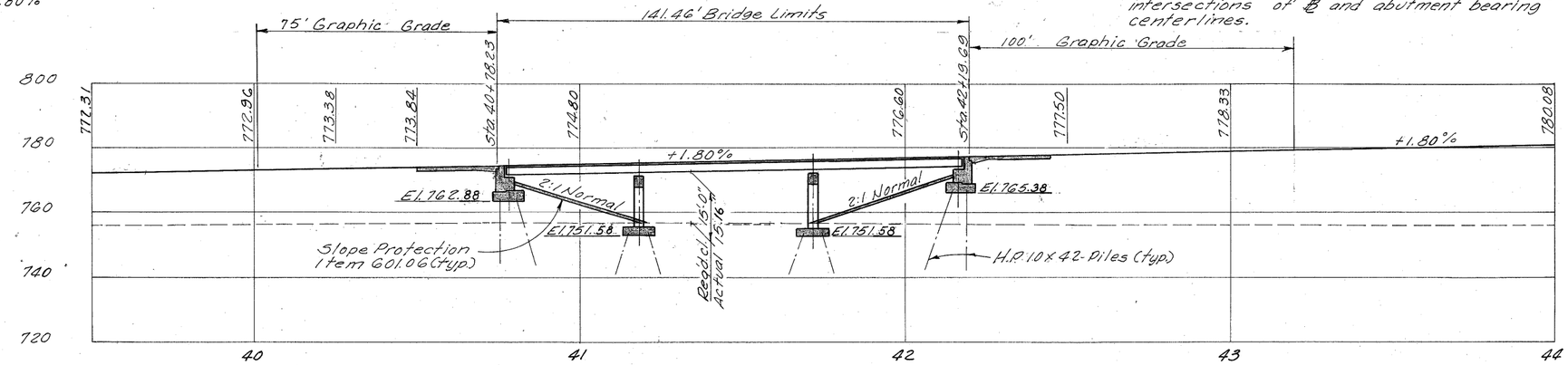
E.B. I-80 CURVE DATA

P.I. Sta. 33+53.25
Δ = 23° 22'-59"
Dc = 1°-28'-00"
R = 3906.530'
L = 1594.29'
T = 808.40'

NOTE:
Spans as shown provide for future widening of Chestnut Ridge Rd. to 24'-0" %.

* Elevations marked thus are top of slope at face of abutment.

Reference chord is a straight line connecting intersections of ℄ and abutment bearing centerlines.



PROFILE ALONG ℄ EAST BOUND I-80

Piling estimated average pay lengths are as follows:
Abutments - 25'
Piers - 15'

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck & substructure
SPANS: 40'-0" 50'-0" 45'-0" % brgs on ℄
ROADWAY: 42'-0" f/f parapets of BR-1-67 railing.
LOADING: HS 20-44 plus Interstate Alternate.
WEARING SURFACE: monolithic conc.
SKEW: 45°-35'-23" Lt. forward with reference chord.
ALIGNMENT: 1°-28'-00" Curve right & tangent.
APPROACH SLABS: AS-1-72 (Mod) 25'-0" long.
SUPERELEVATION: Varies.

TRAFFIC ESTIMATE

Design Year: 1987
Total A.D.T.: 8000

1/11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SITE PLAN

BRIDGE № LOR-80-1903
E.B. I-80 OVER CHESTNUT RIDGE RD.
LORAIN COUNTY
STA. 40+75.08
STA. 42+22.54
SCALE 1"=20'

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	R.T.		R.S.S.	G.W.M.	9/21/70	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

280/375

LORAIN COUNTY
LOR-480-0.00

SUPPLEMENTAL SPECIFICATION REFERENCES - CON'T.

DESCRIPTION	NO.	DATE
PAINTING FOR NEW STRUCTURAL STEEL	846	4-25-77
INORGANIC ZINC SILICATE PAINT	950	4-25-77
BLUE-GREEN VINYL PAINT	951	4-25-77

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
CURB PLATES	SD-1-69	2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
BOLTED SPLICES	SD-1-69	4	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72(M00.) *		6-30-72
STRUCTURE GROUNDING	HL-7		1-21-76

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1- 1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3-12-75
SPECIAL PILE TESTS	838	1-13-77

COMMON DETAIL REFERENCES

CONTRACTION JOINTS & END DAMS SHEET 354

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO 'SUPPLEMENT' TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44 AND THE INTERSTATE ALTERNATE LOADING
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE
STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.
SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, OR A615.

EMBANKMENT CONSTRUCTION

THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENTS. EXCAVATION SHALL THEN BE MADE FOR THE PIERS AND ABUTMENTS

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-
35 TONS PER PILE FOR THE ABUTMENTS AND WINGWALLS
35 TONS PER PILE FOR THE PIERS

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

MAINTENANCE OF TRAFFIC

TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 20'-0 AND A MINIMUM VERTICAL CLEARANCE OF 13'-6 SHALL BE MAINTAINED ON CHESTNUT RIDGE ROAD AT ALL TIMES.

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL
503	462	C.Y.	UNCLASSIFIED EXCAVATION	312	150		
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP
505	LUMP	SUM	TEST PILE				LUMP
507	1290	L.F.	STEEL PILES, HP10X42	750	540		
509	60319	LB	REINFORCING STEEL	16586	20925	22808	
511	193	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE (SEE PROPOSAL NOTES)			193	
511	133	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	133			
511	85	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS		85		
511	160	C.Y.	CLASS C CONCRETE, FOOTINGS	102	58		
512	15	L.F.	PREMOLDED SEALING STRIP	15			
513	130800	LB	STRUCTURAL STEEL, PRIMER PER 846 (SEE PROPOSAL NOTES)			130800	
846	130800	LB	FIELD PAINTING OF STRUCTURAL STEEL			130800	
516	70	S.F.	1/2 INCH PREFORMED EXPANSION JOINT FILLER				70
518	70	C.Y.	POROUS BACKFILL	70			
518	5	EA	SCUPPERS INCLUDING SUPPORTS			5	
518	116	L.F.	6 INCH PERFORATED, HELICAL CSP, 707.01	116			
518	86	L.F.	6 INCH NON-PERFORATED, HELICAL CSP, INCLUDING SPECIALS, 707.01	86			
601	656	S.Y.	CONCRETE SLOPE PROTECTION				656
808	193	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			193	
838	3	HR.	SPECIAL PILE TESTS				3
SPEC.	27158	LB.	EPOXY COATED REINFORCING STEEL (SEE PROPOSAL NOTE)	1123		26035	

Monolitic wearing surface thickness is assumed to be 1".

Deck Protection Method: Epoxy Coated reinforcing steel, top mat only.

Minimum bar lap shall be 30 diameters

ATTACHMENT OF GUARDRAIL TO CONCRETE PARAPETS:
Concrete insert anchor assemblies per Standard Construction Drawings GR-3 and GR-1 shall be placed during parapet construction.

* Std. Dwg. AS-1-72 shall be modified to provide 3" clearance to the top re-bars instead of the 2" shown and jacking holes shall be omitted.

2/11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. LOR-80-1903
E.B. I-80 OVER CHESTNUT RIDGE RD.
LORAIN COUNTY STA. 40 + 75.08
STA. 42 + 22.54

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.D.			W.M.A. 3-10-76	G.W.M.	5/12/76	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

281/375

LORAIN COUNTY
LOR.- 480- 0.00

Bridge Limits= 141.46'

Along ℄ E.B. I-80
Along Ref. Chord

40'-0" ℄ Brg's.
39'-8 15/16" ℄ Brg's.

50'-0" ℄ Brg's.
50'-1 7/16" ℄ Brg's.

45'-0" ℄ Brg's.
45'-1 3/4" ℄ Brg's.

20

25'-0"

Face of parapet

End Approach Slab
Sta. 40+78.23

℄ Construction Chestnut Ridge Rd.

45°35'-23" Skew

℄ Brg's Pier No 1
Sta. 41+21.49

Sta. 41+46.56 E. B. I-80
Sta. 19+44.32 Chestnut Ridge Road

42'-0"
29'-3"
11'-3"
1'-2"
1'-11"
1'-2"

41

Ref. Chord

42

℄ E.B. I-80

℄ E.B. I-80

℄ Brg's. W. Abut.
Sta. 40+81.49

P.T. Sta. 41+39.19

℄ Brg's. Pier No 2
Sta. 41+71.49

Begin Approach Slab
Sta. 42+19.69

Face of parapet

℄ Brg's. E. Abut.
Sta. 42+16.49

2" CONDUIT FOR LIGHTING

Scupper Spacing 8'-0" 8'-0" 8'-0" 8'-0"

Limits of Slope protection

19

N

GENERAL PLAN.

