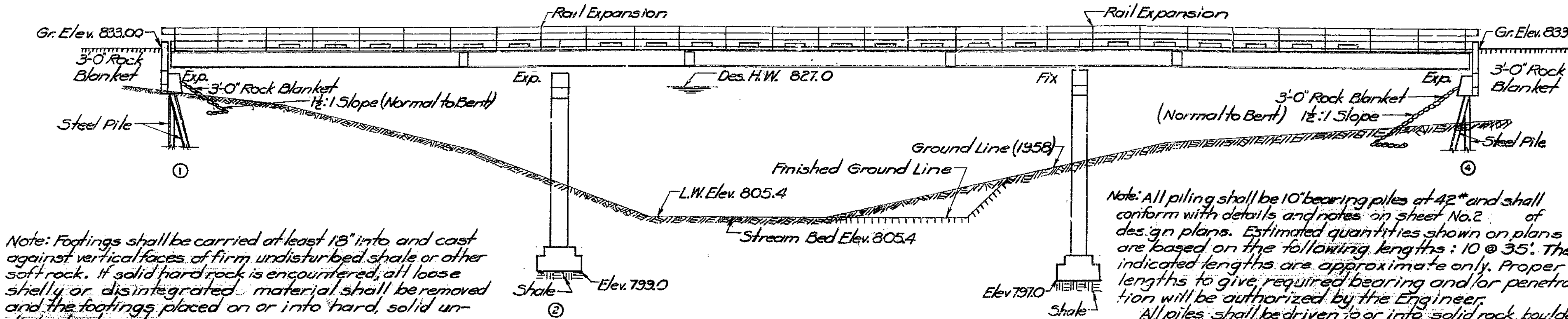
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	23	

MISSOURI STATE HIGHWAY DEPARTMENT

60'-80'-60' Cont. I-Beam Spans

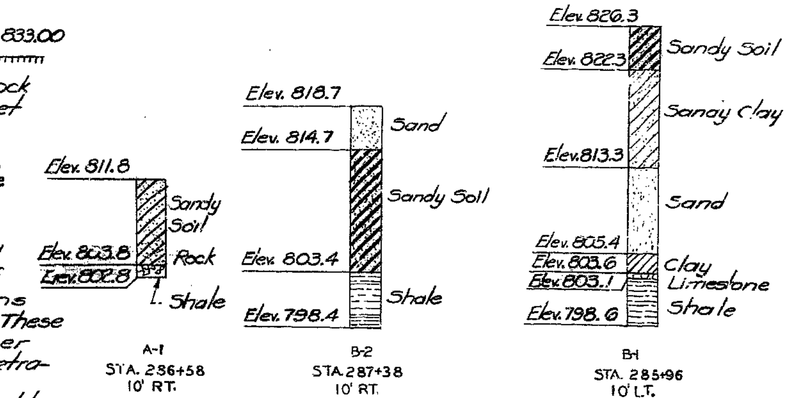


Note: Footings shall be carried at least 18" into and cast against vertical faces of firm undisturbed shale or other soft rock. If solid hard rock is encountered, all loose shelly or disintegrated material shall be removed and the footings placed on or into hard, solid undisturbed rock.
Bearing of 6.0 Ton/Sq. Ft. used in design of footings for Bents No. 2 & 3 on shale.

Note: In no case shall footings of Bents Nos. 2 & 3 be placed higher than the elevation shown on plans.

Note: All piling shall be 10" bearing piles at 42# and shall conform with details and notes on sheet No. 2 of design plans. Estimated quantities shown on plans are based on the following lengths: 10 @ 35'. These indicated lengths are approximate only. Proper lengths to give required bearing and/or penetration will be authorized by the Engineer.
All piles shall be driven to or into solid rock, boulders, shale, or cemented gravel; or to not less than full length authorized and to sustain a load of at least 37 Ton per pile.
A gravity hammer may be used for driving if desired.

GENERAL ELEVATION



LOG OF SOUNDINGS

Note: Location of soundings are designated thus: ⊕ B1 & A-1
Soundings B-1 and B-2 taken with a core drill.
Sounding A-1 taken with an auger.

GENERAL NOTES:

Design Specifications: A.A.S.H.O. 1957
Loading: H15-44 (One-Lane)
Structural Steel Stress 18,000 #/□"
Reinforcing Steel Stress 20,000 #/□"
Class B1 Concrete Stress 1600 #/□"
Class B Concrete Stress 1200 #/□"
Superstructure concrete shall be Class B1 (Air-Entrained)
Substructure concrete shall be Class B (Air-Entrained)
Rivets ¾"φ; holes 13/16"φ, except where otherwise noted.

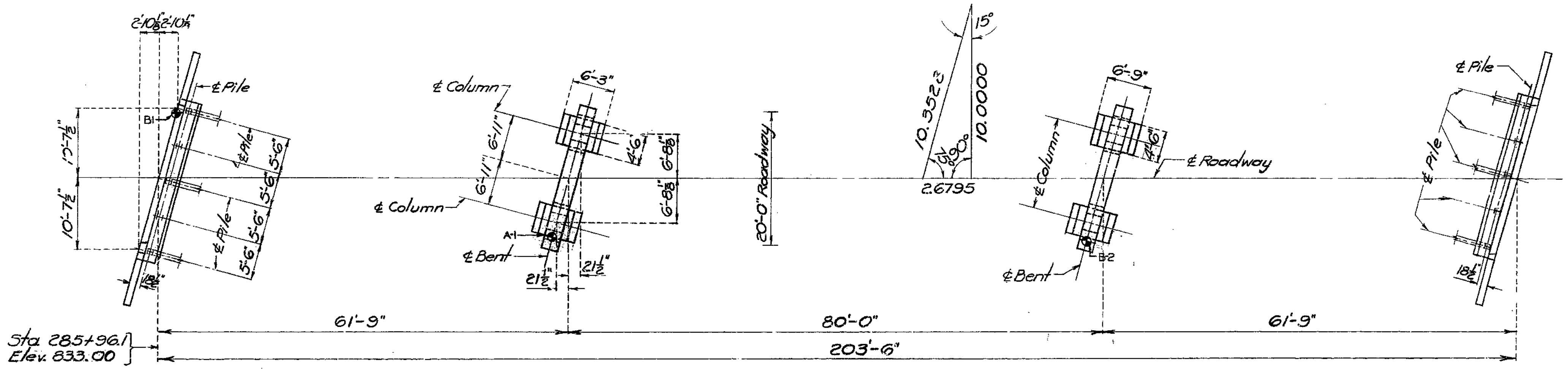
Field connections shall be riveted except as noted in handrail details or, if the Contractor desires to eliminate all field riveting on this project, he may use high strength steel bolts with hardened washers for the expansion device and the beam splices and machine bolts for other field connections. Heads and nuts of machine bolts shall be American Standard Regular.

Paint: Shop, none; Field, contact surfaces of bolted field connections, except where high strength bolts are used, one coat of red lead and surfaces inaccessible after erection three coats of red lead. No other paint to be applied by Contractor except as noted for steel piles. Red lead required shall be furnished by Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for Fabricated Structural Carbon Steel.

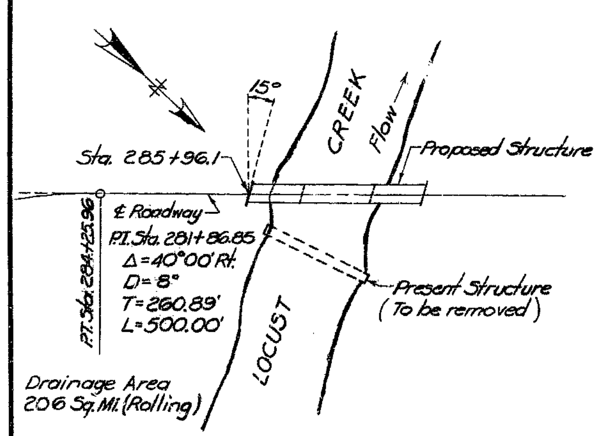
See Section 52.4.7 of Standard Specifications for required painting of steel piles.

Qualification of welding operators will be required.

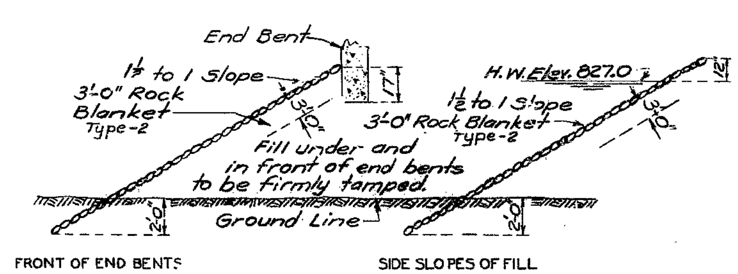
Where joint filler is specified on the plans, it shall conform with the requirements for Premoulded Material for Filler as given in Section 157.2.5 of Standard Specifications.



PLAN



LOCATION SKETCH



Note: 3'-0" Rock Blanket shall be placed on fills at ends of bridge as shown in sketches. See Road Plans for Quantities

ROCK BLANKET SKETCHES

ESTIMATED QUANTITIES				
Item		Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yd.	90		90
Class 2 Excavation for Structures	Cu. Yd.	95		95
Steel Piles in Place	Lin. Ft.	320		320
Steel Pile Cut-offs	Lin. Ft.	30		30
Class B Concrete	Cu. Yd.	75.5		75.5
Class B1 Concrete	Cu. Yd.		101.4	101.4
Reinforcing Steel	Lbs.	8550	24620	33170
Fabricated Structural Carbon Steel	Lbs.		120,640	120640

Note: Excavation for bridge made above Elev. 807.0 will be paid for as Class 1 Excavation for Structures.
Excavation for bridge made below Elev. 807.0 will be paid for as Class 2 Excavation for Structures.
Final pay weight for Fabricated Structural Carbon Steel will be based on using field rivets except for bolted connections specified for handrail.

FINISHED

B.M. Elev. 823.83, X-Nails in West Root of 30" Elm 160' Rt. Sta. 287+24 (U.S.G.S. Datum)

BRIDGE OVER LOCUST CREEK

STATE ROAD FROM MILAN NORTHWESTERLY TO BAIRDSTOWN
ABOUT 4.0 MILES N.W. OF MILAN
PROJECT NO. S-2154(1) (S00) **STA.** 285+96.1

SULLIVAN **COUNTY**

SUBMITTED BY Leo F. Beckett (BRIDGE ENGINEER) DATE 1-13-61
APPROVED BY Rex M. Whitton (CHIEF ENGINEER) DATE 1-13-61

STD. 54.00
N-973

44

Drawn Mar. 1960 by G.F.J.
Checked Dec. 1960 by H.F.C.

