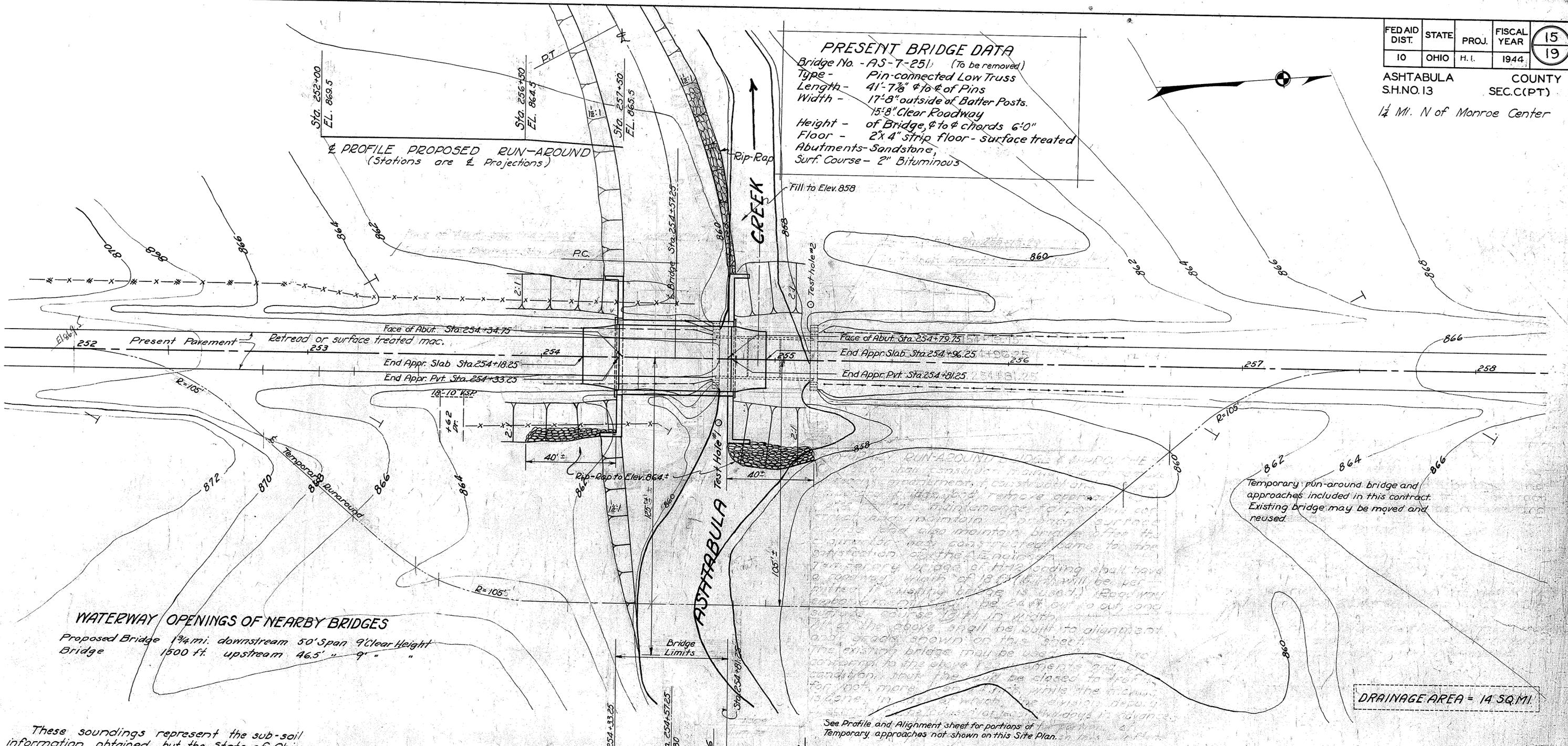


FED AID DIST.	STATE	PROJ.	FISCAL YEAR	15 19
10	OHIO	H.I.	1944	

ASHTABULA COUNTY
S.H. NO. 13 SEC. C (PT)
1/2 Mi. N of Monroe Center

PRESENT BRIDGE DATA
 Bridge No. - AS-7-251 (To be removed)
 Type - Pin-connected Low Truss
 Length - 41'-7 1/2" ϕ to ϕ of Pins
 Width - 17'-8" outside of Batter Posts.
 Height - 15'-8" Clear Roadway
 Floor - 2" x 4" strip floor - surface treated
 Abutments - Sandstone
 Surf. Course - 2" Bituminous

PROFILE PROPOSED RUN-AROUND
 (Stations are \pm Projections)

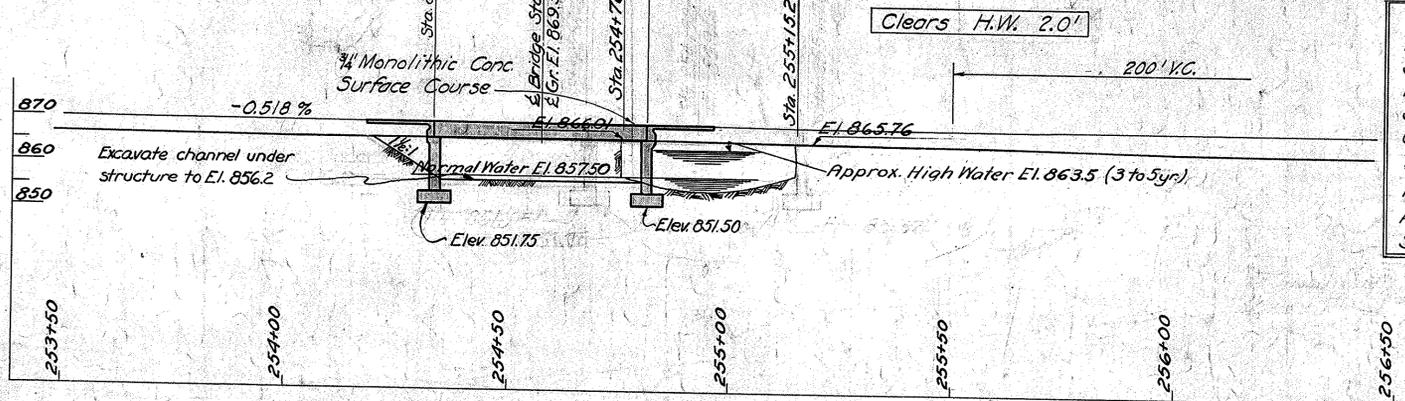
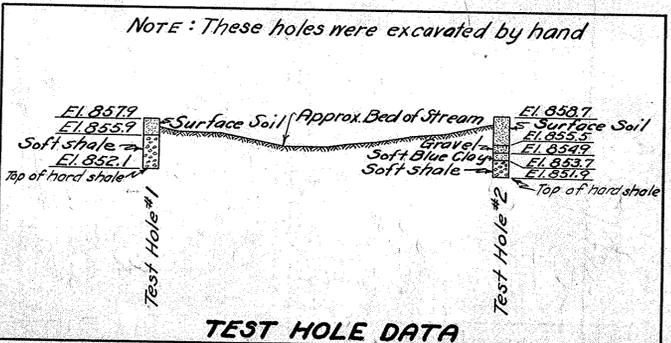


Temporary run-around bridge and approaches included in this contract. Existing bridge may be moved and reused.