Scupper spacing is along face of curb. Scupper spacing shall be adjusted to clear crossframes by a minimum of six inches.

165'-8 1/4" % Parapets (North Side)

10'-7 1/2" | 2 spa. @ 15'-0" c/c = 30'-0" | 3 spa. @ 7'-6" c/c = 22'-6" | 2 spa. @ 15'-0" c/c = 30'-0" | 3 spa. @ 7'-6" c/c = 22'-6" | 2 eq. spa. = 31'-8 3/4" | 17'-9"

Parapet deflection joint spacing (between open jts)

166'-7 3/4" % Parapets (South side)

17'-9" | 2 spa. @ 15'-0" c/c = 30'-0" | 3 spa. @ 7'-6" c/c = 22'-6" | 2 spa. @ 16'-0" c/c = 32'-0" | 3 spa. @ 7'-6" c/c = 22'-6" | 2 spa. @ 15'-4 1/8" = 30'-8 1/4" | 10'-7 1/2"

Parapet deflection joint spacing (between open jts)

3 1/2" open jt.

3 1/2" open jt.

El. 762.88

El. 765.38

El. 751.58

El. 751.58

W. Abut.
Exp. Brg's.

Pier No 1.
Exp. Brg's.

Pier No 2
Fixed Brg's.

E. Abut.
Exp. Brg's.

ELEVATION
(Piles not shown)

3/11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL PLAN

BRIDGE No LOR.- 80- 1903
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY

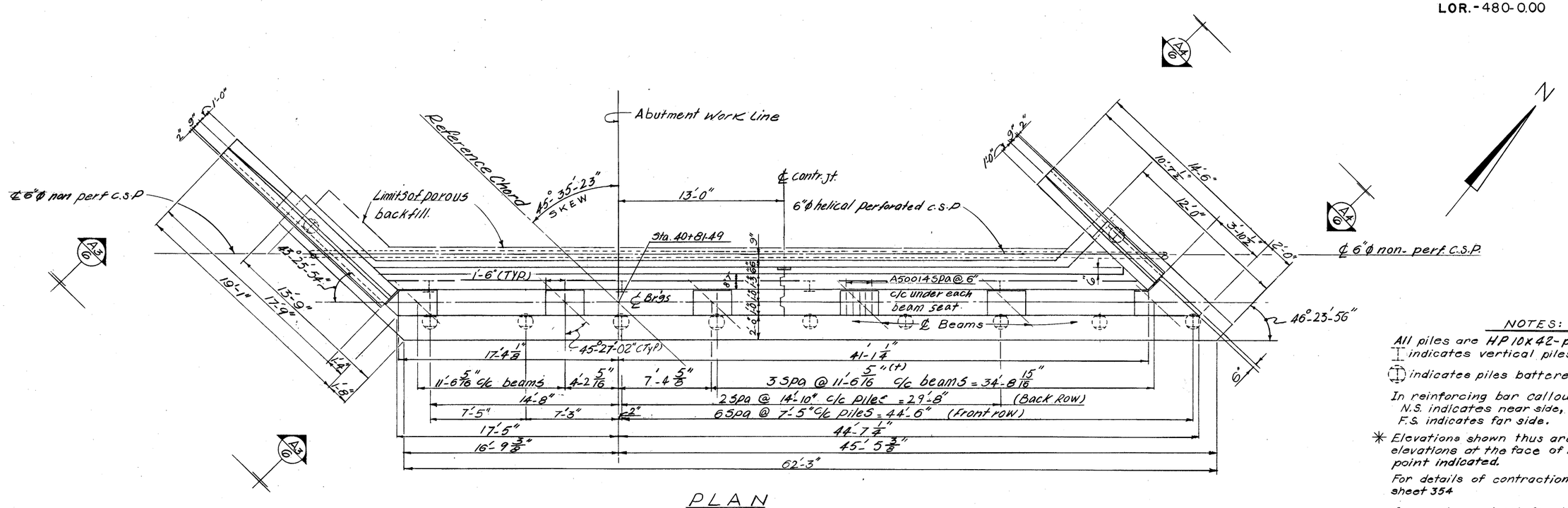
STA. 40+78.23
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	J.P.		R.S.S.	G.W.M.	5/12/70	

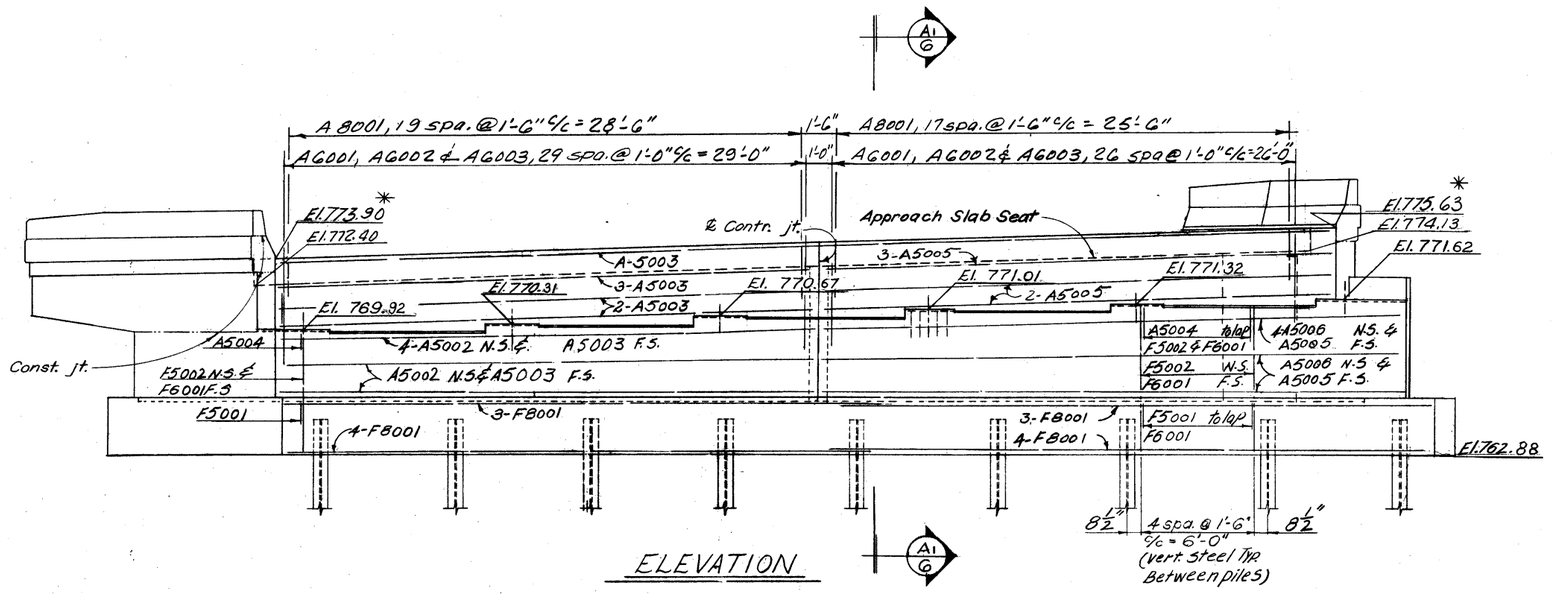
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

282
375

LORAIN COUNTY
LOR.-480-0.00



PLAN



ELEVATION

NOTES:

All piles are HP 10x42-piles.
I indicates vertical piles
⊕ indicates piles battered 4:1

In reinforcing bar callouts:
N.S. indicates near side,
F.S. indicates far side.

✳ Elevations shown thus are pavement elevations at the face of backwall and point indicated.

For details of contraction joint see sheet 354

Concrete and reinforcing steel for parapets are included for payment with Item 511 Concrete, and Item 509 Reinforcing Steel.

Only that portion of the c.s.p. located in porous backfill shall be perforated.

Porous backfill 1'-6" thick, full length of abutment & 2'-0" thk full length of wings as shown by limits on the plan shall extend up to the plane of the subgrade.

The 6"ϕ C.S.P. shall be extended straight out into the side slopes and terminated near the surface as shown on Sht. №.

BACKWALL CONCRETE: No backwall concrete shall be placed above the level of the optional construction joint at the approach slab seat until after the deck concrete in the span adjacent to the abutment has been placed.