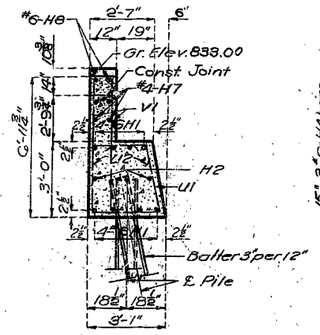
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 7

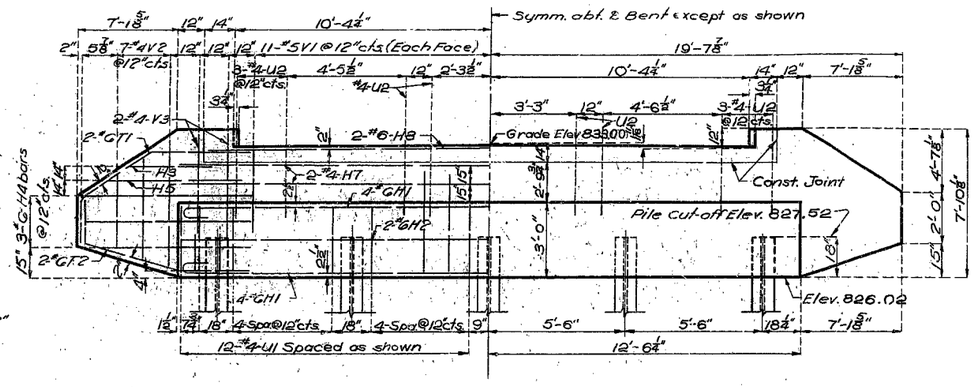
SEE FINAL PLANS BROWN-LINES

MISSOURI STATE HIGHWAY DEPARTMENT

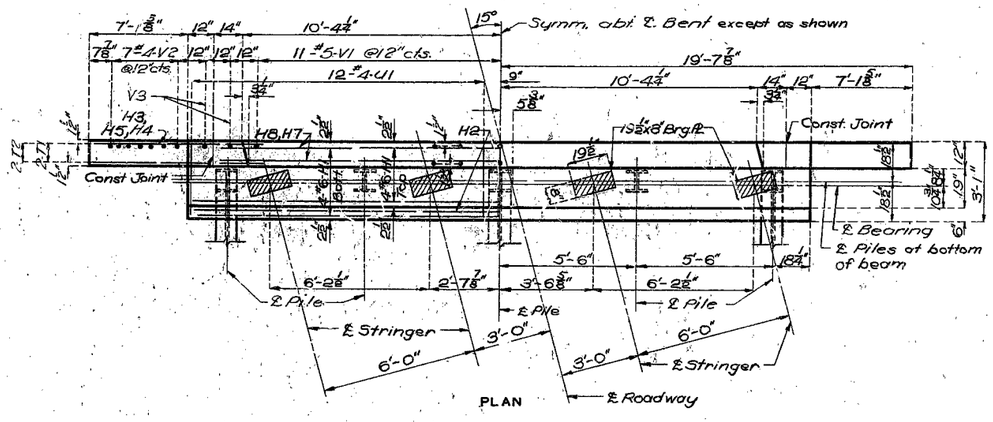
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	24	



SECTION AT ℄

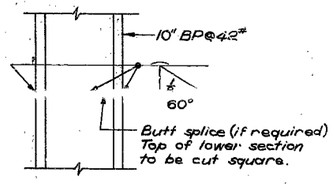


ELEVATION



PLAN

DETAILS OF END BENT NO. 1



DETAILS OF STEEL PILE SPLICE

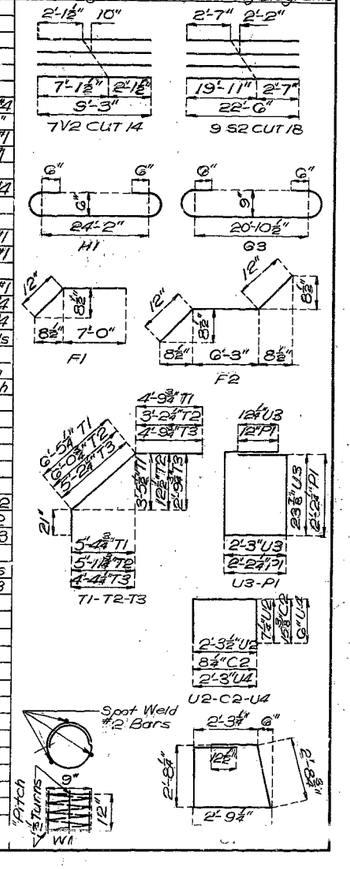
Note: Top of backwall and expansion device for end bent No. 1 to conform to crown of roadway slab.
Backwall above construction joint shall not be poured until the structural steel of the expansion dev[illegible] and has been poured in adjacent span.
Fill of end bent No. 1 shall not be carried above bottom of beam and wings until superstructure span (1-2) is in place.

COMPLETE BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Location
		End Bents No 1 & 4		
16	#6	20'-9"	H1	Beam
4	#6	24'-9"	H2	"
4	#6	6'-0"	H3	Wing
12	#6	9'-0"	H4	"
4	#6	7'-6"	H5	"
2	#6	25'-0"	H6	Bk.wall Bt #4
2	#4	25'-9"	H7	" " "
2	#6	24'-6"	H8	Bk.wall Bt #1
4	#6	13'-0"	T1	Wing Bt #1
8	#6	11'-0"	T2	Wing
4	#6	11'-9"	T3	Wing Bt #4
48	#4	11'-6"	U1	Beam
20	#4	3'-6"	U2	"
4	#4	25'-9"	H7	Bk.wall Bt #1
42	#5	5'-6"	V1	Bk.wall Bt #1
14	#4	9'-3"	V2	Wing
4	#4	6'-0"	V3	Bk.wall Bt #1
46	#5	4'-9"	V5	Bk.wall Bt #4
2	#4	6'-0"	V3	Bk.wall Bt #4
16	#2	19'-9"	W1	A.B. Wells
		Int. Berts. No 2 & 3		
32	#7	6'-0"	D1	Footing
16	#6	8'-0"	F1	Col. Haunch
16	#6	8'-3"	F2	" "
12	#10	21'-6"	G1	Beam
4	#6	21'-6"	G2	"
12	#9	24'-3"	G3	"
66	#5	9'-6"	U3	"
46	#3	9'-9"	P1	Col. Bt #2
16	#7	20'-0"	P2	Col. Bt #2
16	#7	28'-3"	P3	Col. Bt #3
12	#4	3'-3"	U4	Beam
16	#2	19'-9"	W1	A.B. Wells
50	#3	9'-9"	P1	Col. Bt #3
		Superstructure		
674	#5	22'-0"	S1	Slab
18	#4	22'-6"	S2	"
200	#4	30'-0"	S3	"
56	#4	16'-0"	S4	"
1	#5	22'-9"	S5	"
12	#6	31'-3"	C1	Curb
310	#5	3'-3"	C2	"
12	#6	41'-0"	C3	"
12	#6	32'-0"	C4	"

#5

Bending Sketches & Cutting Diagrams



FINISHED

BRIDGE OVER LOCUST CREEK

STATE ROAD FROM MILAN NORTHWESTERLY TO BAIRDSTOWN
ABOUT 4.0 MILES N.W. OF MILAN
PROJECT NO. S-2154(1) (500) STA. 285+96.1 FINISHED

SULLIVAN COUNTY

N-973

45

Assembled Jan. 1960 by G.F.J. & E.J.W.
Checked Dec. 1960 by H.F.C.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 7.

FINISHED

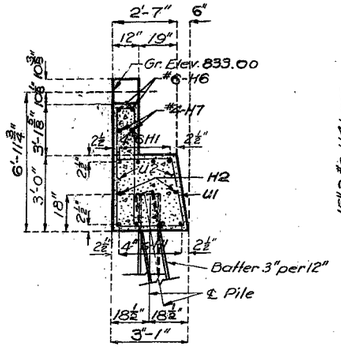
NO CONSTRUCTION CHANGES

Skewed I-Bm. Conc. Cap Type End
No Conc. Appr. Slab at End Bt.

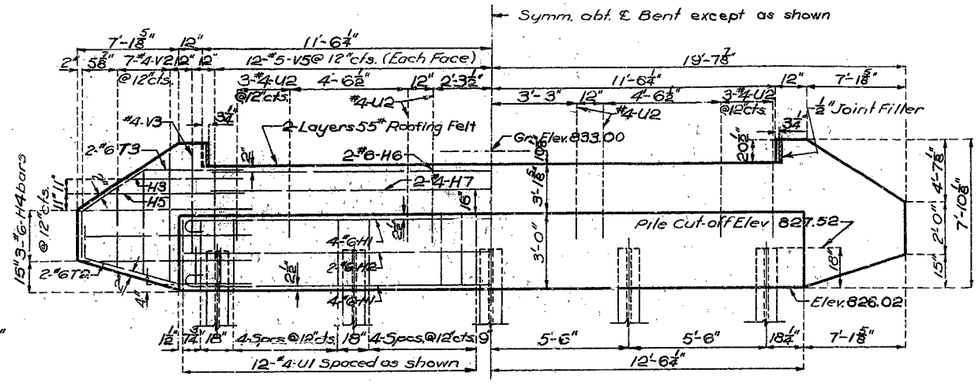
Bt on Piles May 58

MISSOURI STATE HIGHWAY DEPARTMENT

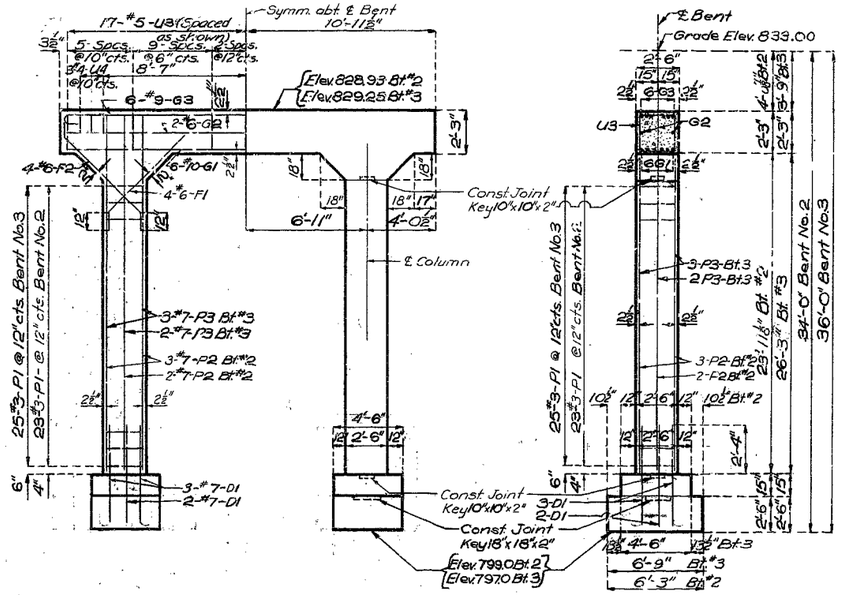
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	25	



SECTION AT ℄

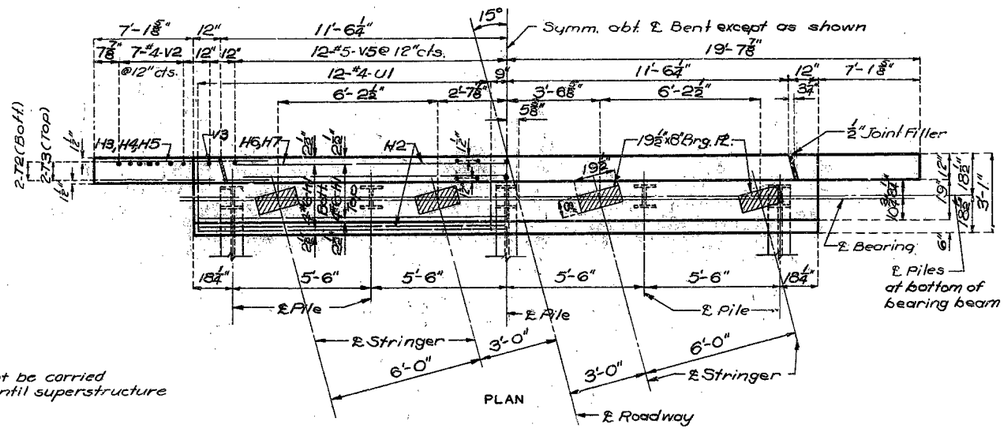


ELEVATION



ELEVATION

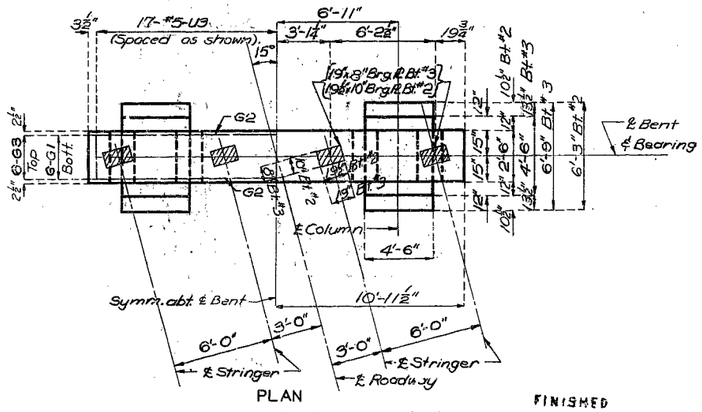
SECTION AT ℄



PLAN

Note: Fill at End Bent No. 4 shall not be carried above bottom of beam and wings until superstructure span (3-4) is in place.