DRAINAGE AREA = 14 SQ. MI.

WATERWAY OPENINGS OF NEARBY BRIDGES
 Proposed Bridge 1 3/4 mi. downstream 50' Span 9' Clear Height
 Bridge 1500 ft. upstream 46.5' " 9' "

These soundings represent the sub-soil information obtained but the State of Ohio does not guarantee the accuracy thereof.



PROPOSED STRUCTURE
 Type: Concrete Beam Bridge
 Span: 45 Ft. Clear
 B'twy: 28 Ft.
 Surf. Course: 3/4" Monolithic Conc.
 Grade: -0.518 %
 Loading: S-75-40
 No Skew
 Appr. Slab: -15' long (Flared)
 Std. Dwg: BD-35, MBD-40, AS-41-F

SITE PLAN
 SH NO. 13 SEC. C (BRIDGE)
 ASHTABULA CREEK
 NO. AS-7-251
 ASHTABULA COUNTY
 STATE OF OHIO

SCALE 1"=20' STA. - 254+57.25

PRES TOPOGRAPHY		PROPOSED WORK			
Surveyed	Drawn	Des.	Drn.	Ckd.	Rev.
		C.H.A.	C.H.A.	K.P.D.	M.H.C. 4/2

ASHTABULA COUNTY
S. H. 13 SEC. "C" (PT)

ESTIMATED QUANTITIES

Item No.	Description	South Abut.	North Abut.	Super-struct.	Gen-eral	Total	Change Order	As Built
E-2	Cofferdams and pumping				Lump	Lump Sum		Lump Sum
E-2	Excavation for structures, shale	75	58			133 Cu.Yd.	C-4, 12	145
E-2	Excavation for structures, wet	16	56			72 Cu.Yd.	C-4, 11	83
E-2	Excavation for structures, dry	7	7			14 Cu.Yd.	C-4, -2	12
5-1	Class "C" concrete, superstructure			85		85 Cu.Yd.		85
5-1	Class "E" concrete, walls	70	71			141 Cu.Yd.	C-4, 13	142.3
5-1	Class "E" concrete, footings	54	57			111 Cu.Yd.	C-4, 14	109.6
5-3	Type "B" waterproofing	21	21			42 Sq. Yd.		42
5-4	Reinforcing steel	6,000	6,310	21,940	120	34,370 Lbs.		34,370
5-9	1/2" Premolded expansion joint filler			8		85 Sq. Ft.		8
5-9	1/2" cast leaded bronze sliding plates			191		191 Lbs.		191
5-9	Structural steel end finish			1,230		1,230 Lbs.	C-4, 170	1300
5-14	Bridge railing (steel pipe)			90		90 Lin. Ft.		90
5-15	Temporary run-around bridge and approaches				Lump	Lump Sum		Lump Sum
5-24	Removal of existing structure				Lump	Lump Sum		Lump Sum
5-29	Porous backfill			95		95 Cu.Yds.	C-4, 6	89
5-29	Scuppers			14		14 each		14
I-10	Riprap			80		80 Sq. Yd.	C-4, 16	96

GENERAL NOTES

FOR DETAILS NOT SHOWN ON THESE DRAWINGS, reference shall be made to Std. Dwg. DD-35 (rev. 8-12-39), MBD-40 dated 10-29-40, and AS-41-F (dated 3-31-41), and Supplemental Specifications M-109.9 (dated 3-14-44), M-109.6 (a) (dated 3-14-44), and M-102.12 (dated 8-2-43)

EXISTING SUPERSTRUCTURE shall be removed, when no longer needed for traffic and piled at the disposal of the State's forces.

EXISTING SUBSTRUCTURE. South abutment shall be removed with channel excavation. North abutment shall be removed not less than 3" below proposed ground surface. Suitable material may be used as riprap at location shown on the Site Plan, or where directed by the Engineer.

WELDING. All shop welding shall be Class "A".

FOOTINGS shall extend a minimum of 3" into hard shale.

VIBRATION. All concrete shall be mechanically vibrated.

CHAMFER ALL EXPOSED EDGES 3/8" unless otherwise noted on the plans.

DIVIDING PLANE between wet and dry excavation is taken as Elev. 857.50.