4/11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

WEST ABUTMENT DETAILS

BRIDGE № LOR.-80-1903
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY

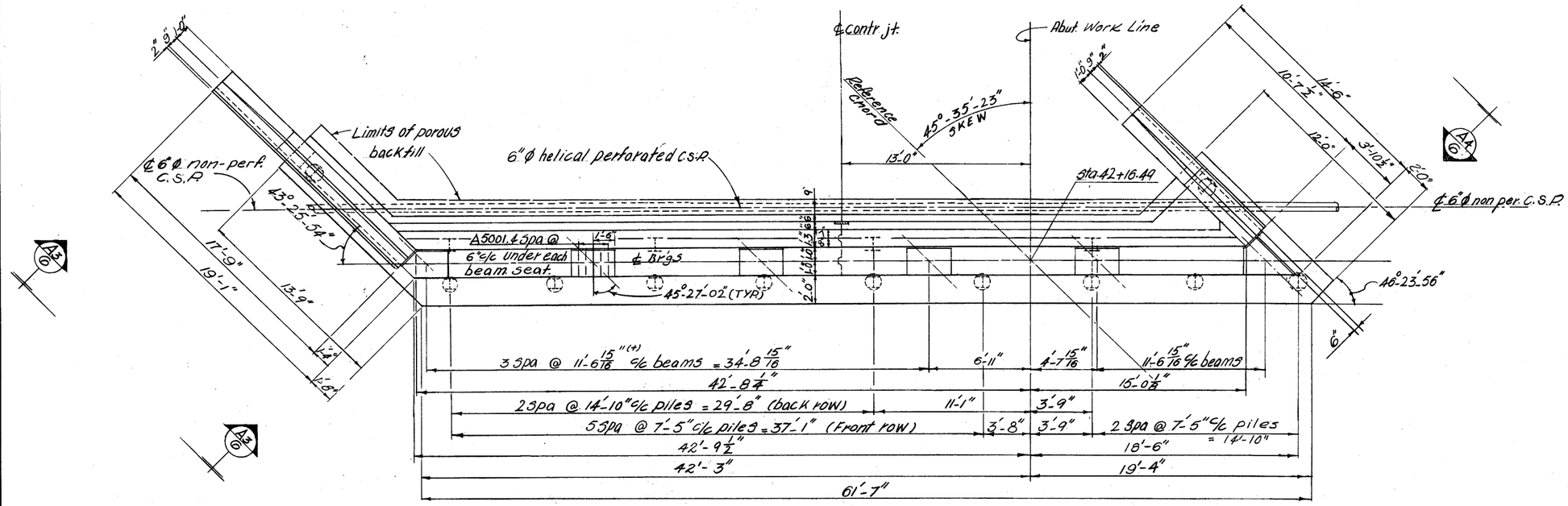
STA. 40+78.23
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	J.P.		R.S.S.	G.W.M.	9/12/80	

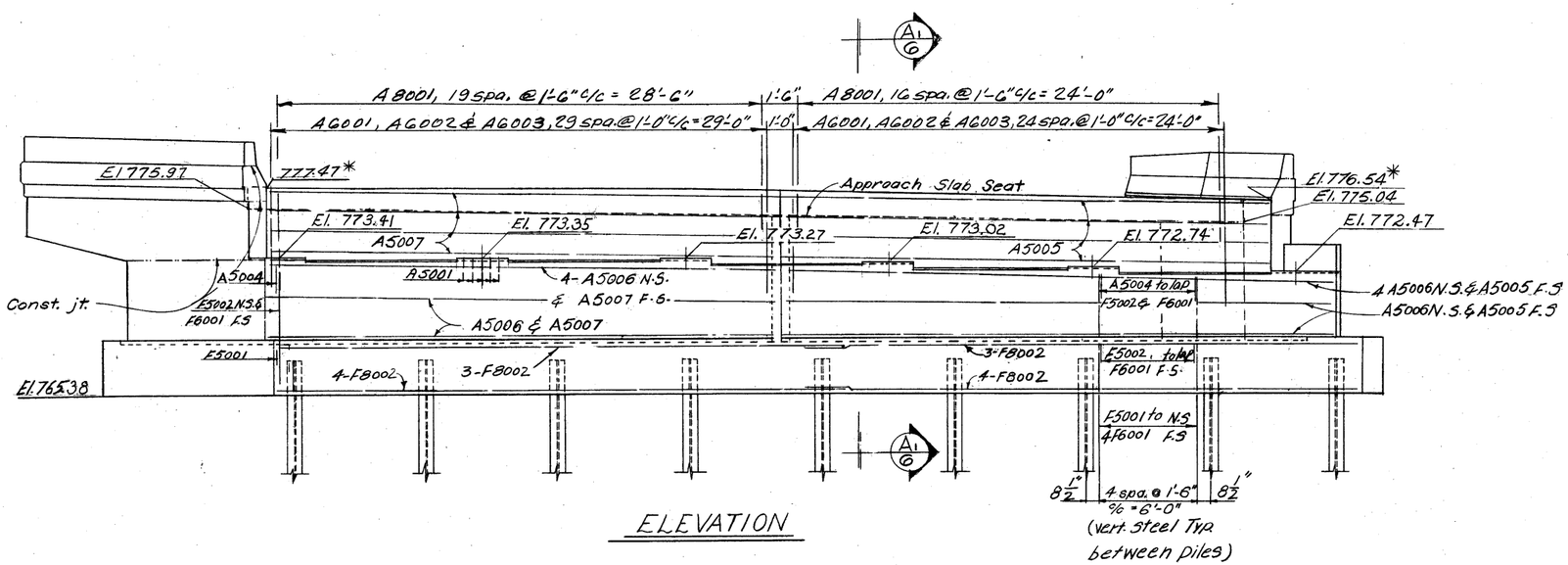
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

283
375

LORAIN COUNTY
LOR.- 480- 0.00



PLAN



ELEVATION

NOTES:
All piles are HP 10x42 piles
I indicates vertical piles
⊕ indicates piles battered 1:4

In reinforcing bar callouts:
N.S. indicates near side,
F.S. indicates far side.

*Elevations shown thus are pavement elevations at the face of backwall and the point indicated.

For additional notes see Sht. 4/11

5/11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

EAST ABUTMENT DETAILS

BRIDGE Nº LOR.- 80- 1903
E. B. I-80 OVER CHESTNUT RIDGE ROAD

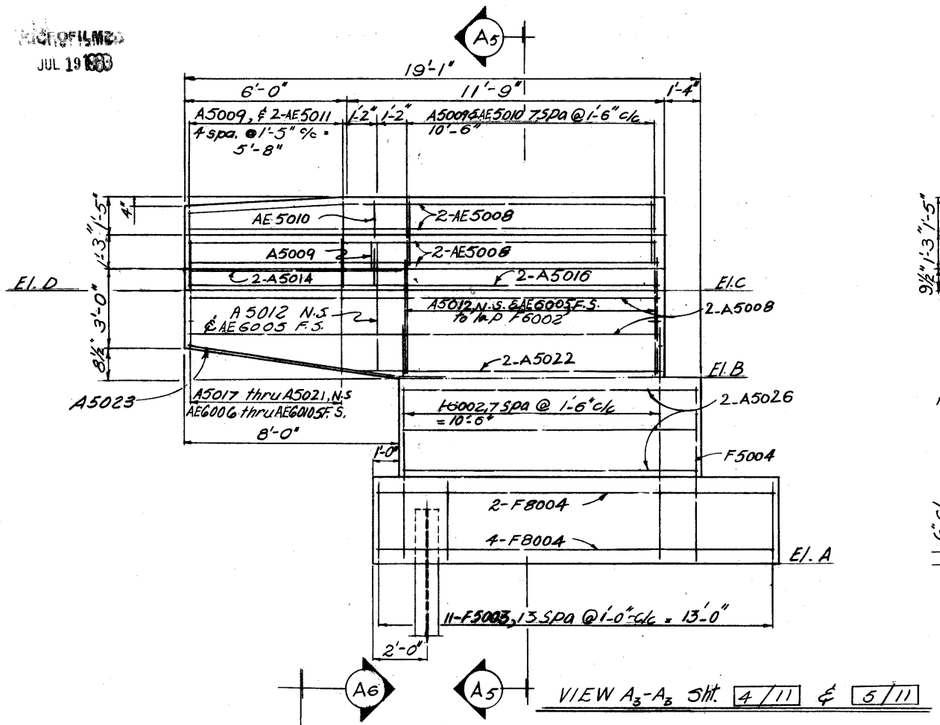
LORAIN COUNTY STA. 40+78.23
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	J.P.		R.S.S.	G.W.M.	5/14/70	