DETAILS OF END BENT NO. 4



PLAN

FINISHED

DETAILS OF INT. BENTS NO. 2 & 3

FINISHED

BRIDGE OVER LOCUST CREEK

STATE ROAD FROM MILAN NORTHWESTERLY TO BAIRDSTOWN

ABOUT 4.0 MILES N.W. OF MILAN

PROJECT NO. S-2154(1) (500) STA. 285+96.1 FINISHED

SULLIVAN COUNTY

N-973

46

Assembled Jan. 1960 by G.F.J. & E.J.W. & B.W.D.
Checked Dec. 1960 by H.F.C.

Note: This drawing is not to scale. Follow dimensions.

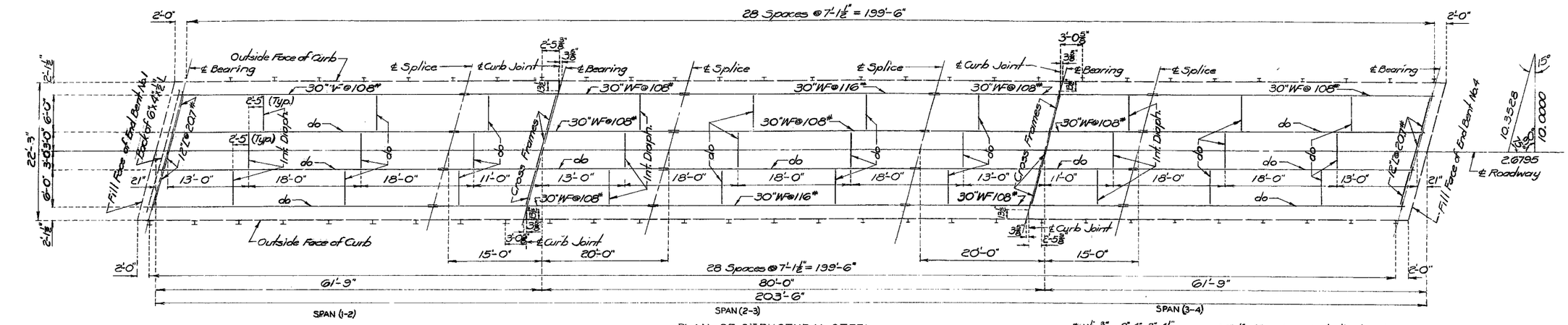
Sheet No. 3 of 7.

SEE FINAL PLANS BROWN-LINES

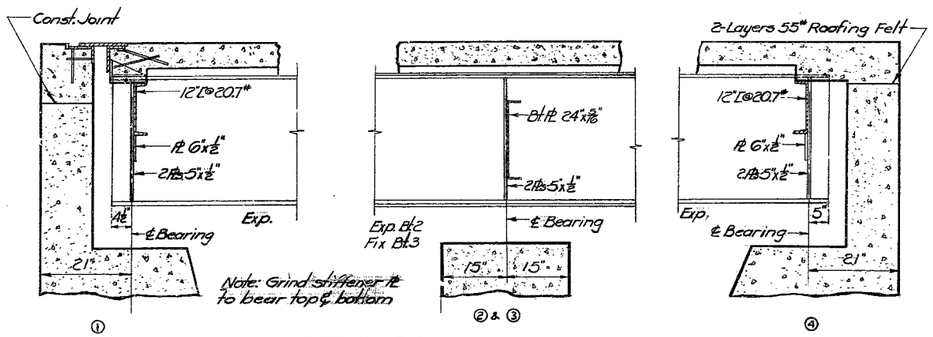
I-Bm. conc. cap Type End Bt. on Piles with conc. Int. Bent 4-1-59

MISSOURI STATE HIGHWAY DEPARTMENT

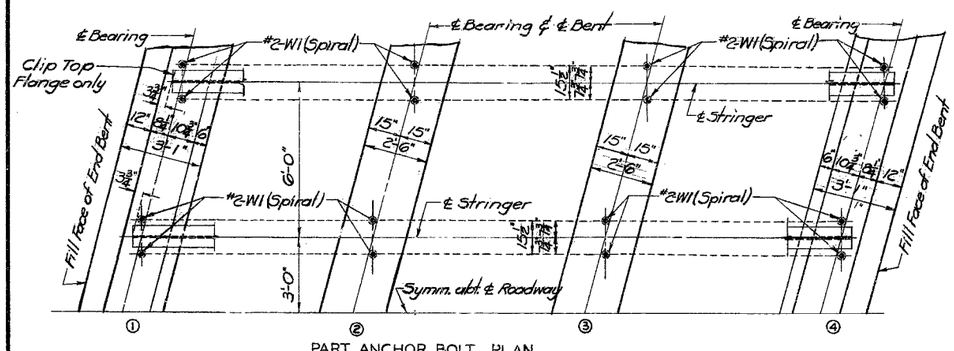
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	26	



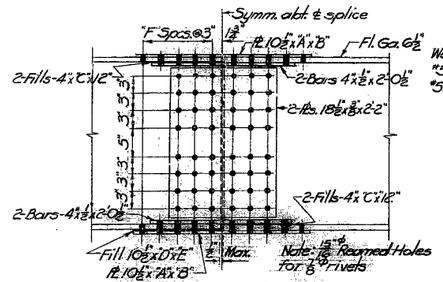
PLAN OF STRUCTURAL STEEL



PART LONGITUDINAL SECTION

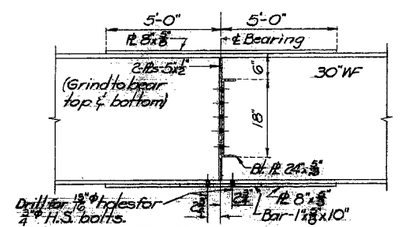


PART ANCHOR BOLT PLAN

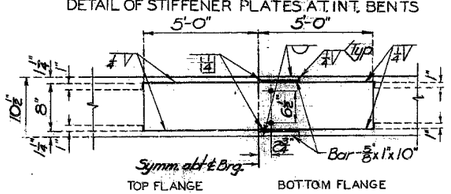


36"WF	A	B	C	D	E	F Spcs.
108# to 108#	⅜	2'-6½	—	—		4
108# to 116#	½	2'-6½	36½	15		4

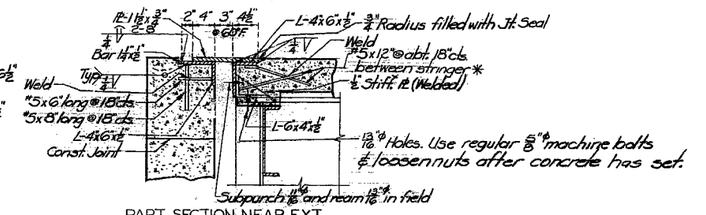
DETAIL OF FIELD SPLICES



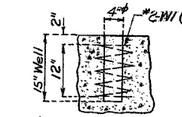
DETAIL OF STIFFENER PLATES AT INT. BENTS



DETAILS OF WELDED PLATES OVER INT. BENTS

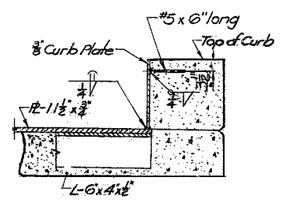


PART SECTION NEAR EXT. STRINGER



Note: Anchor bolts may be set in wells as shown or in holes, drilled into concrete substructure. See Standard Specifications.

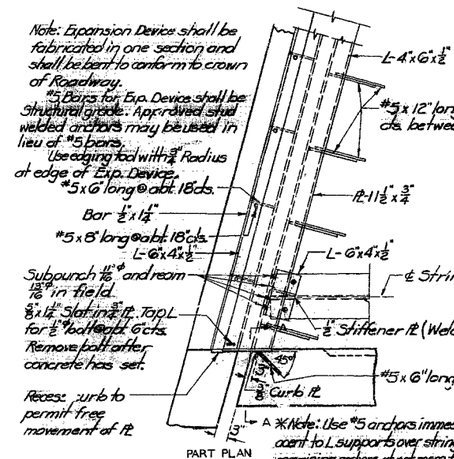
DETAIL OF SPIRAL AROUND ANCHOR BOLTS



SECTION A-A

FINISHED

Note: Expansion Device shall be fabricated in one section and shall be bent to conform to crown of Roadway.
#5 Bars for Exp. Device shall be Structural grade. Approved stud welded anchors may be used in lieu of #5 bars.
Use edging tool with ¾" Radius at edge of Exp. Device.



FINISHED DETAIL OF EXPANSION DEVICE

BRIDGE OVER LOCUST CREEK

STATE ROAD FROM MIL. N NORTHWESTERLY TO BAIRDSTOWN

ABOUT 4.0 MILES N.W. OF MILAN

PROJECT NO. S-2154(1) (SOO) **STA.** 285+96

FINISHED

SULLIVAN **COUNTY**

N-973

47

Drawn Feb. 1960 by G. F. J.
Checked Dec. 1960 by H. F. C.

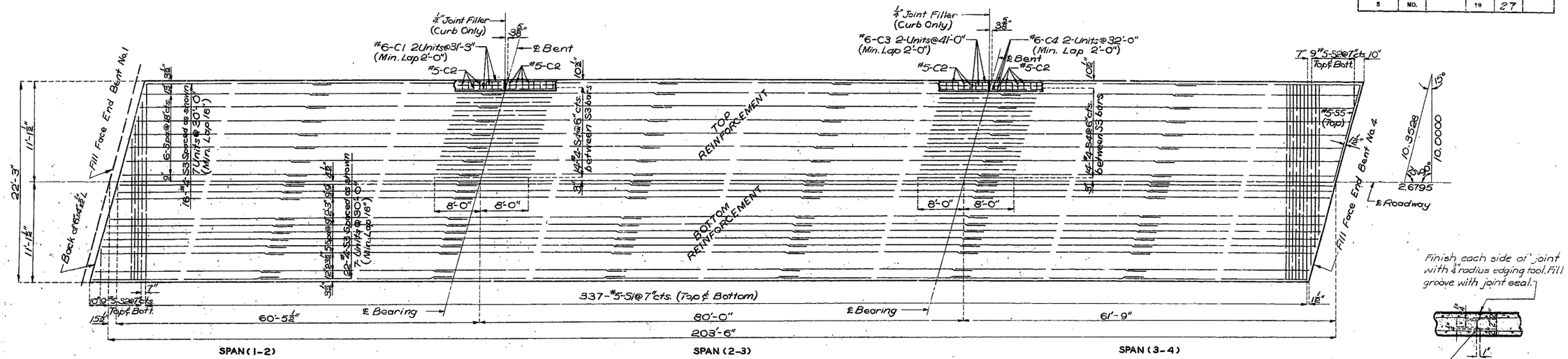
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 7