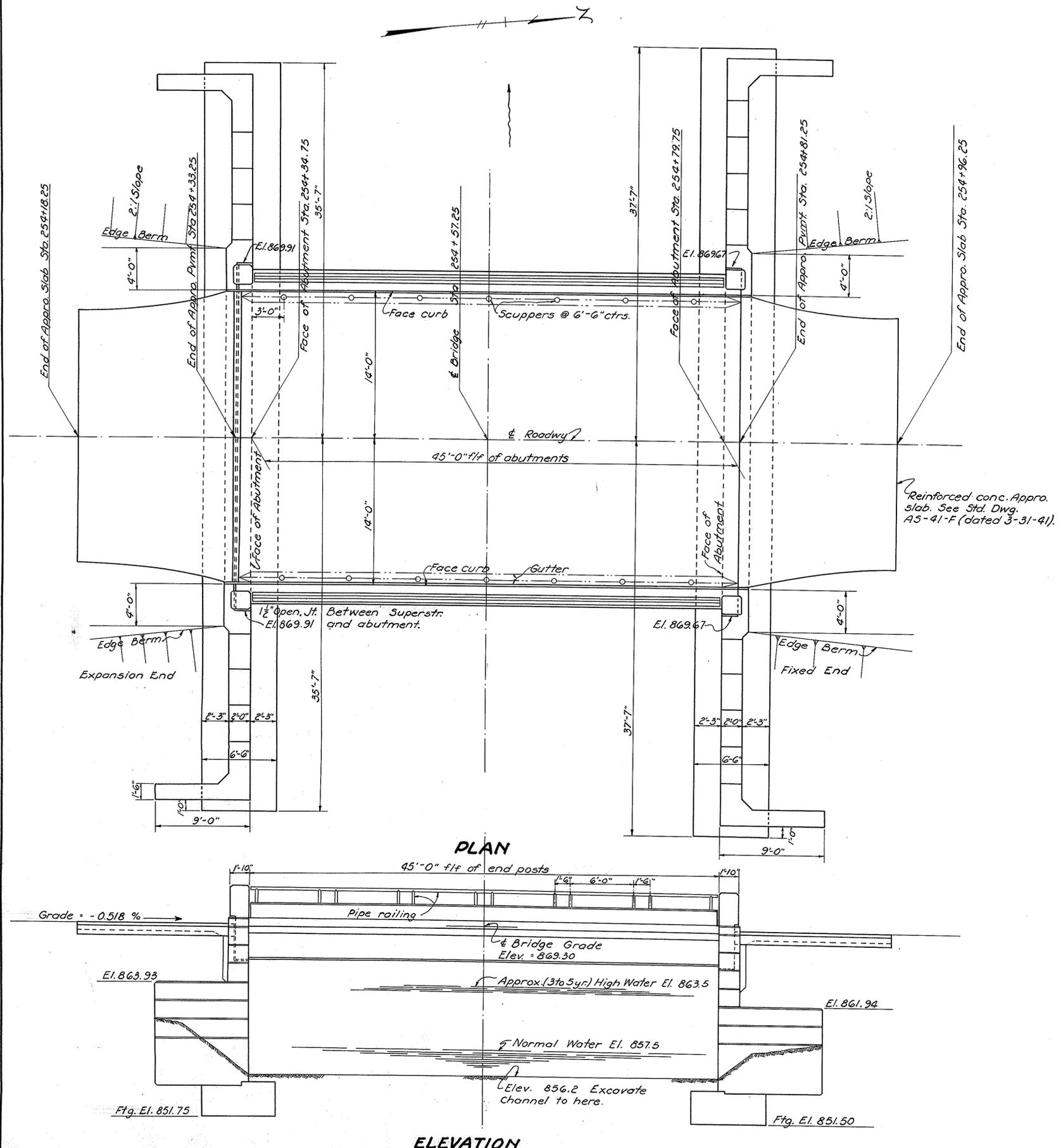
U.S.G.S. BENCH MARK. The U.S.G.S. benchmark on the existing south abutment shall be re-established with precision on the new south abutment. The Engineer shall notify the proper authority of this re-establishment.

PAINTING :- Shop paint for structural steel and railing shall be red lead as per Supplemental Spec. M-109.9. Field paint for structural steel and railing shall be two coats of either aluminum paint as per Sec. M-9.12, or white paint as per Supplemental Spec. M-109.6 (a), tinted to match the color of the concrete.

CONCRETE :- Fine aggregate for concrete shall meet the requirements of Supplemental Spec. M-102.12.

FALSEWORK PLANS :- Not less than 15 days prior to placing the superstructure concrete, the Contractor shall submit 3 blueprints of the falsework plans to the Director for approval by the Bureau of Bridges.

CHANGE ORDER #1. Air entrained concrete used for structures using cement in accordance with M-1, specification for Portland Cement adopted March 23, 1945.



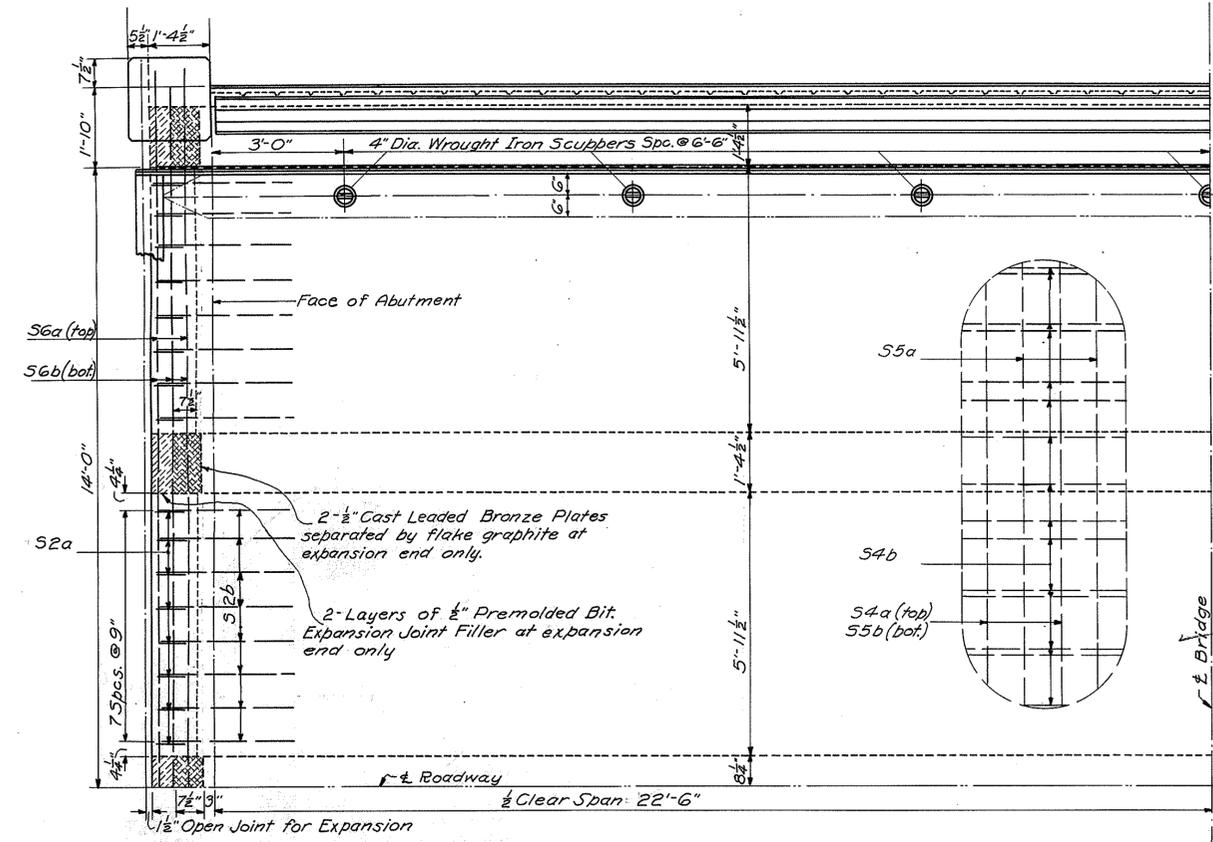
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