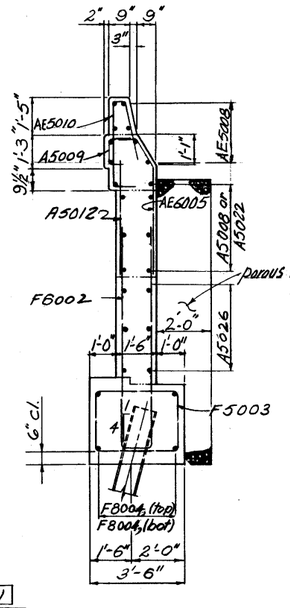
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

284
375

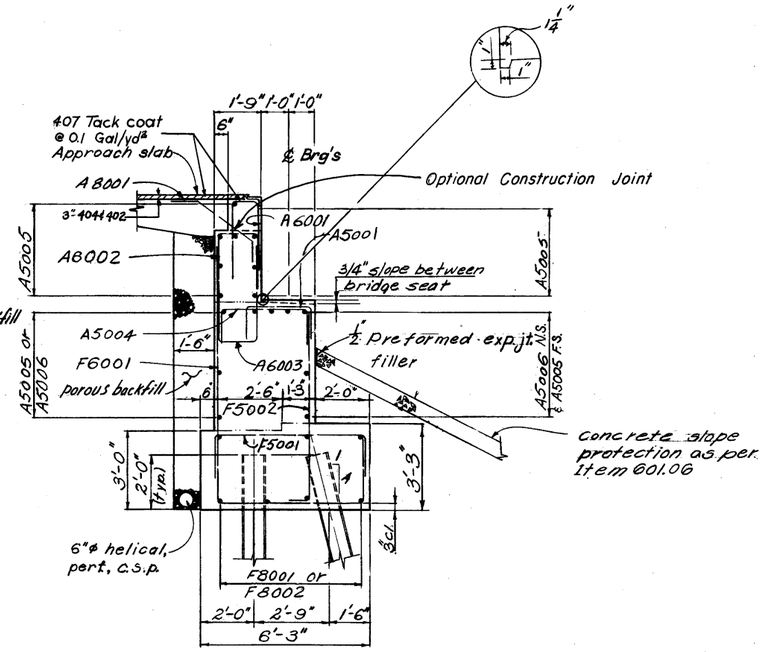
LORAIN COUNTY
LOR.-480-0.00



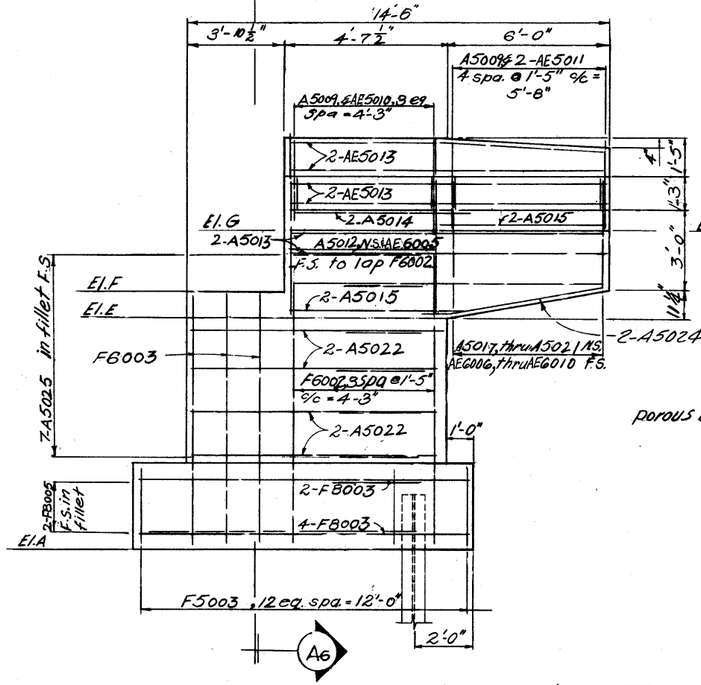
VIEW A_3-A_3 Sht. 4/11 & 5/11



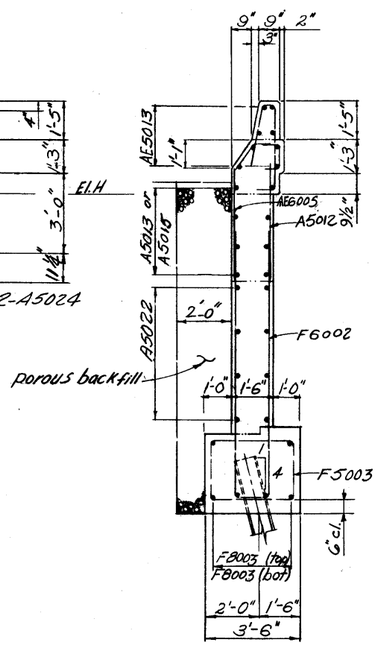
SECTION A5-A5



SECTION A-A, 4/11 & 5/11



VIEW A_4-A_4 Sht. 4/11 & 5/11



SECTION A6-A6

TABLE OF ELEVATIONS								
Location	El. A	El. B	El. C	El. D	El. E	El. F	El. G	El. H
W. Abut.	762.88	769.84	773.11	772.76	771.54	772.79	774.84	774.68
E. Abut.	765.38	773.33	776.68	776.92	772.39	773.69	775.75	775.96

NOTES.

In reinforcing bar callout:
N.S. indicates near side
F.S. indicates far side

For additional notes see Sht. No. 4/11

All footing reinforcement shall have a minimum cover of 3".

6/11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

ABUTMENT DETAILS

BRIDGE No LOR.-80-1903
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY

STA. 40+78.23
STA. 42+19.69

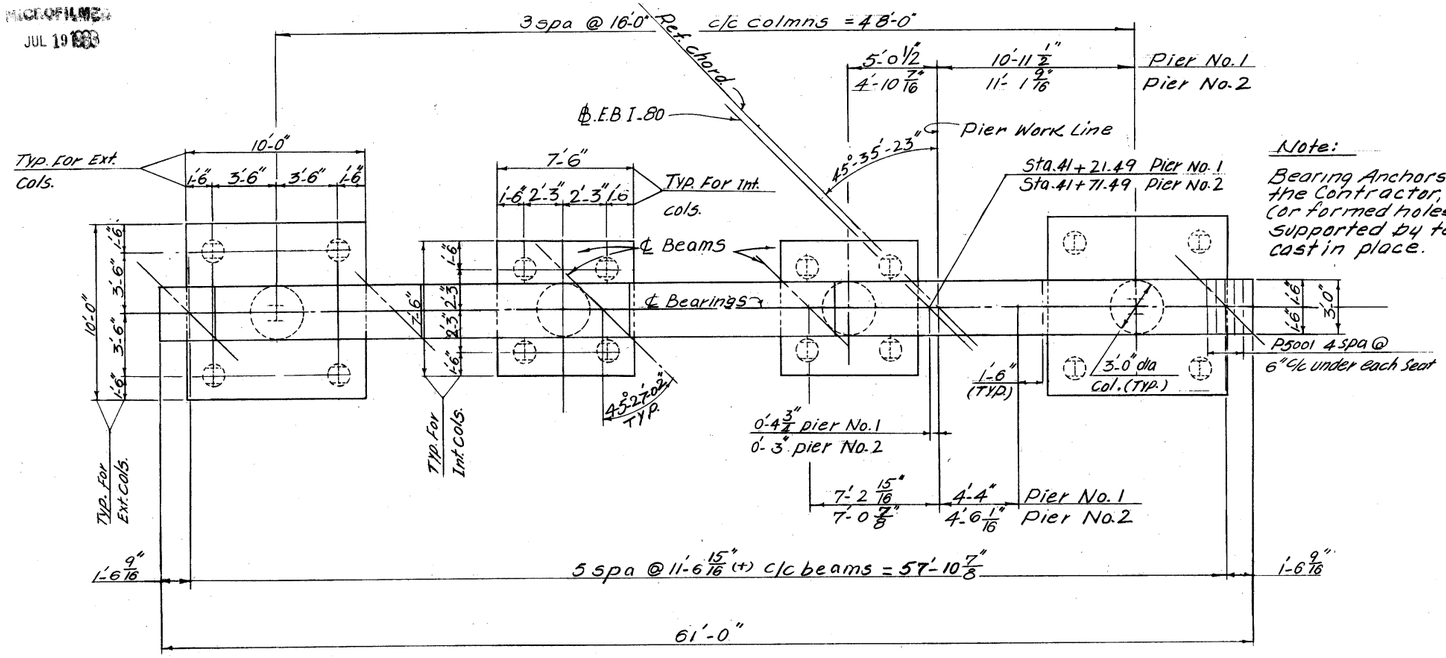
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	J.P.		R.S.S.	G.W.M.	5/15/70	