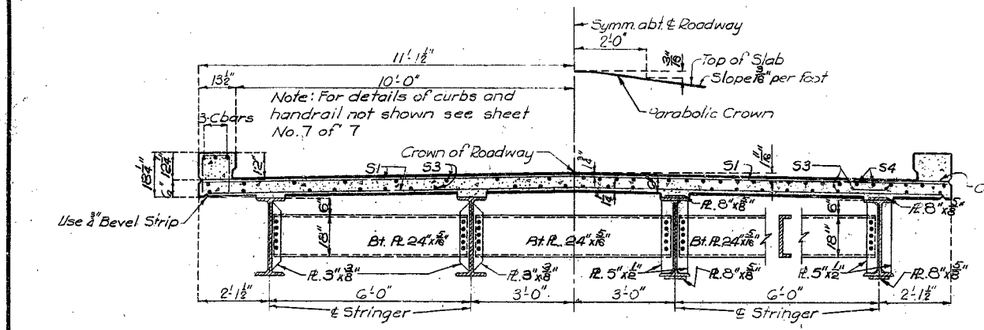
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	27	

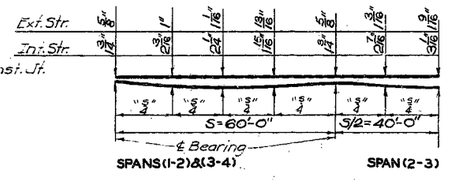


PLAN OF SLAB SHOWING REINFORCEMENT



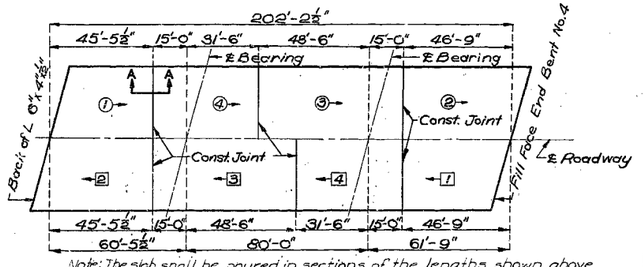
HALF SECTION NEAR CENTER OF SPAN — HALF SECTION AT INT. BENTS

Note: Curbs to be cast independently of slab.
Slab to be constructed to a uniform depth of not less than 6"; or if desired, the bottom of the slab may be built on chords between tops of haunches at stringers.

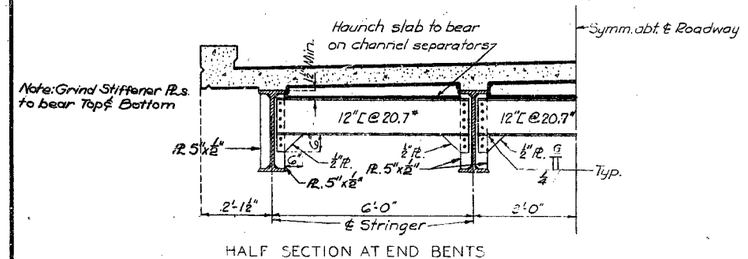


Note: The slab shall be built parallel to grade and to a uniform thickness of 6" Dead load deflection, crown and difference in depth of stringers shall be taken care of by haunching to stringers by the amounts shown above. This additional concrete is included in "Estimated Quantities".

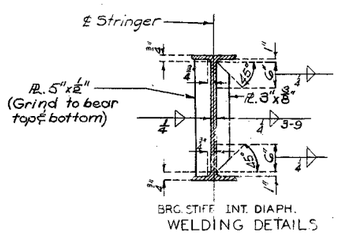
SLAB HAUNCHING DIAGRAM



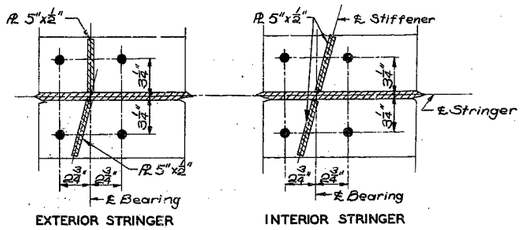
Note: The slab shall be poured in sections of the lengths shown above and in the sequence indicated by the numbers ①, ②, ③ & ④, or as an alternate by the numbers 1, 2, 3 & 4. The separate pours shall progress in the direction indicated by the arrows. Longitudinal construction joints will not be permitted. See Section 53.4.12 Standard Specifications.
The above pouring sequence and the number of construction joints may be altered by the Engineer in order to obtain a more satisfactory surface finish.



HALF SECTION AT END BENTS



WELDING DETAILS



DETAILS OF BEARING STIFFENERS AT BENTS

Finish each side of joint with ¾" radius edging tool. Fill groove with joint seal.

Key to extend full width of slab.

SECTION A-A

FINISHED

FINISHED

BRIDGE OVER LOCUST CREEK

STATE ROAD FROM MILAN NORTHWESTERLY TO BAIRDSTOWN
ABOUT 4.0 MILES N.W. OF MILAN
PROJECT NO. S-2154(1) (500) STA. 285+96.1

SULLIVAN COUNTY

N-973

Drawn Feb. 1960 by G.F.J. & E.J.W.
Checked Dec. 1960 by H.F.C.

Note: This drawing is not to scale. Follow dimensions.

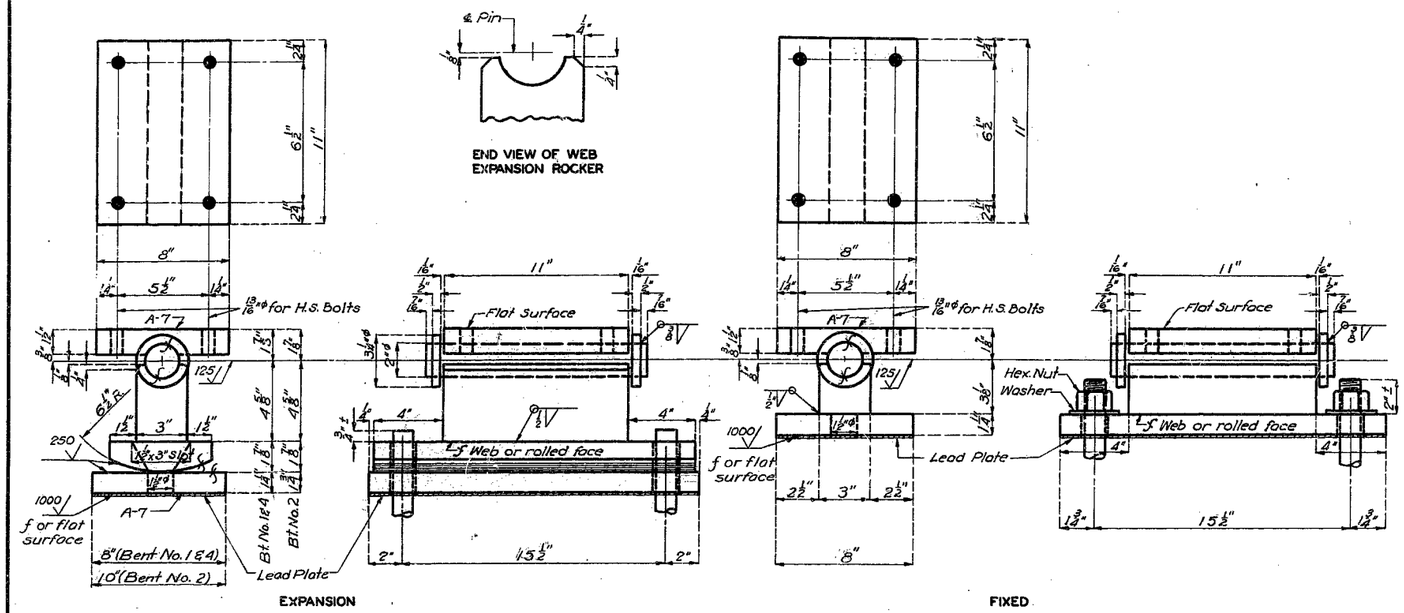
Sheet No. 5 of 7

NO CONSTRUCTION CHANGES

84

MISSOURI STATE HIGHWAY DEPARTMENT

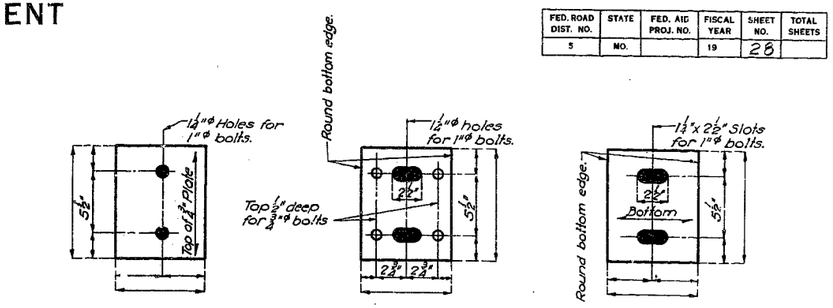
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	28	

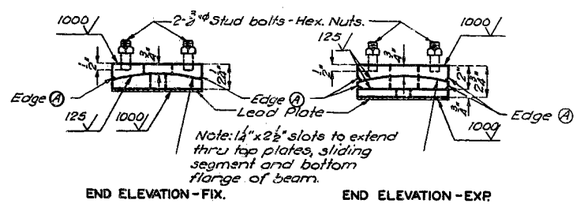


TYPE "D" BEARINGS

8 - Expansion Bearings required for Bent No. 1 & Bent No. 4.
4 - Expansion Bearings required for Bent No. 2.

4 - Fixed Bearings required for Bent No. 3.





Required: Sets Each set consists of 5 plates each.

TYPE "C" BEARINGS

GENERAL NOTES:

Material for Type "D" Bearings shall be A.S.T.M. A-373 Steel or A-7 meeting the carbon and manganese requirements of A-373 except as noted.

Material for Type "C" Bearings shall be Gray Iron Alloy or Cast Steel but payment will be made as Gray Iron Alloy.

Material for Pins shall be A.I.S.I. C-1018.

Anchor Bolts for Type "D" Bearings shall be 1¼"ϕ Swedged Bolts and shall extend 12" into concrete, with hexagon nuts and plain washers for Fixed Bearing.

Anchor Bolts for Type "C" Bearing shall be 1"ϕ Swedged Bolts, no heads or nuts and shall extend 10" into concrete. Top of Anchor Bolts shall be approximately ½" above top of Casting or Fill Plate.

Anchor Bolts and Studs for Type "C" Castings will be paid for as Fabricated Structural Steel.

Lead Plates under bearings shall be approximately ⅛" thickness and weigh 8#/sq. Foot. Cost of lead plates shall be included in price bid for other items.

Edge (A) to be rounded. (1/16" to ⅛" Radius.)

FINISHED

BRIDGE OVER LOCUST CREEK

STATE ROAD FROM MILAN NORTHWESTERLY TO BAIRDSTOWN

ABOUT 4.0 MILES N.W. OF MILAN

PROJECT NO. S-2154(1) (500)STA. 285+96.1

SULLIVAN COUNTY

FINISHED

FINISHED

Assembled Mar. 1960 by G.F.J. & B.W.D.
Checked Dec. 1960 by H.F.C.