GENERAL PLAN AND ELEVATION NOTES AND QUANTITIES

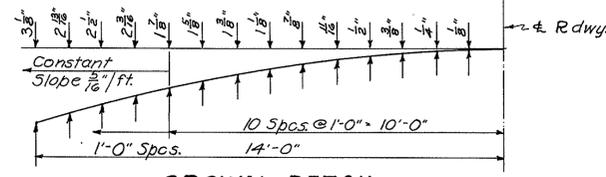
BRIDGE NO. AS-7-251
OVER ASHTABULA CREEK
ASHTABULA COUNTY S. H. 13
SEC. "C" (BRIDGE) STA. 254+57.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.E.S.	P.C.S.	R.S.H.	J.H.B.	R.A.S.	6/3/41	

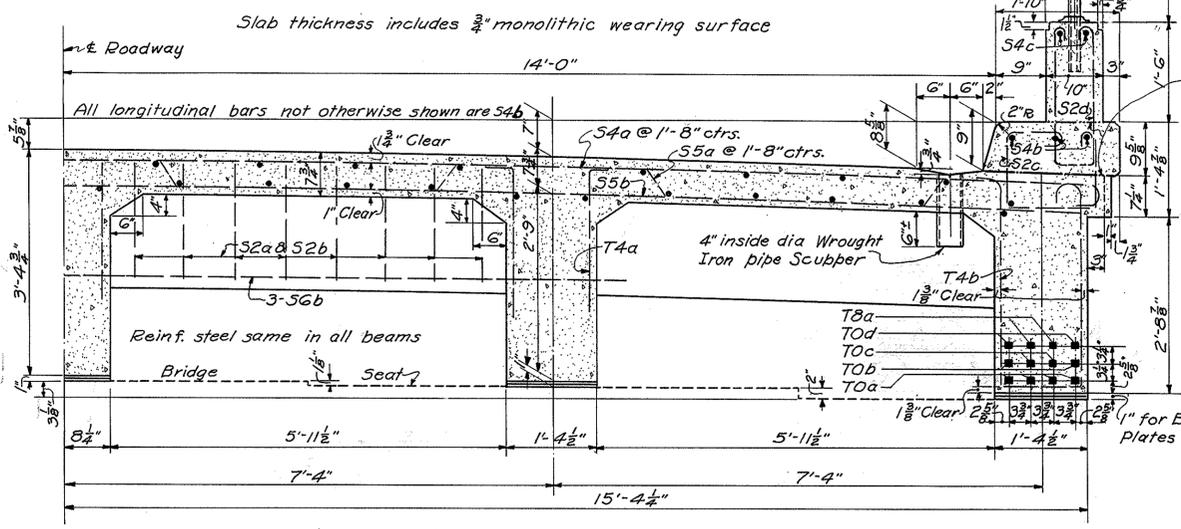
ASHTABULA COUNTY
S. H. 13 SEC. - C (PT)



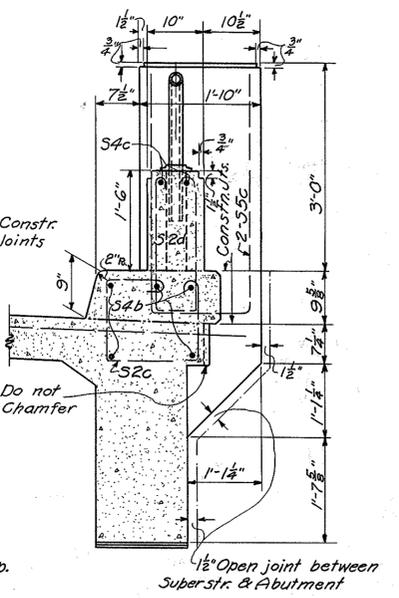
QUARTER PLAN
Superstructure symmetrical about \pm of roadway and \pm of bridge.



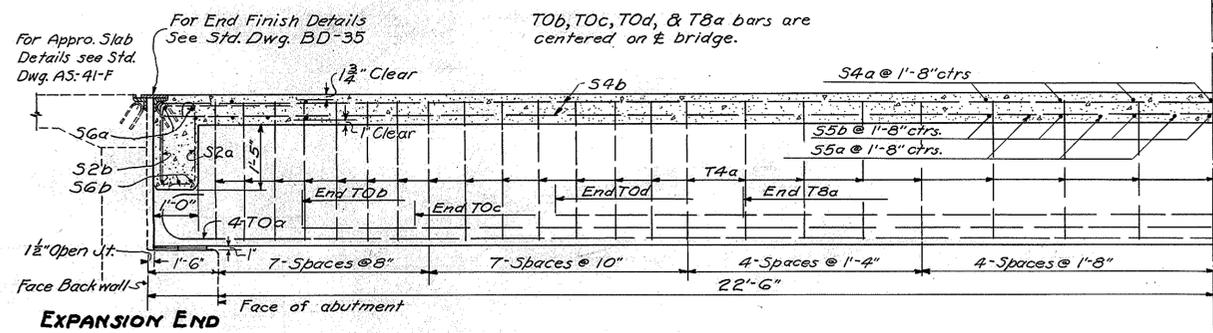
CROWN DETAIL
SYMMETRICAL ABOUT \pm ROADWAY