MICROFILMED
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

285/375

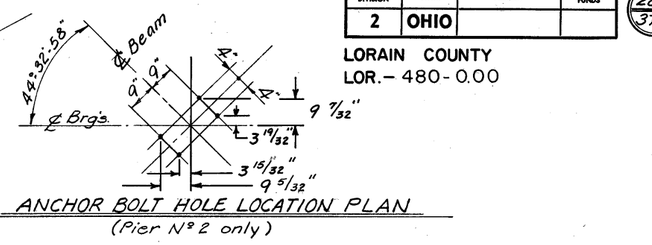
LORAIN COUNTY
LOR.– 480- 0.00



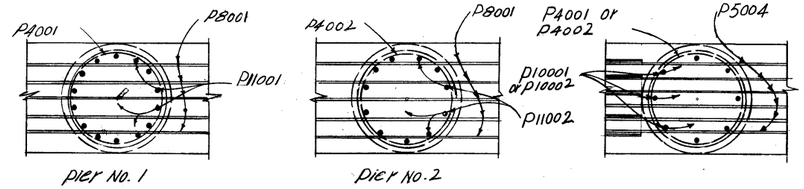
PLAN

Note:

Bearing Anchors: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.



ANCHOR BOLT HOLE LOCATION PLAN
(Pier Nº 2 only)

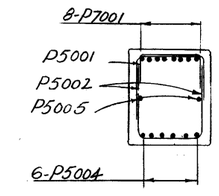


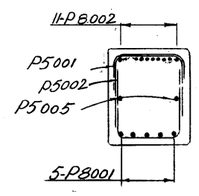
SECTION P3-P3

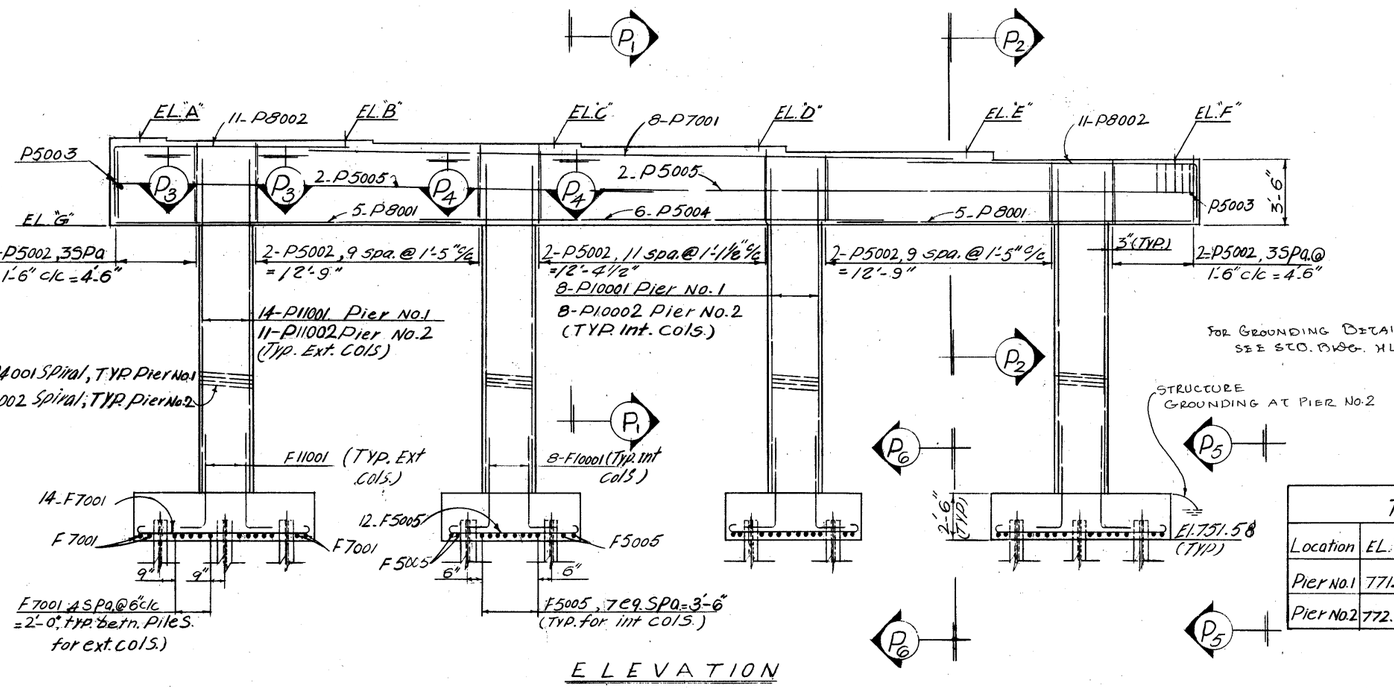
SECTION P4-P4

NOTES

All Piles are HP 10x42 Piles.
I indicates Vertical piles
① indicates pile battered 1:4
Reinforcing Steel as Shown is typical for both piers unless otherwise Shown.
Special care Shall be taken at Pier No. 2 in Placing reinf. Steel in the top Of the cap So aS to avoid interference with the drilling of anchor bar holes for bearing units or pre-setting of bearing anchors.







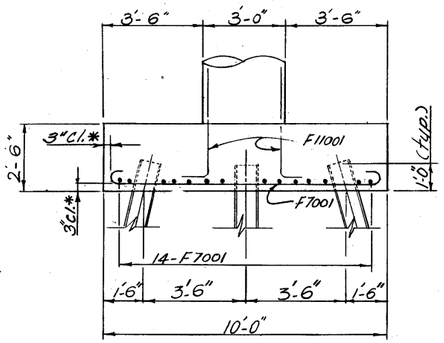
ELEVATION

TABLE OF ELEVATIONS.

Location	EL. "A"	EL. "B"	EL. "C"	EL. "D"	EL. "E"	EL. "F"	EL. "G"
Pier No. 1	771.83	771.58	771.32	771.03	770.72	770.38	766.88
Pier No. 2	772.44	772.32	772.16	771.89	771.62	771.35	767.85

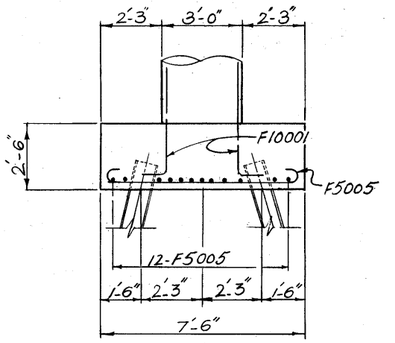
SECTION P1-P1

SECTION P2-P2



VIEW P5-P5

* Min. Clearance all footing surfaces.



VIEW P6-P6

7 /11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

PIER DETAILS

BRIDGE Nº LOR.- 80- 1903
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY

STA. 40+78.23
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	M.M.A		R.S.S.	G.W.M.	5/15/70	