Note: This drawing is not to scale. Follow dimensions

Sheet No. 6 of 7

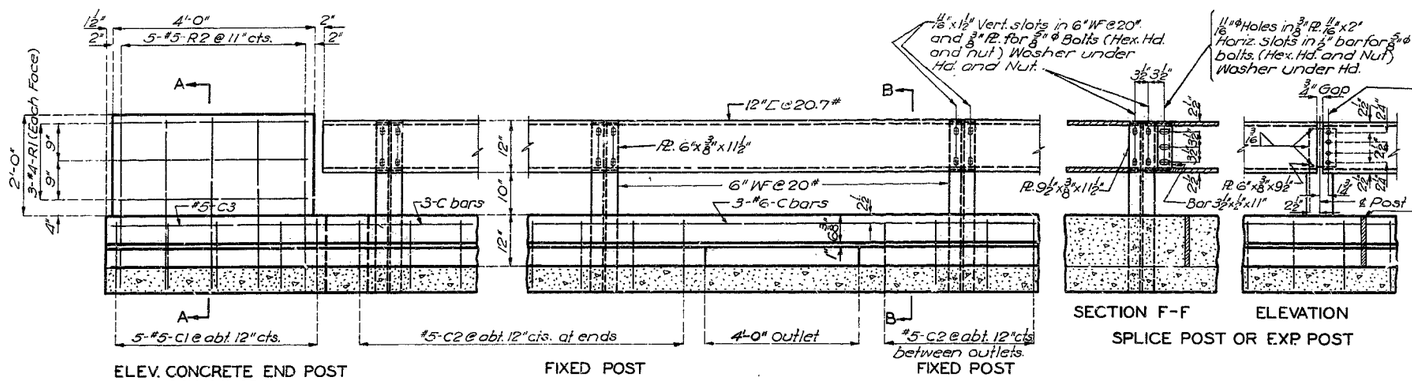
N-973

NO CONSTRUCTION CHANGES

94

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	29	



ELEV. CONCRETE END POST
(SQUARE SPAN)

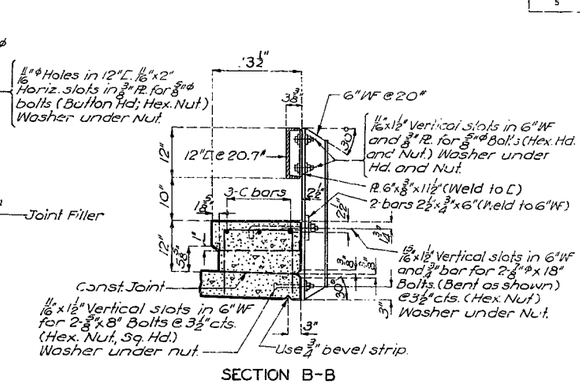
FIXED POST

FIXED POST

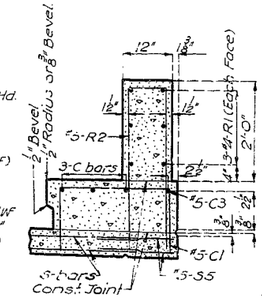
Note: Outlets to be centered between rail posts. For location of outlets if any, see sheet No. 1 of design plans.
C2 bars in curb to be spaced at abt. 12" cts. from end post to end post on bridges having no outlets.

SECTION F-F ELEVATION

SPLICE POST OR EXP. POST

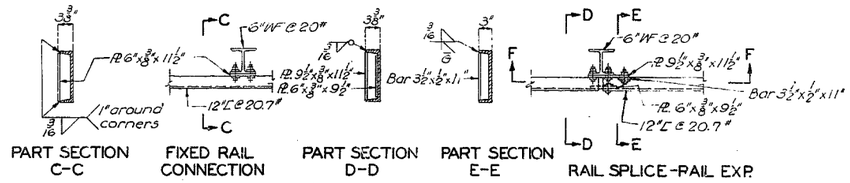


SECTION B-B

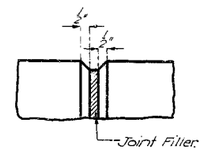


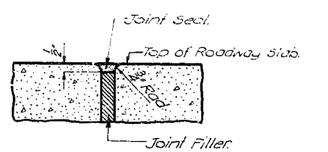
SECTION A-A

Note: Channel rail to be adjusted for horizontal alignment by use of full size metal shims placed between 6"WF and connection PL. shims of ⅛" and ¼" thickness to be furnished with structural steel. Cost of shims to be included in price bid for other items.



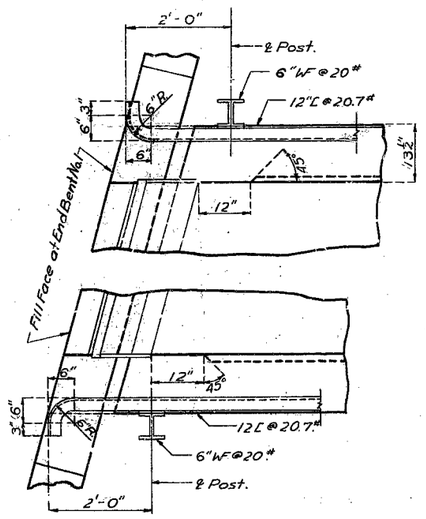
PART SECTION C-C | FIXED RAIL CONNECTION | PART SECTION D-D | PART SECTION E-E | RAIL SPLICE-RAIL EXP.



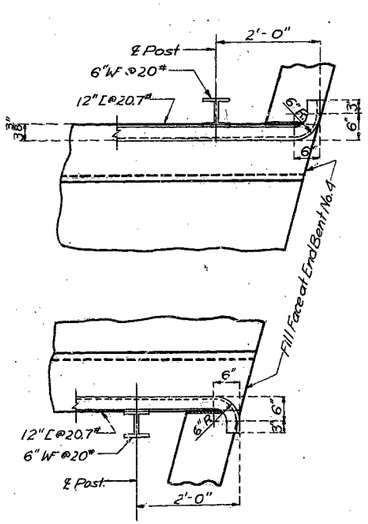


Note: Use bevel as shown for exposed faces of all filled joints except at top surface of roadway slab. Use edging tool with ¼" radius at top surface of roadway slab each side of joint and fill flush with joint seal as shown.

DETAILS OF BEVEL FOR FILLED JOINTS



PART PLAN END BENT NO. 1



PART PLAN END BENT NO. 4

GENERAL NOTES:

Top of curbs and end posts to be built parallel to grade. Vertical faces of end posts to be vertical. All exposed edges of end posts to be beveled ½". 6"WF posts to be set normal to grade.
12"L rails shall be fabricated to conform to horizontal and vertical alignment of curb.

FINISHED

BRIDGE OVER LOCUST CREEK
STATE ROAD FROM MILAN NORTHWESTERLY TO BAIRDSTOWN
ABOUT 4.0 MILES N.W. OF MILAN
PROJECT NO. S-2154(1) (SOO) STA. 285+96.1
SULLIVAN COUNTY

FINISHED

FINISHED

50

Assembled Feb. 1960 by G.F.J.E.B.W.D.
Checked Dec. 1960 by H.F.C.

Note: This drawing is not to scale, follow dimensions.

Sheet No. 7 of 7

N-973

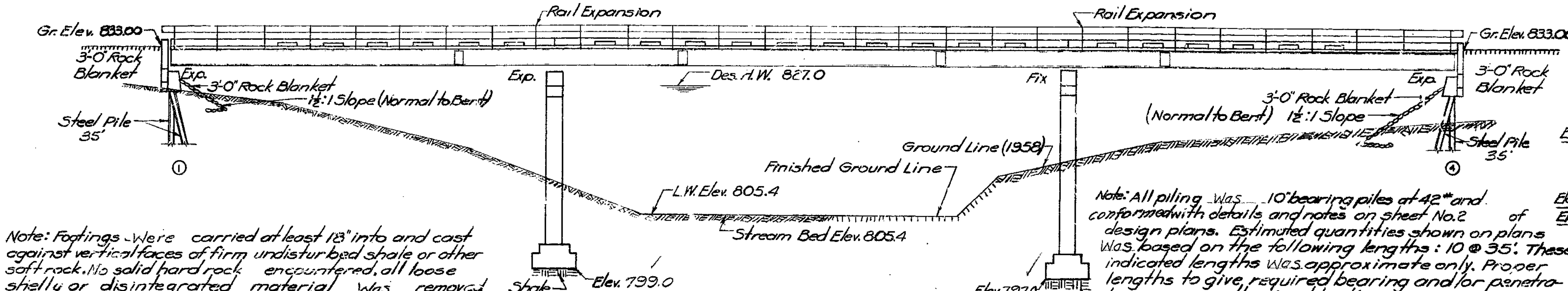
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
2	MO.		19	23	

FINAL PLANS

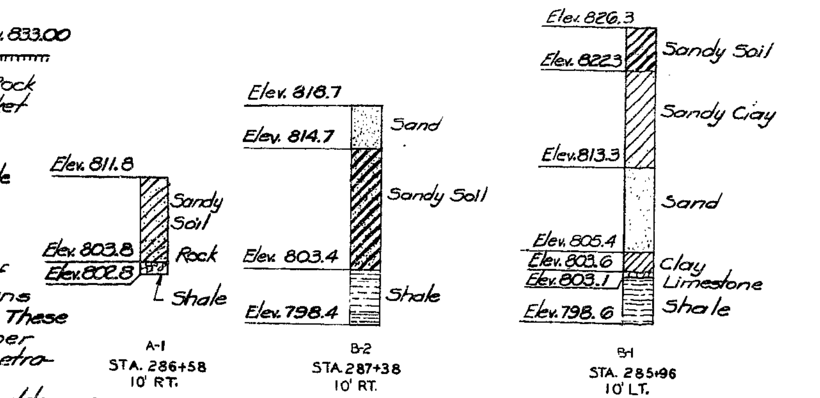
60'-80'-60' Cont. I-Beam Spans



Note: Footings were carried at least 18" into and cast against vertical faces of firm undisturbed shale or other soft rock. No solid hard rock encountered, all loose shelly or disintegrated material was removed and the footings placed on or into hard, solid undisturbed rock.
Bearing of 6.0 Ton/Sq. Ft. used in design of footings for Bents No. 2 & 3 on shale.

Note: All piling was 10" bearing piles at 42# and conformed with details and notes on sheet No. 2 of design plans. Estimated quantities shown on plans was based on the following lengths: 10 @ 35'. These indicated lengths was approximate only. Proper lengths to give required bearing and/or penetration was authorized by the Engineer.
All piles were driven to or into solid rock, boulders, or shale, to not less than full length authorized and to sustain a load at least 37 Ton per pile.
A gravity hammer was used for driving Piles.

GENERAL ELEVATION



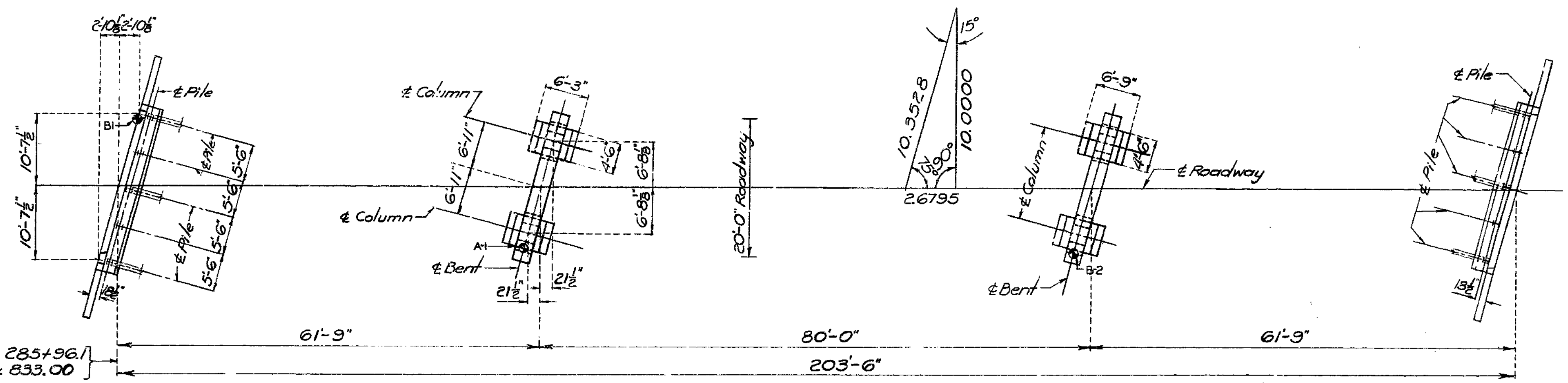
LOG OF SOUNDINGS

Note: Location of soundings are designated thus: B-1 & A-1
Soundings B-1 and B-2 taken with a core drill.
Sounding A-1 taken with an auger.