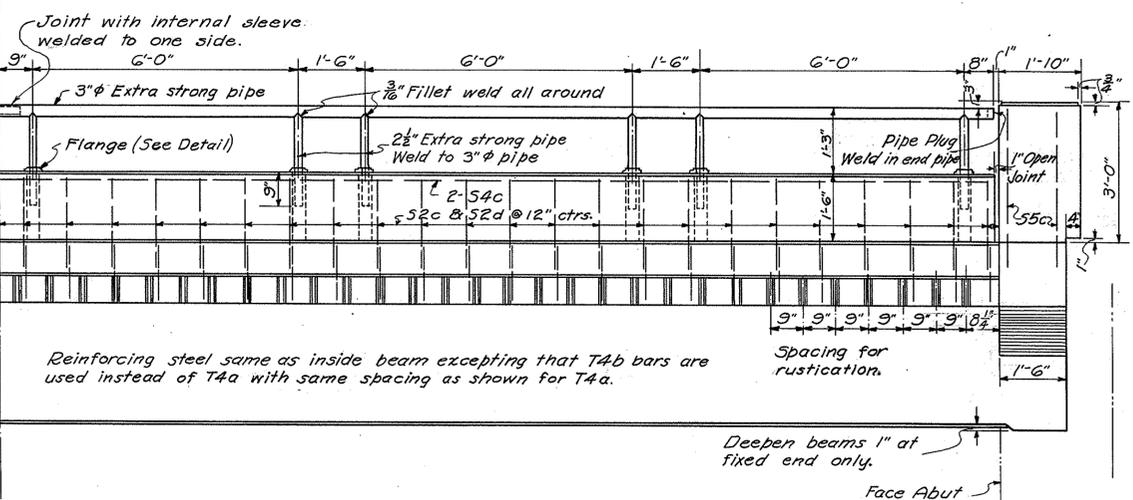
HALF CROSS SECTION



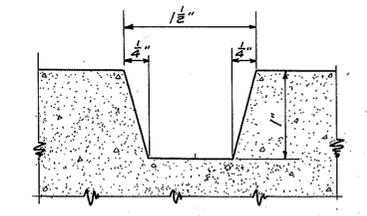
DETAIL AT END POST



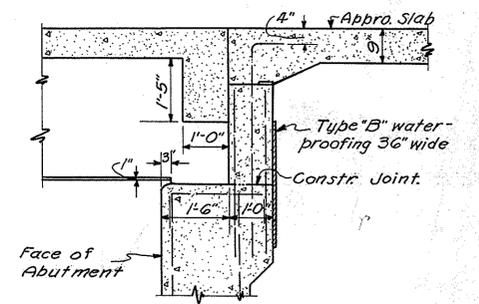
HALF ELEVATION - INSIDE BEAM



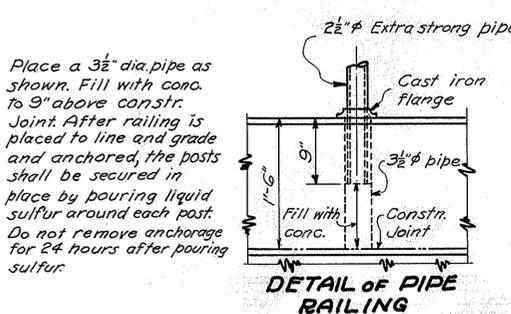
HALF ELEVATION - OUTSIDE BEAM



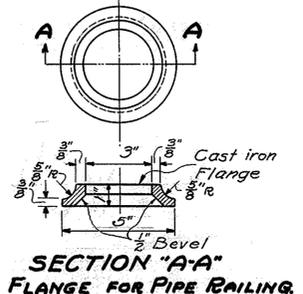
RUSTICATION DETAIL



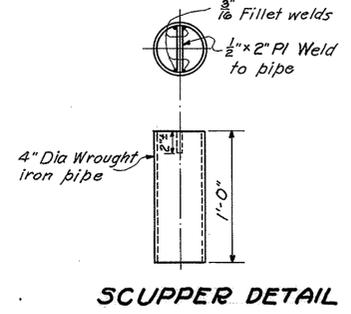
SECTION AT FIXED END



DETAIL OF PIPE RAILING



SECTION "A-A" FLANGE FOR PIPE RAILING



SCUPPER DETAIL

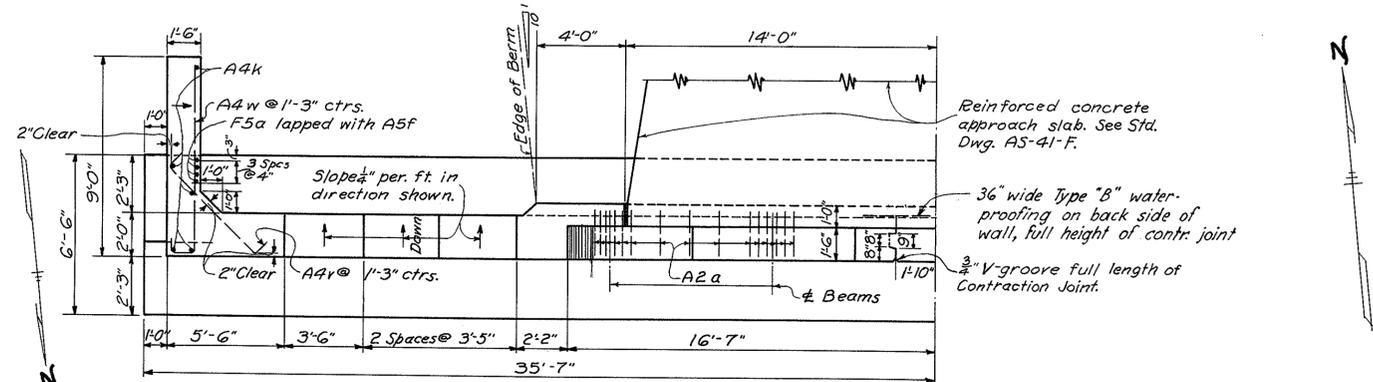
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS
BRIDGE N^o AS-7-251
OVER ASHTABULA CREEK

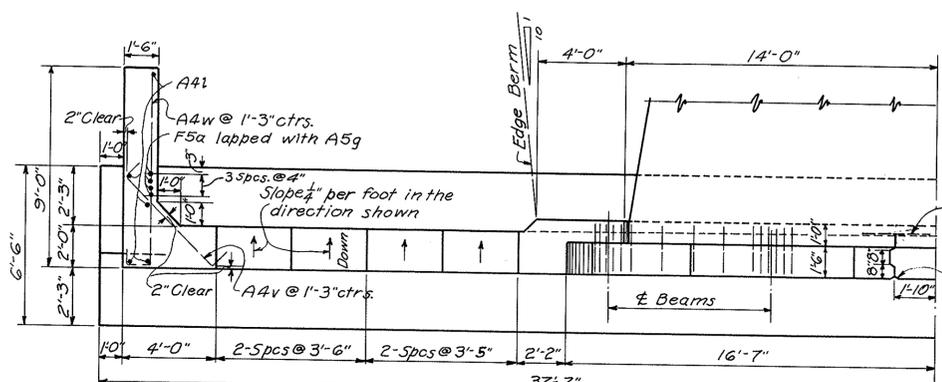
ASHTABULA CO. S. H. 13
SECTION "C" (BRIDGE) STA. 254 + 57.2

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
R.E.S.	R.E.S.	J.R.V.	J.A.B.	B.S.G.	11/4/44 6/3/41