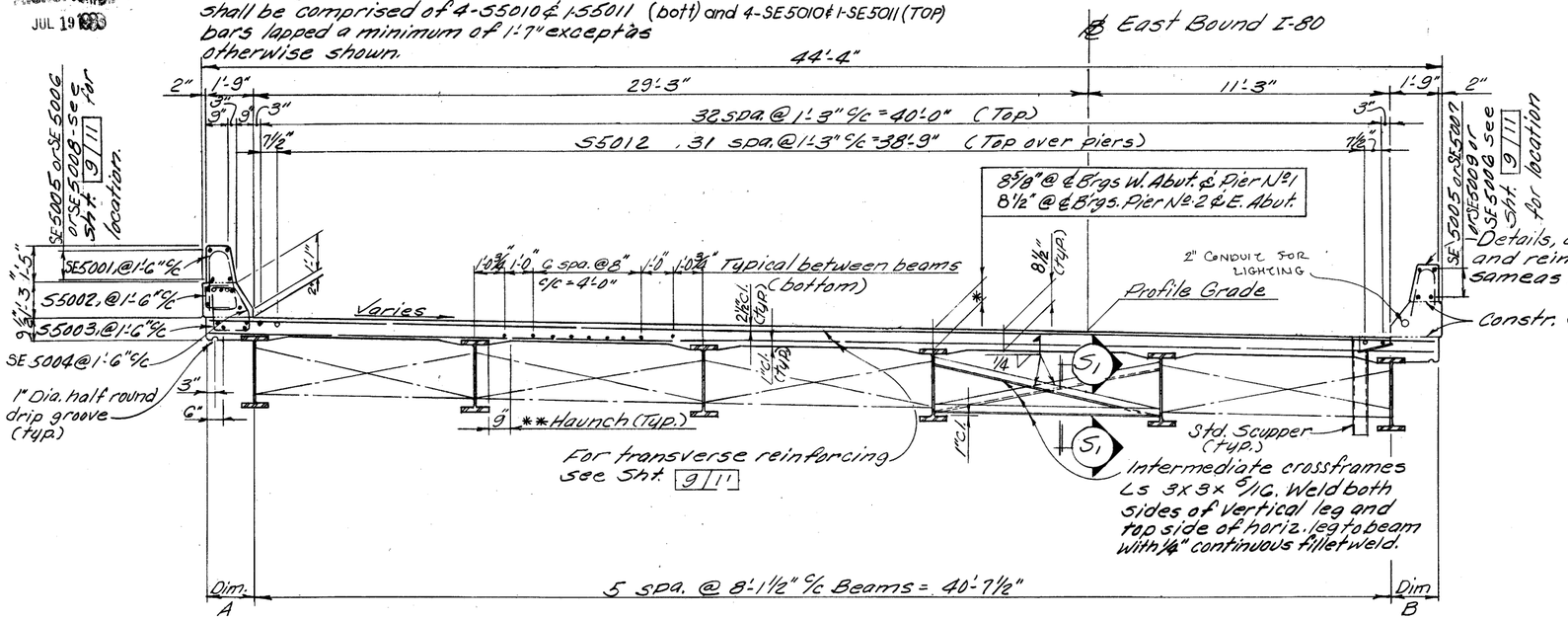
CITY OF ILMS
JUL 19

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

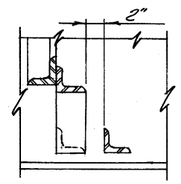
286
375

LORAIN COUNTY
LOR.-480-0.00

Note: Each longitudinal run of reinforcing shall be comprised of 4-SS5010 & 1-SS5011 (bott) and 4-SE5010 & 1-SE5011 (TOP) bars lapped a minimum of 1'-7" except as otherwise shown.



TRANSVERSE SECTION



SECTION S1-S1

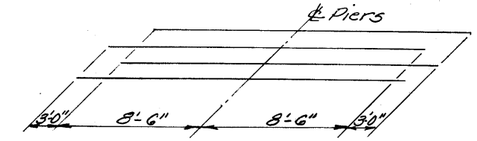
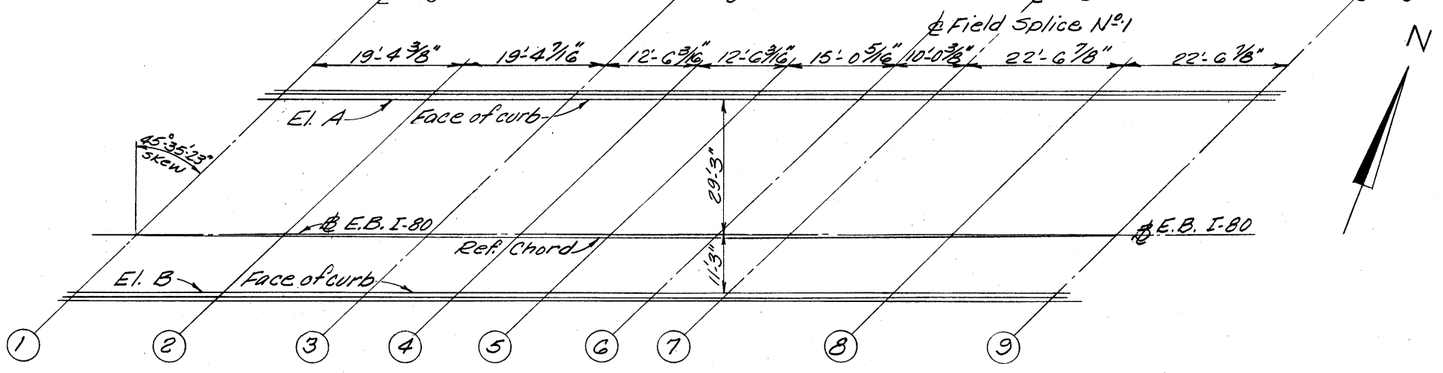


DIAGRAM SHOWING STAGGER OF SE5012 BARS OVER PIERS



DECK ELEVATION LOCATIONS

The deck elevations shown are those which are required prior to placing of the concrete deck. Proper allowance has been made for the dead load deflection caused by the weight of the concrete.

TABLE OF DECK ELEVATIONS

Line	1	2	3	4	5	6	7	8	9
Elev. A	775.65	776.02	776.17	776.33	776.50	776.68	776.80	777.15	777.45
Elev. C	773.93	774.35	774.73	774.99	775.24	775.53	775.70	776.13	776.52

SHOP DRAWINGS
After all steel fabrication is completed, the Fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing mounted on a 3 1/4" x 7 3/8" aperture card. The card shall be imprinted with the bridge and project number, Fabricator's name, drawing numbers and details shown on the drawing (girders, beams, crossframes, etc.)

END DAMS AND SCUPPERS:
Steel bar stock utilized for end dams and scuppers may be any weldable grade of low or mild carbon steel available commercially. This material is to be excluded from the requirements of 501.07 for test reports.

TABLE OF SLAB CANTILEVERS

LOCATIONS	Dim. A	Dim. B
℄ Brg. W. Abut.	1'-9"	2'-1 1/4"
1/2 Point	1'-9 7/8"	1'-9 7/8"
℄ Brg. Pier No. 1	1'-10"	1'-7 5/8"
1/2 Point	1'-9 3/4"	1'-6 7/8"
1/2 Point	1'-9 5/8"	1'-6 1/2"
Field Splice No. 1	1'-9 1/2"	1'-6 5/8"
℄ Brg. Pier No. 2	1'-9 3/8"	1'-6 3/4"
1/2 Point	1'-9 1/4"	1'-7"
℄ Brg. E. Abut.	1'-9"	1'-7 1/8"

* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

For details of end dam see Sht. 287

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

Concrete and reinforcing steel for parapets shall be included for payment with their respective items. Item 511 superstructure Concrete and Item 509 reinforcing steel.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

Steel Erection: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

For additional notes see Sht. 9/11.

NOTES:

8/11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS
BRIDGE No. LOR.-80-1903
E. B. I-80 OVER CHESTNUT RIDGE ROAD
LORAIN COUNTY
STA. 40+78.23
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	5/18/10	

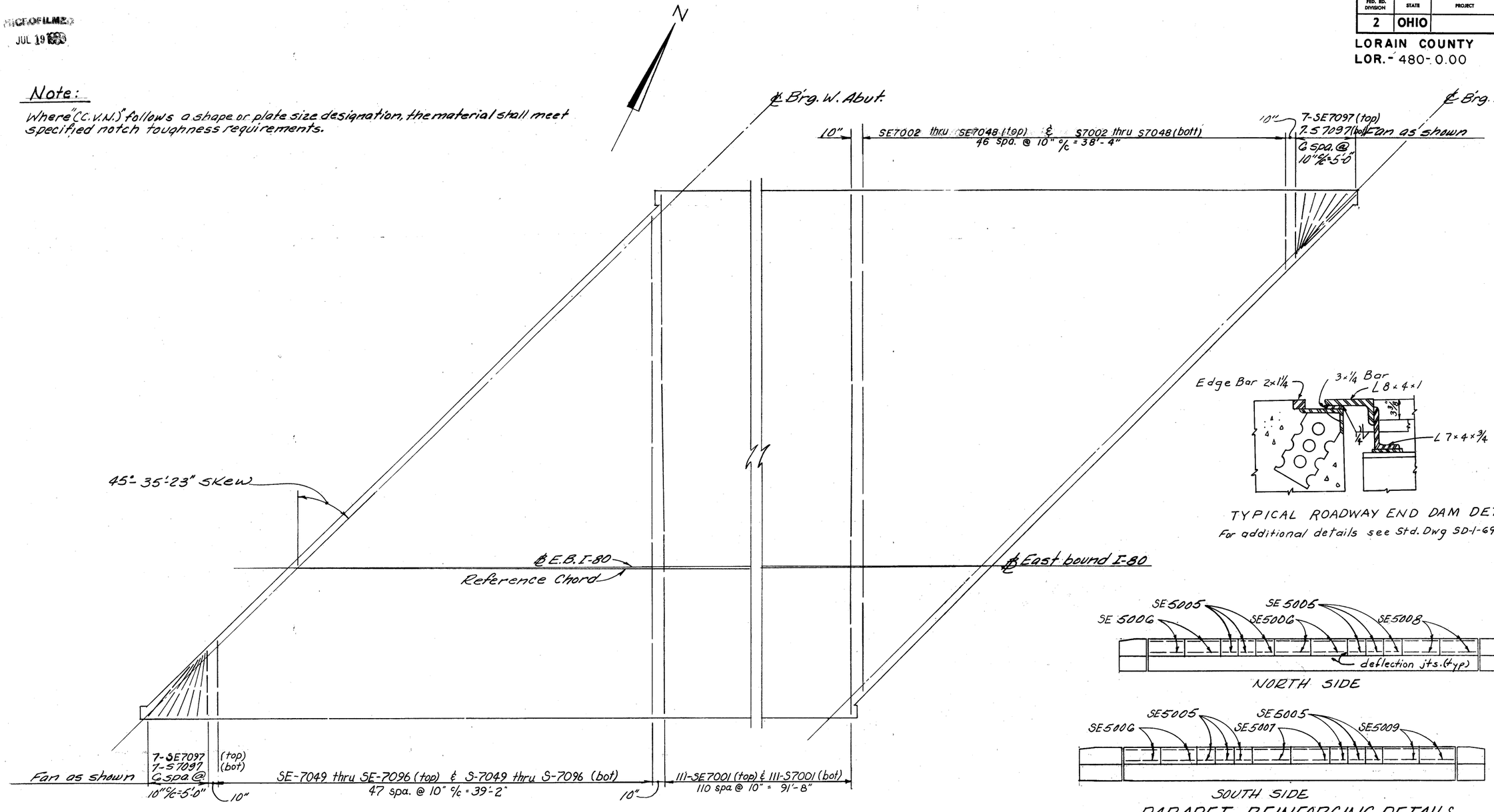
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