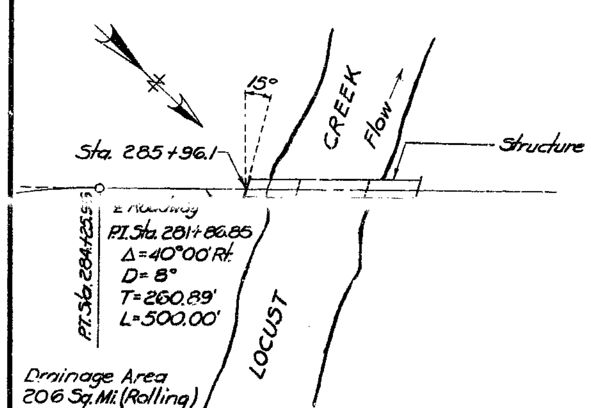
GENERAL NOTES:

Design Specifications: A.A.S.H.O. 1957
Loading: H15-44 (One-Lane)
Structural Steel Stress 18,000 #/□"
Reinforcing Steel Stress 20,000 #/□"
Class B1 Concrete Stress 1600 #/□"
Class B Concrete Stress 1200 #/□"
Superstructure concrete — Class B1 (Air-Entrained)
Substructure concrete — Class B (Air-Entrained)
Rivets ¾"φ; holes 13/16"φ, except where otherwise noted.

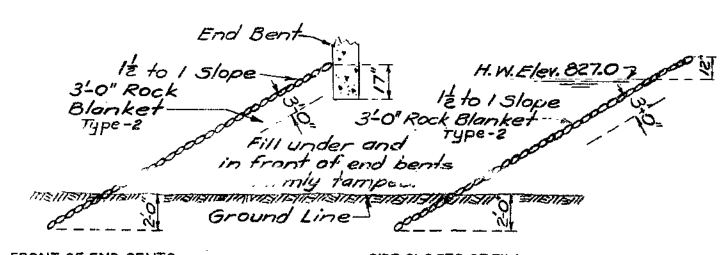
The Contractor desired to eliminate all field riveting on this project, he used high strength steel bolts with hardened washers for the expansion device and the beam splices and machine bolts for other field connections. Heads and nuts of machine bolts were American Standard Regular.
Paint: Shop, none; Field, contact surfaces of bolted field connections, except where high strength bolts are used, one coat of red lead and surfaces inaccessible after erection three coats of red lead. No other paint was applied by Contractor except as noted for steel piles. Red lead required was furnished by Contractor. Payment for cleaning and painting such surfaces included in unit price bid for Fabricated Structural Carbon Steel.
See Section 52.4.7 of Standard Specifications for required painting of steel piles.
Qualification of welding operators was required.
Where joint filler is specified on the plans, it did conform with the requirements for Premoulded Material for Filler as given in Section 157.2.5 of Standard Specifications.



PLAN



LOCATION SKETCH



Note: 3'-0" Rock Blanket was placed on fills at ends of bridge as shown in sketches. See Road Plans for Quantities.

ROCK BLANKET SKETCHES

FINAL QUANTITIES

Item		Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yd.	109.5		109.5
Class 2 Excavation for Structures	Cu. Yd.	95.5		95.5
Steel Piles in Place	Lin. Ft.	30.3		30.3
Steel Pile Cut-offs	Lin. Ft.	5.5		5.5
Class B Concrete	Cu. Yd.	75.5		75.5
Class B1 Concrete	Cu. Yd.		101.4	101.4
Reinforcing Steel	Lbs.	8550	24,770	33,320
Fabricated Structural Carbon Steel	Lbs.		[illegible]	[illegible]
Drilling Test Holes	Lin. Ft.	12		12

Note: Excavation for bridge made above Elev. 807.0 paid for as Class 1 Excavation for Structures.
Excavation for bridge made below Elev. 807.0 paid for as Class 2 Excavation for Structures.
Final pay weight for Fabricated Structural Carbon Steel based on using field rivets except for bolted connections specified for handrail.

B.M. Elev. 833.86 Bolt Head Top Rt. Wing Bent #1

FINISHED

BRIDGE OVER LOCUST CREEK

STATE ROAD FROM MILAN NORTHWESTERLY TO BAIRDSTOWN
ABOUT 4.0 MILES N.W. OF MILAN
PROJECT NO. S-2154(1) (500) STA. 285+96.1

SULLIVAN COUNTY

SUBMITTED BY Leo F. Beckett (BRIDGE ENGINEER) DATE 1-13-61
APPROVED BY Rex M. Whitton (CHIEF ENGINEER) DATE 1-13-61

FINISHED

FINISHED

STD. 54.00

N-973

51

Drawn Mar. 1960 by G.F.J.
Checked Dec. 1960 by H.F.C.

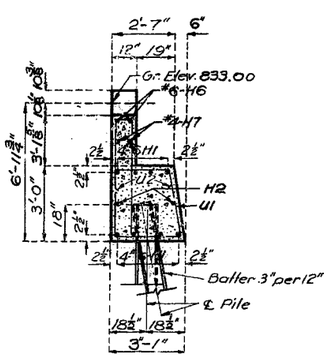
Note: This drawing is not to scale. Follow dimensions.

FINAL PLANS

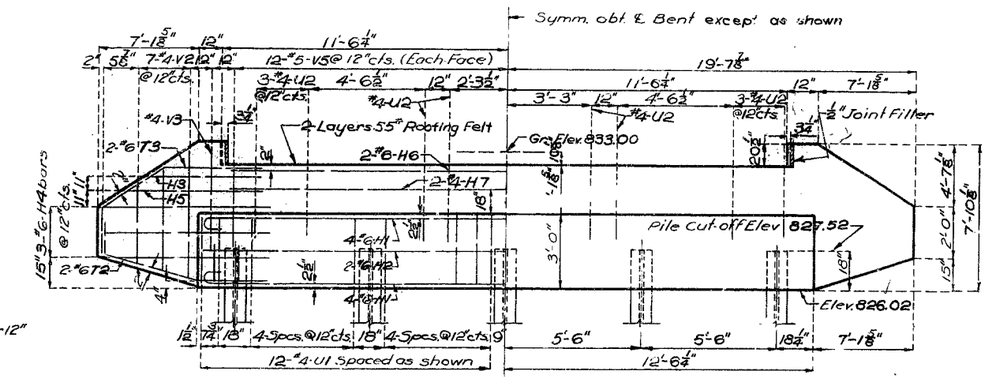
MISSOURI STATE HIGHWAY DEPARTMENT

FED ROAD DIST NO	STATE	FED. AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
	MO				

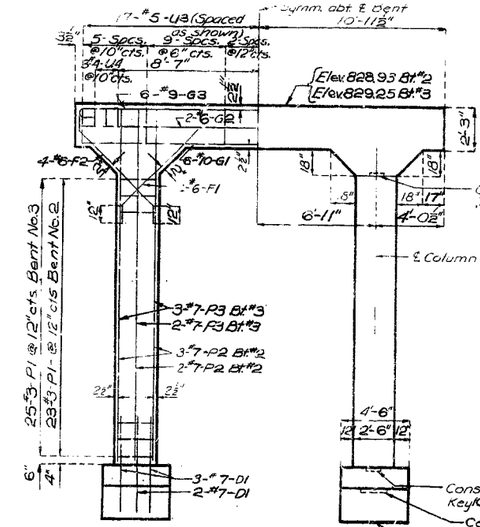
FINAL PLANS



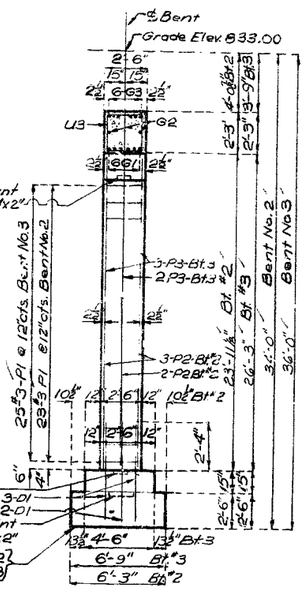
SECTION AT ℄



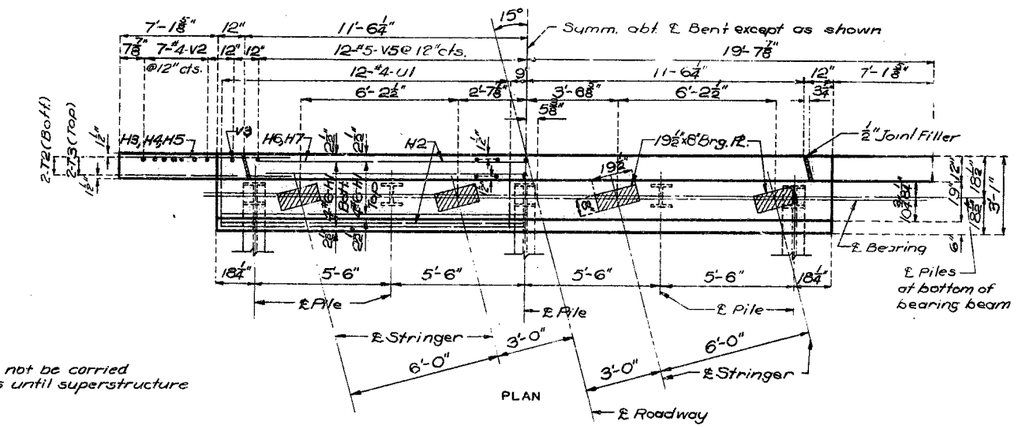
ELEVATION



ELEVATION



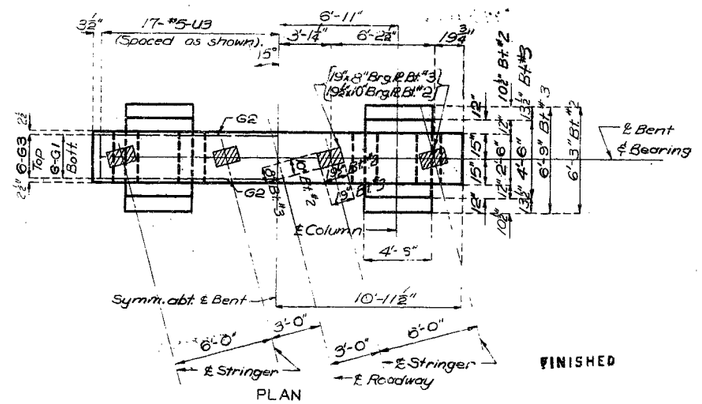
SECTION AT ℄



PLAN

DETAILS OF END BENT NO. 4

Note: Fill at End Bent No. 4 shall not be carried above bottom of beam and wings until superstructure span (3-4) is in place.



PLAN

DETAILS OF INT. BENTS NO. 2 & 3

FINISHED

FINISHED

FINISHED

BRIDGE OVER LOCUST CREEK

STATE ROAD FROM MILAN NORTHWESTERLY TO BAIRDSTOWN

ABOUT 4.0 MILES N.W. OF MILAN

PROJECT NO. S-2154(1) (SOO) STA 285+96.1

SULLIVAN COUNTY

Assembled Jan. 1960 by G.F.J. & E.J.W. & B.W.D.
Checked Dec. 1960 by H.E.C.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3A of 2

N-973

I-Bm. conc. cap Type End Bt. on Piles with conc. Int. Bent 4-1-59

FINAL PLANS

32

Bridge Number: ND973

Route/County: 00/Sullivan

Asbestos-Containing Material Present?

Yes: ☐ No: ☒

If yes, see report for location(s).

Structural Steel Present?

Yes: ☒ No: ☐

If No, then skip the following.

Lead-Based Paint (LBP) Present?

Yes: ☒ No: ☐

Trusses LBP?