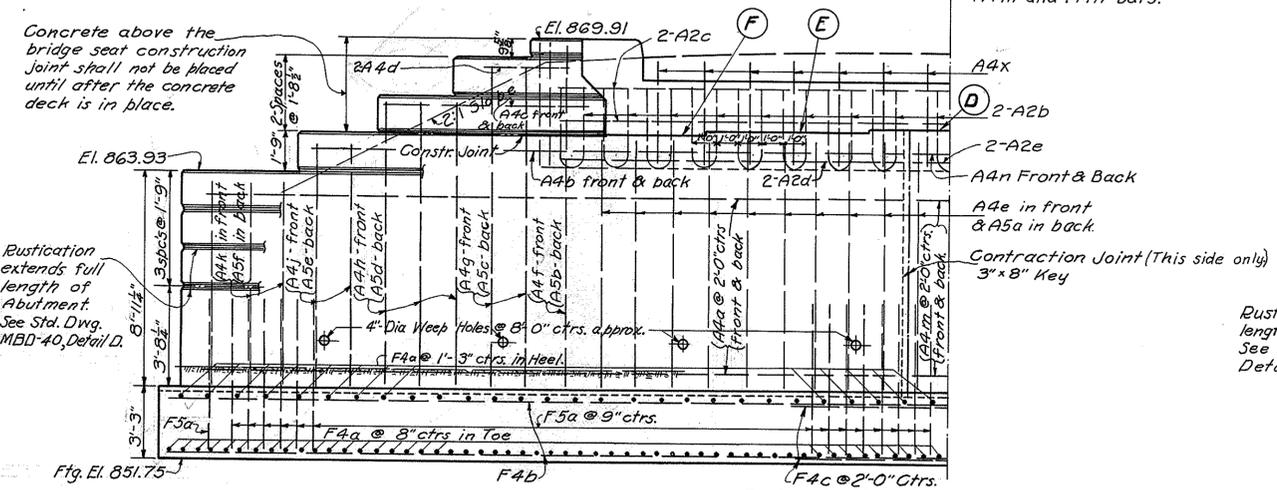
ASHTABULA COUNTY
S.H.-13 SEC.-C.(PT)



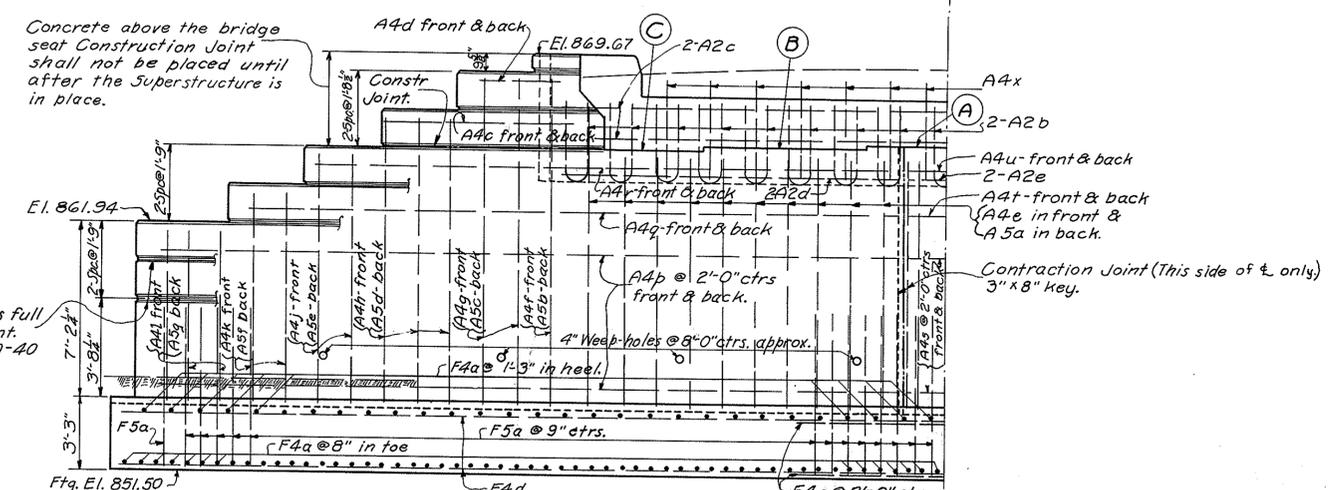
HALF PLAN OF SOUTH ABUTMENT



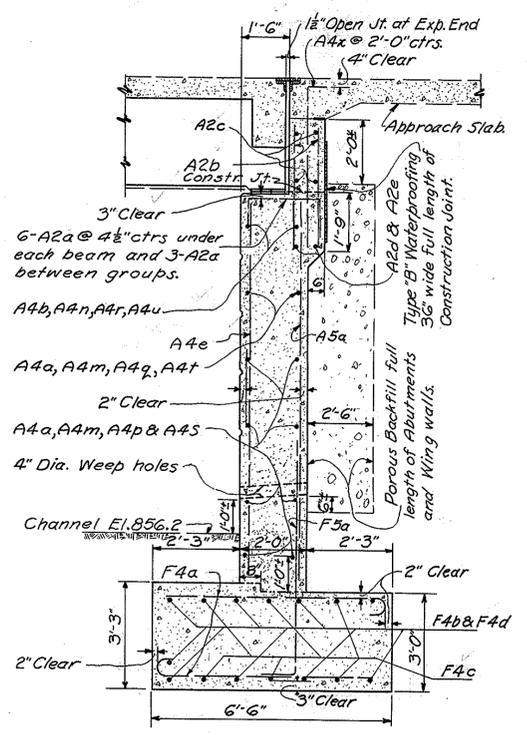
HALF PLAN OF NORTH ABUTMENT



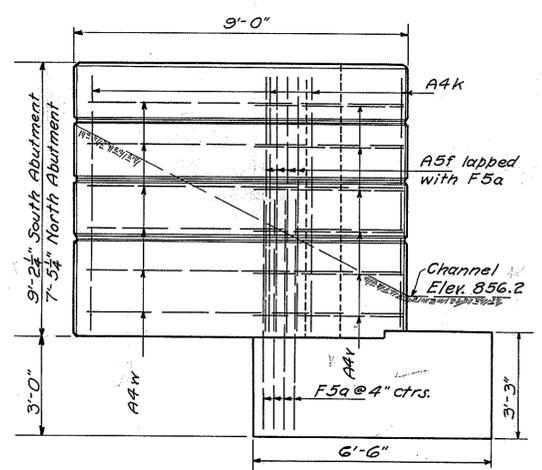
HALF ELEVATION OF SOUTH ABUTMENT



HALF ELEVATION OF NORTH ABUTMENT



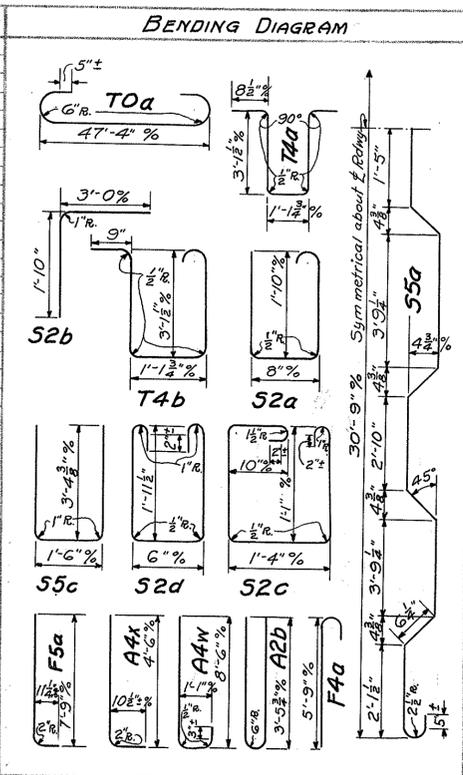
SECTION ON & ABUTMENT



BRIDGE SEAT ELEVATIONS

Ⓐ Elevation	=	865.70
Ⓑ "	=	865.61
Ⓒ "	=	865.44
Ⓓ "	=	865.94
Ⓔ "	=	865.85
Ⓕ "	=	865.68