287/375

LORAIN COUNTY
LOR.-480-0.00

Note:

Where "C.V.N." follows a shape or plate size designation, the material shall meet specified notch toughness requirements.



TRANSVERSE SLAB REINFORCING

Note: Transverse reinforcing steel shall be placed normal to reference chord except at acute corners of slab.

TYPICAL ROADWAY END DAM DETAIL
For additional details see Std. Dwg SD-1-69, Sh. 1 of 4

NORTH SIDE

SOUTH SIDE

PARAPET REINFORCING DETAILS

9/11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE No. LOR.-80-1903
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY

STA. 40+78.23
STA. 42+19.69

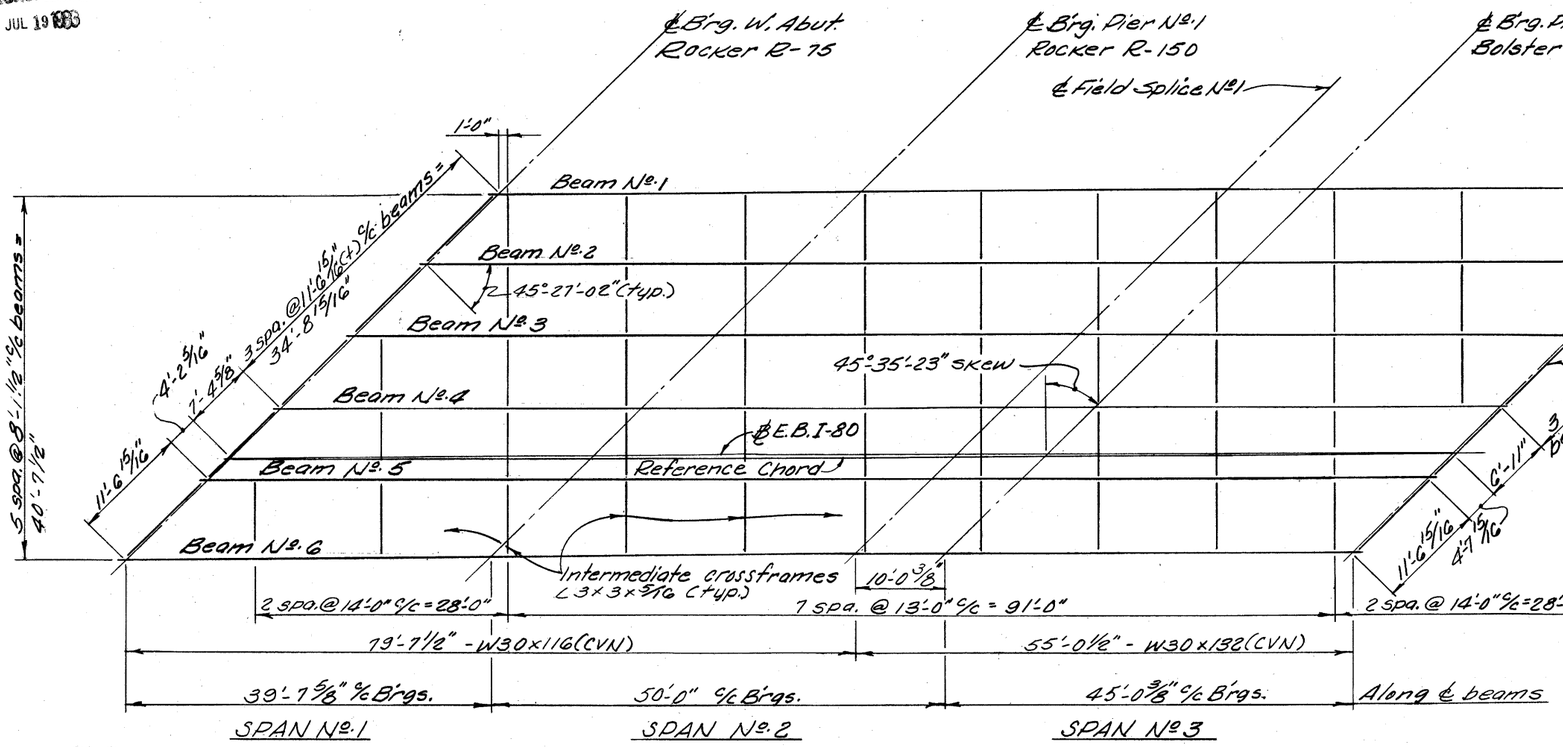
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	5/19/70	

MICROFILMED
JUL 19 1983

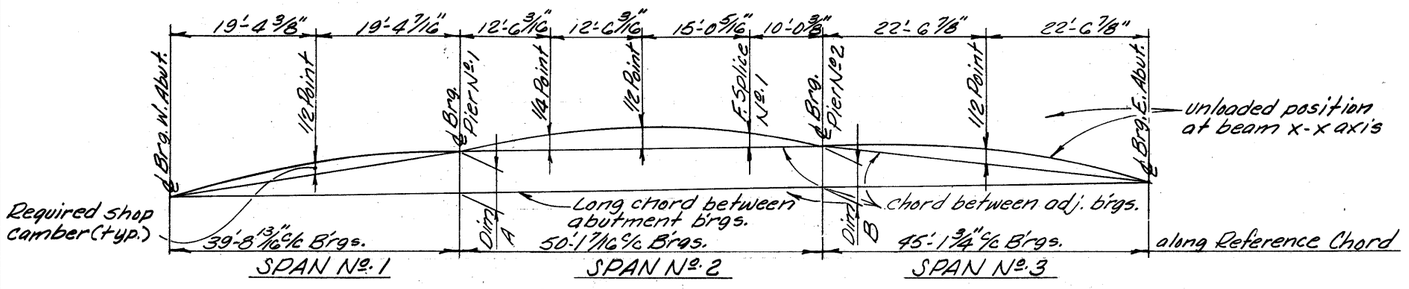
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

288
375

LORAIN COUNTY
LOR.- 480-0.00



FRAMING PLAN

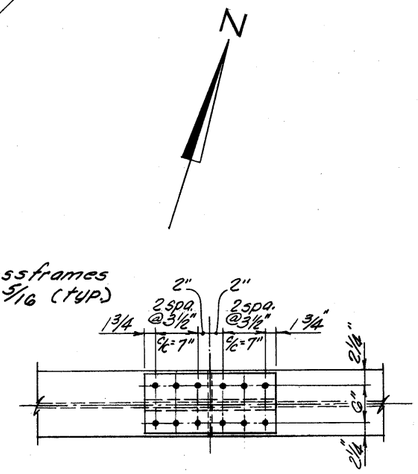


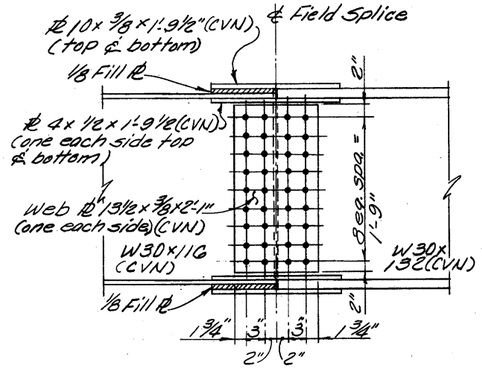
CAMBER & BLOCKING DIAGRAM

DEFLECTION AND CAMBER					
SPAN	Nº 1	Nº 2			Nº 3
LOCATION (All beams)	1/2 Pt.	1/4 Pt.	1/2 Pt.	F.S. Nº 1	1/2 Pt.
Deflection due to weight of steel	0	0	0	0	0
Deflection due to remaining dead load	1/8	1/16	1/8	1/16	1/4
Adjustment required for curvature	0	1/16	1/16	1/16	0
Required shop Camber	1/8	1/8	3/16	1/8	1/4

Note: The blocking dimension with negative values are below long chord.