Yes: ☐ No: ☐

Girder LBP?

Yes: ☒ No: ☐

Railing LBP?

Yes: ☒ No: ☐

Pile LBP?

Yes: ☐ No: ☐

MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: TMS

FROM: Frank Reichart
Environmental Chemist

DATE: February 25, 2016

SUBJECT: Materials
Asbestos Inspection & Heavy Metal Paint Survey
Route OO
Bridge N-0973
Sullivan County

We are providing you with the results of the inspection on the above referenced bridge. The inspection report contains an asbestos and a heavy metals survey. The asbestos inspection included identifying suspect asbestos-containing material and NVLAP accredited testing to confirm the presence of asbestos.

Form T746 – This will show if samples were taken, where from, and, if the sample was found to contain asbestos, our estimated quantity of material present. Under the column "Friability Category", this is the meaning for the following:

N-ACM – No asbestos detected.
I NF – Asbestos is present. Material shall be handled carefully by a licensed abatement worker and kept wet if removing as part of a maintenance activity.
II NF – Asbestos is present. If removal is required for the maintenance activity, use an abatement contractor.

In accordance with Missouri Department of Natural Resources' Technical Bulletin "Managing Construction and Demolition Waste" dated January 31, 2003, a heavy metal paint survey has been performed on the above referenced bridge. This survey includes locating concrete which has been painted with something other than traffic paint or graffiti, and testing the painted surface(s) to determine if hazardous heavy metals are present. If the bridge is being removed completely, or the maintenance repairs include removing the painted concrete, then, non-hazardous painted concrete may be used as clean fill materials, if properly handled. You must contact the Central Office Design Division for proper handling of the reported painted surfaces.

Although our survey included observing and sampling all accessible areas, it is possible that potentially hidden asbestos-containing materials may exist within the structure. Should you have any questions regarding these reports, please contact me at (573) 526-4359.

db/fr/dr
http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared documents/asbestos/districts/northwest (nw)/mt/n0973/dr1602253.docx
Attachments

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE:	OO	**SURVEYED BY:**	Frank Reichart and Diane Roegge
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7118110315MOIR11239, F.R.
DISTRICT:	NW	**CERTIFICATION #:**	7118110315MOIR7165, D.R.
COUNTY:	Sullivan	**SITE ADDRESS:**	Over Locust Creek
DATE OF SURVEY:	February 25, 2016	**TYPE(S) OF STRUCTURE(S):**	Bridge
PARCEL NO.:	Bridge N-0973		

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
16MFJR 097	Asphalt Joint Material	4-Curb Joints	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE:	OO	**TESTED BY:**	Diane Roegge
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7118110315MOIR7165, D.R.
DISTRICT:	NW	**SITE ADDRESS:**	Over Locust Creek
COUNTY:	Sullivan	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF TESTS:	March 14, 2016		
PARCEL NO.:	Bridge N-0973		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

All necessary work to handle this material is the contractor's responsibility.

I NF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All materials requiring removal or special handling.

ROUTE:	OO	**TESTED BY:**	Diane Roegge
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7118110315MOIR7165, D.R.
DISTRICT:	NW	**SITE ADDRESS:**	Over Locust Creek
COUNTY:	Sullivan	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF TESTS:	March 14, 2016		
PARCEL NO.:	Bridge N-0973		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	OO	**TESTED BY:**	N/A
MODOT JOB NO.:	N/A	**DATE OF TESTS:**	N/A
DISTRICT:	NW	**PARCEL NO.:**	Bridge N-0973
COUNTY:	Sullivan	**SITE ADDRESS:**	Over Locust Creek
SURVEYED BY:	Frank Reichart	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF SURVEY:	February 25, 2016		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: TMS

FROM: Frank Reichart
Environmental Chemist, Lead License #110506-300003364

DATE: October 29, 2018

SUBJECT: Materials
Job No. N/A
OO/Sullivan County
Bridge# N0973

On October 29, 2018, a paint screening for regulated heavy metals was performed on the subject bridge. The following results were obtained:

	18MFJR742
Arsenic (As)	51,123 ppm**
Chromium (Cr)	4,734 ppm
Lead (Pb)	437,767 ppm (43.8%)
Cadmium (Cd)	587 ppm
Selenium (Se)	207 ppm
Barium (Ba)	LOD*
Mercury (Hg)	LOD
Silver (Ag)	LOD

*LOD = below the detection limit of the instrument
**ppm = parts per million

TMS paint data indicated a System A paint was under the System S paint, applied in 2006. The results verify the information found in TMS.

The existing paint system is lead-based paint (LBP). Therefore any painting project will be subject to DHSS notification and regulation.

Should any further screenings be required, please contact Todd Bennett, Chemical Laboratory Director, at (573) 751-1045.

Should you have any questions regarding the screenings, feel free to call me at (573) 526-4359.

fr/dr
http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared documents/asbestos/districts/northwest (nw)/mt/n0973/lbp xrf n0973.docx

Expiration Date **12/2/2016**

Training Date: **11/3/2015**

Certificate Number: 7118110315MOIR11239

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Francis J. Reichart

has successfully completed the requirements for certification as a INSPECTOR. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

12/3/2015
Date

Kyra L Moore
Director of Air Pollution Control Program

Expiration Date **12/2/2016**

Training Date: **11/3/2015**

Certificate Number: 7118110315MOIR7165

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Diane R. Roegge

has successfully completed the requirements for certification as a INSPECTOR. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

12/3/2015
Date

Director of Air Pollution Control Program

Missouri Department of Transportation
State Bridge Inspection Report

December 03, 2024
7:35:31AM

COUNTY: SULLIVAN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 7393** **BRIDGE: N0973**

GENERAL STRUCTURE INFORMATION

ROUTE: RTOOS	**# SPANS:** 3	**PLACE CODE:** 58880 POLK	
FEATURE: LOCUST CR	**LANES ON:** 2	**LENGTH:** 204 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 0	**MAXIMUM SPAN:** 80 FT 0 IN	
LOG MILE: 2.550	**COMPASS DIRECTION:** SOUTH to NORTH	**APPROACH ROADWAY:** 20 FT 0 IN	
DETOUR: 19.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 20 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MAJOR COLLECTOR	**OUT TO OUT:** 22 FT 4 IN	
BUILT: 1961	**NBI OWNER:** MODOT	**AADT:** 572	
REHAB:	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 17 T 63 R 20 W	**MAINTENANCE DISTRICT:** NW	**AADT TRUCK:** 12.4%	
LATITUDE: 40 15 30.50 (DMS)	**MAINTENANCE COUNTY:** SULLIVAN	**FUTURE AADT:** 715	
LONGITUDE: 93 9 59.04 (DMS)	**SUB AREA:** 7A38	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 08/15/2023 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 24
TEAM LEADER: BRYCE ACTON **ELEMENT:** NO
INSPECTOR 2: **INSPECTOR 4:**
INSPECTOR 3:

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

GENERAL INSPECTION COMMENTS

FRACTURE CRITICAL INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

INDEPTH INSPECTION COMMENTS

SPECIAL INSPECTION INFORMATION

DATE: 08/06/2021 **RESPONSIBILITY:** DISTRICT **CATEGORY:** CHANNEL CROSS SEC
FREQUENCY: 72 **CALCULATED INTERVAL**:** 12 **NBI:** NO
TEAM LEADER: SCOTT STEPHENS **INSPECTOR 3:** **METHOD:** WT TAPE
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

DATE: 08/15/2023 **RESPONSIBILITY:** DISTRICT **CATEGORY:** DRY
FREQUENCY: 60 **CALCULATED INTERVAL**:** 24 **NBI:** NO
TEAM LEADER: BRYCE ACTON **INSPECTOR 3:** **METHOD:** VISUAL
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

UNDERWATER INSPECTION COMMENTS

OTHER SPECIAL INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

Design_No = n0973

COUNTY: SULLIVAN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 7393** **BRIDGE: N0973**

STRUCTURE POSTING

APPROVED CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:**
COMMENTS:

FIELD CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:** **PROBLEM:** **PROBLEM DIRECTION:**
COMMENTS:

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 02/03/2010)--(61'-80'-61') CONT NON-COMP WF GDR SPANS

[ITEM 58] DECK: 3-SERIOUS CONDITION
RATING : 09/09/2021
COMMENTS: (STEPHS2, 12/30/2015)--DECK SATURATION

[ITEM 59] SUPER: 6-SATISFACTORY CONDITION
RATING : 12/30/2015
COMMENTS: (STEPHS2, 12/30/2015)--BEAM RUSTING

[ITEM 60] SUB: 7-GOOD CONDITION
RATING : 05/18/2001
COMMENTS: (ACTONB1, 08/24/2023)--SCALING @ COLUMNS

[ITEM 61] BANK/CHANNEL: 5-MAJOR DAMAGE
RATING : 12/30/2015
COMMENTS: (BOWDEJ1, 10/27/2004)--SLOPE EROSION
(ACTONB1, 08/24/2023)--CONSIDERABLE BANK EROSION

[ITEM 113] SCOUR: 8-STABLE FOR CALCULATED
RATING : 05/18/2001
EVALUATION TYPE :
COMMENTS: (ACTONB1, 08/24/2023)--MINOR SCOUR @ BENT 3 COLUMNS

[ITEM 71] WATERWAY ADEQUACY: DECK ABOVE FLOOD ELEV
RATING : 05/18/2001
COMMENTS:

[ITEM 72] APPRRDWY ALIGNMENT: 6-SATISFACTORY
RATING : 05/18/2001
COMMENTS:

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *02/22/2004* ***COMMENTS:***

MATERIAL	***CONSTRUCTION***	***DIRECTION***	***COMMENTS***
REINFORCED CONCRETE	CURB	BOTH	
STEEL	CHANNEL-12"	BOTH	

[ITEM 36B] TRANSITION RAILING RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

[ITEM 36C] APPROACH RAILING RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

[ITEM 36D] RAIL END TREATMENT RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

COUNTY: SULLIVAN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 7393** **BRIDGE: N0973**

APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH	FAIR	

DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	*WEARING SURFACE*	*ASPHALT*	*BITUMINOUS SEAL COAT*	*.3 IN*			*POOR*

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
DEBONDING	THROUGHOUT		MINOR	
MAP CRACKS	THROUGHOUT		MANY	
POT HOLES	THROUGHOUT		MANY	

DECK PROTECTION	*NOTAPPLICABLE*	*NONE*

COMMENT:

MEMBRANE	*NOTAPPLICABLE*	*NONE*

COMMENT:

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
DRAINAGE	*REINFORCED CONCRETE*	*CURB OUTLET*		

EXPANSION DEVICE COMPONENTS:

SUB UNIT-#	SUB LABEL	COMPONENT	MATERIAL	CONSTRUCTION	GAP	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
ABUTMENT-1		*CLOSED EXPANSION JOINT*	*STEEL*	*FLAT PLATE*				*FAIR*

COMMENT: (BOWDEJ1, 10/27/2004)--COVERED WITH MAT

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
BANK PROTECTION	*ROCK*	*BLANKET*	*BOTH*	

DECK COMPONENTS

SPAN TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	COMMENTS
MAIN SPANS-1	*DECK*	*REINFORCED CONCRETE*	*CAST-IN-PLACE*	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	OVERHANGS		MINOR		
EFFLORESCENCE	THROUGHOUT		MODERATE		
PATCHES	THROUGHOUT		MANY		
SATURATION	THROUGHOUT		HEAVY	50 %	
TRANSVERSE CRACKS	THROUGHOUT		MODERATE		

SPAN TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	COMMENTS
MAIN SPANS-2	*DECK*	*REINFORCED CONCRETE*	*CAST-IN-PLACE*	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