REINFORCING STEEL LIST											
MARK	SIZE	Nº	LENGTH	WEIGHT	SHAPE	MARK	SIZE	Nº	LENGTH	WEIGHT	SHAPE
SUPERSTRUCTURE						Abutments (Continued)				BENDING DIAGRAM	
TOa	1 1/4"	20	50'-6"	5370	B	A4c	5/8"	8	9'-0"	80	S
TOb	1 1/4"	10	41'-0"	2180	S	A4d	5/8"	8	4'-6"	40	S
TOc	1 1/4"	10	38'-0"	1920	S	A4e	5/8"	42	10'-6"	460	S
TOd	1 1/4"	10	29'-6"	1570	S	A4f	5/8"	4	14'-6"	60	S
T8a	1"	10	24'-0"	820	S	A4g	5/8"	8	13'-9"	120	S
T4a	5/8"	135	8'-6"	1200	B	A4h	5/8"	12	12'-0"	150	S
T4b	5/8"	90	8'-6"	800	B	A4i	5/8"	8	10'-6"	90	S
S6a	7/8"	4	32'-0"	260	S	A4j	5/8"	8	10'-6"	90	S
S6b	7/8"	6	30'-0"	370	S	A4k	5/8"	18	8'-9"	160	S
S5a	3/4"	28	33'-9"	1420	B	A4l	5/8"	14	7'-0"	100	S
S5b	3/4"	27	30'-9"	1250	S	A4m	5/8"	10	35'-6"	370	S
S5c	3/4"	8	8'-0"	100	B	A4n	5/8"	2	30'-3"	60	S
S4a	5/8"	27	30'-9"	870	S	A4p	5/8"	8	33'-6"	280	S
S4b	5/8"	100	24'-9"	2590	S	A4q	5/8"	2	29'-6"	60	S
S4c	5/8"	8	23'-6"	200	S	A4r	5/8"	2	26'-0"	50	S
S2a	1/2"	64	4'-9"	200	B	A4s	5/8"	8	37'-6"	310	S
S2b	1/2"	64	4'-9"	200	B	A4t	5/8"	2	33'-3"	70	S
S2c	1/2"	92	5'-0"	310	B	A4u	5/8"	2	30'-0"	60	S
S2d	1/2"	92	5'-0"	310	B	A4v	5/8"	28	7'-0"	210	B
Abutments						BENDING DIAGRAMS					
A5a	3/4"	42	10'-9"	680	S	A2a	1/2"	84	4'-0"	220	B
A5b	3/4"	4	14'-9"	90	S	A2b	1/2"	68	7'-6"	340	B
A5c	3/4"	8	14'-0"	170	S	A2c	1/2"	8	35'-3"	190	S
A5d	3/4"	12	12'-3"	220	S	A2d	1/2"	4	15'-6"	40	S
A5e	3/4"	8	10'-9"	130	S	A2e	1/2"	4	19'-0"	50	S
A5f	3/4"	16	9'-0"	220	S	REPLACEMENT STEEL					
A5g	3/4"	12	7'-3"	190	S	RE 0	1 1/4"	1	9'-0"	50	S
F5a	3/4"	200	8'-6"	2560	B	RE 1	1"	1	8'-0"	30	S
A4a	5/8"	10	31'-6"	330	S	RE 2	7/8"	1	7'-6"	20	S
A4b	5/8"	2	26'-9"	60	S	RE 3	3/4"	1	7'-0"	10	S
						RE 4	5/8"	1	6'-6"	10	S
						RE 5	1/2"	1	6'-0"	10	S



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

ABUTMENT DETAILS & REINFORCING STEEL LIST
BRIDGE NO. A5-7-251
OVER ASHTABULA CREEK
ASHTABULA CO. S.H.-13 SEC. C.
STA. 254+57.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.C.	P.E.	J.R.K.	J.H.B.	M.H.R.	6/3/41	

SUMMARY OF QUANTITIES

ASHTABULA COUNTY
S.H. 13 SEC. C (PT.)

EXCAVATION & EMBANKMENT

Station From	Station To	Excav.	Emb.	Emb +18%
250+00	254+33	305	2227	2628
254+81	260+50	1053	3830	4519

TEMPORARY ROAD

Station From	Station To	Excav.	Emb.	Emb +18%
3+06.17	9+51.43	247	1216	1435
3+06.17	9+51.43	1216	247	291

Totals	2821	7520	8673
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CHANNEL EXCAVATION

Station From	Station To	Excav.	Emb.	Emb +18%
0+00 E	1+35 E	772	0	0
0+00 W	5+00 W	2560	865	1021

Totals	3332	865	1021
--------	------	-----	------

Road Excavation = 2821 Cu.Yd.
Road Emb +18% = 8873 Cu.Yd.
Borrow = 6052 Cu.Yd.
Channel Excavation = 3332 Cu.Yds.
Channel Emb. +18% = 1021 Cu.Yds.
Surplus = 2311 Cu.Yds.

Note:— The channel excavation which is found suitable, shall be incorporated in the Roadway Embankment, at the direction of the Project Engineer, and a deduction shall be made from the Borrow Material.

E-11 Water (Estimated)

7520 Cu.Yds x .5 Gal. = 38 M Gal.

E-9 TREE REMOVAL

Sheet No.	10" to 24" Trees
8	3 each
12	3 each
Total	6 Trees

I-1 PIPE FOR DRIVES

Sheet No.	Lin. Ft.	Pipe
4	24	28
8	20	
Totals	44	28

I-3 ROADWAY DRAINAGE

Sheet No.	6" Pipe	8" Pipe	12" Pipe	Outlet Pipe
4		201	292	10 10
Total		201	292	10 10

I-9 STONE UNDERDRAIN No.2 (French Drain)

Sheet No.	Lin. Ft.
4	200 (Estimated)
Total	200 Lin. Ft.