TABLE OF BLOCKING DIMENSIONS						
Beam Nº	1	2	3	4	5	6
Dim. A	-3/16	-7/16"	-5/8	-5/16	0	+1/4"
Dim. B	-9/16	-7/16	-1/2	-1/4	+1/16	+1/2"





FIELD SPLICE DETAIL

NOTES:
1. 1"℄ high strength bolts shall be used at the Field Splice. Bolt heads shall be placed on fascia side of exterior beam web and bottom side of bottom flange. Bolts shall conform to A.S.T.M. A-325
2. Crossframes may be shifted if necessary to avoid field splice
3. Place intermediate crossframes normal to beam.

For additional notes, see sht. 9/11

10/11

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS
BRIDGE Nº LOR.-80-1903
E. B. I-80 OVER CHESTNUT RIDGE ROAD
LORAIN COUNTY
STA. 40+78.23
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	5/13/70	

EPOXY COATED REBARS

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
AE 5008	16	17-5	291	ST						
AE 5010	26	6-2	167	19		2-5	3-0	0-8		
AE 5011	40	3-0	125	ST						
AE 5013	16	10-4	172	ST						
AE 6005	26	5-4	208	15		0-9	0-9	3-5	0-11	
AE 6006	4	5-0		15		0-9	0-9	3-2	0-11	1
THRU			160	VARY LENGTH & DIM "D"			BY	0-2		
AE 6010	4	5-8		15						1
				SUPERSTRUCTURE						
SE 5001	184	5-4	1024	19	0-8	2-5	2-2			
SE 5004	184	3-2	608	15	0-8	0-8	1-0	0-9	0-9	
SE 5005	48	7-2	359	ST						
SE 5006	24	14-8	367	ST						
SE 5007	8	15-8	131	ST						
SE 5008	8	15-5	129	ST						
SE 5009	8	15-0	125	ST						
SE 5010	188	30-0	5883	ST						
SE 5011	47	22-9	1115	ST						
SE 5012	72	20-0	1502	ST						
SE 7001	111	43-8	9907	ST						
SE 7002	1	5-6		ST						1
THRU			2346		VARY	LENGTH	BY	0-9 7/8		
SE 7048	1	43-4		ST						1
SE 7049	1	5-6		ST						1
THRU			2396		VARY	LENGTH	BY	0-9 5/8		
SE 7096	1	43-4		ST						1
SE 7097	14	5-0	143	ST						

RECEIVED
JUL 19 1965

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
A 5001	60	4-11	308	2	1-6	2-2	1-6			
A 5002	6	30-3	189	ST						
A 5003	11	32-3	370	ST						
A 5004	82	8-2	698	2	2-6	3-5	2-6			
A 5005	22	27-8	635	ST						
A 5006	18	29-3	549	ST						
A 5007	11	31-5	360	ST						
A 5008	8	17-5	145	ST						
A 5009	46	1-9	84	2	0-6	1-0	0-6			
A 5012	26	3-5	93	ST						
A 5013	8	10-4	86	ST						
A 5014	8	6-1	51	ST						
A 5015	8	5-10	49	ST						
A 5016	4	11-7	48	ST						
A 5017	4	3-2		ST						1
THRU			76		VARY	LENGTH	BY	0-3		
A 5021	4	4-2		ST						1
A 5022	20	8-2	170	ST						
A 5023	4	9-7	40	12		8-0	1-7	0-6		
A 5024	4	7-7	32	12		6-0	1-7	0-6		
A 5025	14	5-2	75	ST						
A 5026	12	10-9	135	ST						
A 6001	112	7-11	1332	2	3-8	0-11	3-8			
A 6002	112	6-1	1023	2	2-6	1-5	2-6			
A 6003	112	7-7	1276	2	3-3	1-5	3-3			
A 8001	75	5-4	1068	20	1-1	3-4	0-6			
F 5001	82	8-3	706	2	1-7	5-4	1-7			
F 5002	82	7-0	599	2	6-6	0-8				
F 5003	54	11-1	624	3	2-3	3-0	2-3	3-0		
F 5004	2	6-6	14	ST						
F 6001	82	14-1	1735	2	6-6	5-4	2-7			
F 6002	24	19-6	703	2	9-4	1-2	9-4			
F 6003	6	7-6	68	ST						
F 8001	14	32-3	1206	ST						
F 8002	14	31-11	1193	ST						
F 8003	12	11-6	368	ST						
F 8004	12	13-3	425	ST						
F 8005	4	5-0	53	ST						
				PIERS						
P 4001	4	12-6	954	17	NO. TURNS= 36		NO. SPACERS= 16			6
P 4002	4	13-6	1033	17	NO. TURNS= 39		NO. SPACERS= 16			6
P 5001	60	5-5	339	2	1-6	2-8	1-6			
P 5002	160	8-9	1460	2	3-2	2-8	3-2			
P 5003	4	2-8	11	ST						
P 5004	12	22-2	277	ST						
P 5005	8	31-2	260	ST						
P 7001	16	32-2	1052	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				PIERS					(CONTINUED)	
P 8001	20	20-10	1112	ST						
P 8002	44	19-5	2281	2	16-6	3-2				
P10001	16	15-6	1067	ST						
P10002	16	16-6	1136	ST						
P11001	28	15-6	2306	ST						
P11002	22	16-6	1929	ST						
F 5005	48	8-2	409	10	7-0					
F 7001	112	11-2	2556	10	9-6					
F10001	32	6-7	906	2	5-6	1-5				
F11001	50	6-11	1837	2	5-10	1-5				
				SUPERSTRUCTURE						
S 5002	184	1-9	336	2	0-6	1-0	0-6			
S 5003	184	2-0	384	2	1-8	0-6				
S 5010	196	30-0	6133	ST						
S 5011	49	22-9	1163							
S 7001	111	43-8	9907	ST						
S 7002	1	5-6		ST						1
THRU			2346		VARY	LENGTH	BY	0-9	7/8	
S 7048	1	43-4		ST						1
S 7049	1	5-6		ST						1
THRU			2396		VARY	LENGTH	BY	0-9	5/8	
S 7096	1	43-4		ST						1
S 7097	14	5-0	143	ST						

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

289
375

LORAIN COUNTY
LOR - 480 - 0.00

NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP.
'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

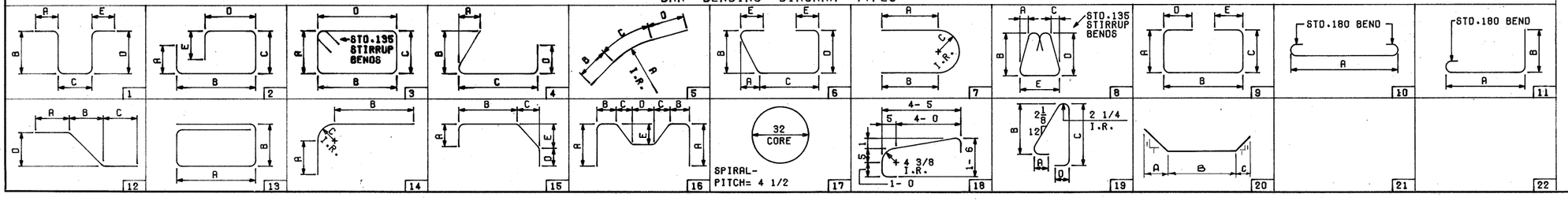
Bar dimensions are out to out.

Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



11111

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE NO LOR-80-1903
E.B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY
STA. 40+78.23
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.			R.S.S.	G.W.M.	5/13/70	