E-12 PIPE REMOVED & STORED

Sheet No.	6" V.S.P.	8" V.S.P.	10" V.S.P.	20" V.S.P.
4	18	18	18	
Totals	36	18	18	

E-12 PIPE REMOVED FOR RE-USE

Sheet No.	Drive Pipe
8	20
Totals	20

I-6 PIPE RELAID

Sheet No.	Drive Pipe Relaid
4	20
Total	20

I-10 RIP-RAP TYPE 'A' (GROUTED)

Sheet	Sq. Yds
12	51.4
8 13	
4	24.1
Total	75.5 Sq. Yds.

I-15 GUARD RAIL

Sheet No.	Removed Lin. Ft.	New Lin. Ft.
4	387	837.5
Total	387	837.5

I-17 AGGREGATE FOR DRIVES

Sheet No.	Cu. Yds.
4	16
8	2
Total	18

No. 46 = 60% x 18 = 10.8 Cu.Yd.
No. 7 = 40% x 18 = 7.2 Cu.Yd.
Total I-17 = 18 Cu.Yd.

E-305 SEEDING & PROTECTING ROADWAY AREAS

Sheet No.	Station From	Station To	Side	Sq. Yds.
4	250+00	254+32	Lt.	986.5
4	250+00	254+32	Rt.	1303.7
4	254+83	260+50	Lt.	2265.8
4	254+83	260+50	Rt.	1814.4
Sub total				6370.4
DEDUCTIONS FOR DRIVES				
4	253+00	323' ÷ 9		35.9
4	259+15	223' ÷ 9		24.7
4	260+61	323' ÷ 9		35.9
Total Deductions				96.5
Total Seeding Area =				6273.9

L-9 10-6-4 COMMERCIAL FERTILIZER

6273.9 Sq. Yds. x 9 = 56465.1 Sq. Ft.
(56465.1 ÷ 1000) x 20 Lbs. = 1129 Lbs.

SODDED DITCHES

Sheet No.	Sq. Yds
4	380.4
Total	380.4

AGGREGATE FOR TREE ROOT AERATION

Sheet No.	Cu. Yds.
4	5
Total	5

PAVEMENT CALCULATIONS

TEMPORARY ROAD

T-110 Traffic Compacted Surface Course (Estimated) 526 Cu.Yds.
M-10 Calcium Chloride (Estimated) 11 Tons

WATERBOUND MACADAM

Sta. 250+50 to 254+18.25 = 368.25 Lin. Ft.
Sta. 254+96.25 to 260+00 = 503.75 Lin. Ft.
Total Lin. Ft. = 872.00 Lin. Ft.
872 x 22.5 ÷ 9 = 2180.0 Sq. Yds.
Additions (Transitions) See Sheet No. 10 217.0 Sq. Yds.
Total B-20 = 2397.0 Sq. Yds.

T-35 = 872 x 2.2 ÷ 9 = 2132 Sq. Yds.
Additions (Transitions) Sh. 10 211 Sq. Yds. Total 2343 Sq. Yds.
B-20 4" WATER BOUND MACADAM 1st BASE COURSE = 2397 Sq. Yds.
B-20 4" WATER BOUND MACADAM 2nd BASE COURSE = 2397 Sq. Yds.
T-30 BITUMINOUS PRIME COAT Sec. M-515 RT-2
2397 x 0.35 = 839 Gals.
B-35 3/4" MINIMUM ASPHALTIC CONCRETE LEVELING COURSE 2343 x 1 ÷ 36 = 65 Cu. Yds.
T-35 1/4" ASPHALTIC CONCRETE SURFACE COURSE TYPE 'A' 2343 x 1/4 ÷ 36 = 82 Cu. Yds.

GENERAL SUMMARY

ITEM	TOTAL	UNIT	DESCRIPTION
— ROADWAY —			
E-1	2821	Cu.Yds.	Roadway Excavation (Unclassified)
E-3	3332	Cu.Yds.	Channel Excavation
E-4	6052	Cu.Yds.	Borrow (Contractor to Furnish)
E-9	6	Each	Removal of Trees & Stumps
E-11	38	M. Gal	Water (Estimated)
E-12	36	Lin. Ft.	6" to 10" Pipe Removed & Stored
E-12	18	Lin. Ft.	20" Pipe Removed & Stored
E-12	20	Lin. Ft.	12" Pipe Removed for Re-use
I-1	44	Lin. Ft.	12" Pipe for Drives
I-1	28	Lin. Ft.	24" Pipe for Drives
I-3	10	Lin. Ft.	8" Pipe for Roadway Drainage Outlet
I-3	201	Lin. Ft.	8" Pipe for Roadway Drainage
I-3	292	Lin. Ft.	12" Pipe for Roadway Drainage
I-6	20	Lin. Ft.	12" Pipe Relaid for Drives.
I-9	200	Lin. Ft.	Stone Underdrain "No. 2" (French Drain)
I-10	76	Sq. Yds.	Rip Rap Type "A" (Grouted)
I-15	387	Lin. Ft.	Guard Rail Removed & Stored
I-15	837.5	Lin. Ft.	Guard Rail, Steel Beam without brackets I-1505A
I-3	10	Lin. Ft.	12" Pipe for Roadway Drainage Outlet
I-117	218	Cu. Yds.	Side Approaches, Mail Box Turnouts and Berm Material
E-305	6274	Sq. Yds.	Seeding and Protecting Roadway Areas
L-9	1129	Lbs.	10-6-4 Commercial Fertilizer
L-8	5	Cu. Yds.	Aggregate for Tree Root Aeration
L-10	381	Sq. Yds.	Sodding
T-110	526	Cu. Yds.	Traffic Compacted Surface Course for temporary road
M-10	11	Tons	Calcium Chloride for temporary road
— TEMPORARY ROAD —			
T-110	526	Cu. Yds.	Traffic Compacted Surface Course
M-10	11	Tons	Calcium Chloride
— PAVEMENT —			
B-20	2397.0	Sq. Yds.	4" Water bound Macadam 1st. Base Course
B-20	2397.0	Sq. Yds.	4" Water bound Macadam 2nd Base Course
T-30	839.0	Gals.	Bituminous Prime Coat Sec. M-515 RT-2
B-35	65.0	Cu. Yds.	3/4" Minimum Asphaltic Concrete Leveling Course
T-35	82.0	Cu. Yds.	1/4" Asphaltic Concrete Surface Course Type 'A'
S-5	84	Sq. Yds.	9" Reinforced Conc. Approach Slabs
STRUCTURE OVER 20 FT. SPAN FOR BRIDGE QUANTITIES SEE SHEET No 16			

© Extra Quantity required for filling voids.