DETERIORATION	OVERHANGS		MINOR	
EFFLORESCENCE	THROUGHOUT		MODERATE	
FULL DEPTH PATCHES	THROUGHOUT		MANY	
PATCHES	THROUGHOUT		MANY	
SATURATION	THROUGHOUT		HEAVY	50 %
TRANSVERSE CRACKS	THROUGHOUT		MODERATE	

MAIN SPANS-3 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	OVERHANGS		MINOR		
EFFLORESCENCE	THROUGHOUT		MODERATE		
PATCHES	THROUGHOUT		MANY		
SATURATION	THROUGHOUT		HEAVY	50 %	
TRANSVERSE CRACKS	THROUGHOUT		MODERATE		

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
MAIN SERIES-1	*CONTINUOUS SPAN*	*STEEL*	*WIDE FLANGE GIRDERS*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	NON-COMPOSITE	61 FT 9 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	TOP FLANGE		MODERATE		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	NON-COMPOSITE	80 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	TOP FLANGE		MODERATE		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	NON-COMPOSITE	61 FT 9 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	TOP FLANGE		MODERATE		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	*LA-15 DEGREES*	*25 FT 1 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
SEALED	BEAM CAP		ASPHALTICBASE		
PILING	STEEL	H-SHAPE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
SHOVING	THROUGHOUT		MINOR		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
RUSTING	THROUGHOUT		MEDIUM		

BENT-2 *LA-15 DEGREES* *21 FT 11 IN* *REINFORCED CONCRETE* *MULTIPLE COLUMN*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
SCALING	WATERLINE		LIGHT		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-3 *LA-15 DEGREES* *21 FT 11 IN* *REINFORCED CONCRETE* *MULTIPLE COLUMN*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
SCALING	WATERLINE		LIGHT		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
FIXED BEARING	STEEL	PEDESTAL(ROTATING)			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

ABUTMENT-4 *LA-15 DEGREES* *25 FT 1 IN* *REINFORCED CONCRETE* *INTEGRAL*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
SEALED	BEAM CAP		ASPHALTICBASE		
PILING	STEEL	H-SHAPE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
SHOVING	THROUGHOUT		MINOR		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
RUSTING	THROUGHOUT		MEDIUM		

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

COUNTY: SULLIVAN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 7393** **BRIDGE: N0973**

CLEARANCES UNDER BRIDGE

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

STRUCTURE PAINT INFORMATION

CONDITION: FAIR **RUST AMOUNT :** 6=1.0% OF SURFACE RUSTED **STEEL TONS :** 60

ORIGINAL PAINT

PAINT TYPE : A SYSTEM
NAME : RED LEAD
PAINT COLOR : ALUMINUM
PAINT YEAR : 1963
MILS : 4

CONTRACT REPAINT

PAINT TYPE :
NAME :
PAINT COLOR :
PAINT YEAR :
MILS :

DEPARTMENT REPAINT

PAINT TYPE : S SYSTEM
NAME : CAL SULPH/LEAD PAINT
PAINT COLOR : GRAY
PAINT YEAR : 2006
MILS : 15
MANUFACTURE : ARMOR SHIELD
SURFACE PREP : HAND CLEANED

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	LOCATION	ITEM	CATEGORY	PRIORITY	DATE	WORK ITEM COMMENT

UTILITY ATTACHMENTS

UTILITY	OWNER	METHOD	MEASUREMENT TYPE	VALUE	NUMBER	UTILITY ATTACHMENT COMMENT

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

Design_No = n0973

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

NOTE: The items listed in this section are updated whenever computer edits are ran on a structure after the inspection updates have been entered in to TMS.

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	4-MEETS MINIMUM TOLERABLE	3/20/2002
[Item 68] Deck Geometry Rating:	3-BASICALLY INTOL CORRECT	3/20/2002
[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001
Sufficiency Rating:	47.1%	3/7/2024
Deficiency:	STRUCTURAL	1/4/2016
Funding Eligibility:	FULL	----
Estimated New Structure Length:	240 FT.	----
Estimated Structure Cost:	$1,391,760	----
Estimated Total Project Cost:	$2,087,640	----
Year of Cost Estimate:	2024	----

NOTE: The above structure length and cost estimates are computer generated using algorithims in the TMS system. These algorthims are generalized to use NBI items to come up with a new structure length and width to calculate a new area which is taken times a representative cost per square foot. The actual structure size and cost may vary significantly from these numbers once site specific engineering is done.

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1	C - IDHW		

OUTFALL INSPECTION INFORMATION

 # OUTFALLS: **INSPECTOR:**

STATUS: **DATE:**

NOTES:

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

December 3, 2024
7:30:18am

COUNTY : SULLIVAN **BRIDGE :** N0973 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/27/2024 **SUBMITTAL YEAR :** 2024

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	SULLIVAN
8	Federal ID No.	7393
27	Year Built	1961
106	Year Reconstructed	0
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	NO MEDIAN
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP
101	Parallel Struc Desg	NONE EXISTS
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	MO
5C	Designated Level of Service	MAINLINE
5D	Route Number	000OO
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT OO S
12	Base Hwy. Network	NO
13A	LRS Inventory Route No.	
13B	Subroute No.	
20	Toll Status	ON FREE ROAD
26	Functional Classification	07-RURAL MAJOR COLLECTOR
28A	Lanes on Structure	02
100	STRAHNET Designation	RTE NOT A DEFENSE HWY
104	National Highway System	NOT ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	NO

STRUCTURE LOCATION INFORMATION

4	Place	POLK
	Code	58880
9	Location	S 17 T 63 N R 20 W
11	Milepoint	2.57 miles
16	Latitude	40 D 15 M 31 S
17	Longitude	93 D 9 M 59 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	572
30	AADT Year	2023
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	12%
114	Future AADT	715
115	Future AADT Year	2043

UNDERRECORD INFORMATION

6	Features Intersected	LOCUST CR
42B	Type of Service Under	WATERWAY
28B	Lanes Under Structure	00
54A	Vert. Clearance Ref.	N/A
54B	Vert. Clearance	0 Ft. 0 In.
55A	Rt. Lat Clear Ref.	N/A
55B	Rt. Lat Clearance	0 Ft. 0 In.
56	Left Lat Clearance	0 Ft. 0 In.
38	Navigation Control	PERMIT NOT REQ
39	Nav Vertical Clear	0 Ft. 0 In.
40	Nav Horizontal Clear	0 Ft. 0 In.
111	Nav. Pier Protection	
116	Nav. Cl. Vert. Clear	

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
19	By pass Detour Length	19.38 miles
32	Approach Roadway Width	20 Ft. 0 In.
34	Skew	15.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	20 Ft. 0 In.
48	Maximum Span Length	80 Ft. 1 In.
49	Structure Length	204 Ft. 1 In.
50A	Left Curb/Sidewalk Width	0 Ft. 0 In.
50B	Right Curb/Sidewalk Width	0 Ft. 0 In.
51	Curb to Curb Br. Width	20 Ft. 0 In.
52	Deck Width (Out-Out)	22 Ft. 4 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = n0973 and Inventory_Appraisal_Submittal_Year = 2024

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

December 3, 2024
7:30:18am

COUNTY : SULLIVAN **BRIDGE :** N0973 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/27/2024 **SUBMITTAL YEAR :** 2024

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 15
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	ALLOWABLE STRESS
64	Operating Rating	29 Tons.
65	Inventory Rating Meth	ALLOWABLE STRESS
66	Inventory Rating	16 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	47.1 Percent
	Deficiency Rating	STRUCTURAL
	Funding Eligibility	FULL
75A	Proposed Work	REPLACEMENT SUBSTND LOAD
75B	Work Done By	Contract
76	New Struc Length	239 Ft. 6 In.
94	Struc Improve Cost	$ 1,392,000
95	Roadway Improve Cost	$ 139,000
96	Total Project Cost	$ 2,088,000
97	Year of Cost Estimates	2024

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND
36C	Approach Rail App. Rating	DOES NOT MEET ACCEPT STND
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND
67	Struc Eval App. Rating	4
68	Deck Geometry App. Rating	3
69	Underclearance App. Rating	N
71	Waterway Adeq. App. Rating	8
72	Approach Road App. Rating	6
113	Scour Assess App. Rating	8

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	3
44A	Appr Struc. Mat type	000
44B	Appr Struc. Cnstr. type	000
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	6 BITUMINOUS
108B	Membrane Mat/Constr.	0 NONE
108C	Deck Protect Mat/Constr.	0 NONE

CONDITION RATING INFORMATION

58	Deck Cond. Rating	3
59	Superstructure Cond. Rating	6
60	Substructure Cond. Rating	7
61	Channel /Channel Protection Cond. Rating	5
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	8 / 23	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

98	Neighboring State Code
98B	Neighboring State % Respon
99	Neighboring State Struc. No.

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = n0973 and Inventory_Appraisal_Submittal_Year = 2024

Missouri Department of Transportation

STRUCTURAL REHABILITATION CHECKLIST

Bridge No.: N0973 **Job No.:** NW0014

Route: OO **Over:** Locust Creek

County: Sullivan **Date of Field Check:** 10/25/2022

*** * * Please include photographs for all items that apply. * * ***

1

OVERLAY

* **Type of existing overlay:** ☐ None ☑ Asphalt ☐ Low Slump ☐ Silica Fume ☐ Latex ☐ Epoxy ☐ Other: _____

* **Existing overlay thickness:** ? " * **Year overlay was applied:** _____ ☑ Unknown

* **% of overlay repaired or patched:** _____ % * **Replace overlay:** ☐ Yes ☐ No

* **Notes:** _____

Picture # DSCN2364, DSCN2367

2A

DECK REPAIRS *(Deck repair quantities are required even if a Deck Test request has been ordered for this structure.)*

* **Half-sole repairs:** _____ sq. ft.
(round up to the nearest 50 sq. ft.)

* **Full depth repairs:** _____ sq. ft.
(round up to the nearest 50 sq. ft.)

* **Existing deck repair (patching):** _____ sq. ft.
(round up to the nearest 25 sq. ft.)

* **Slab edge repairs:** _____ lin. ft.
(covers the outer 4" of the slab edge)

* **Superstructure repair (Unformed):** _____ sq. ft.
(covers the remaining slab cantilever beyond the outer 4")

* **Clean & epoxy coat slab edge:** _____ lin. ft.
(in lieu of edge repairs)

* **Cantilever replacement:** _____ lin. ft.

* **Total surface hydro demolition of bridge deck:** ☐ Yes ☐ No
(half-sole, full depth and exist. deck repair quantities still required)

* **Full deck replacement (redeck):** ☑ Yes ☐ No ☐ Optional

* **Superstructure replacement:** ☐ Yes ☑ No ☐ Optional

* **Deck repairs with voided tube replacement:** ☐ Yes ☐ No
(minimum of 10% of half-sole repair quantity)
_____ sq. ft.

* **Full bridge replacement:** ☐ Yes ☑ No ☐ Optional
(Deck repair quantities required for cost comparison of alternatives)

* **How were the quantities obtained?** ☐ Visual ☐ Bridge Inspection Report ☐ Sounded ☐ Other _____

* **Notes:** Scope is to redeck the bridge.

Picture # DSCN2367

2B

DECK REPAIRS CONT.

*** ISSUES / PROBLEMS WITH PRECAST PRESTRESSED DECK PANELS**

Spans	At Panel Jt.	Btwn (mid) Panel Jt.	Location in Span: End	Mid	End	Deterioration: Type	Amount	Describe
	☐	☐	☐	☐	☐		sq. ft	
	☐	☐	☐	☐	☐		sq. ft	
	☐	☐	☐	☐	☐		sq. ft	
	☐	☐	☐	☐	☐		sq. ft	
	☐	☐	☐	☐	☐		sq. ft	
	☐	☐	☐	☐	☐		sq. ft	

* **Notes:** Scope is to redeck the bridge.

(Deterioration may include water saturation, efflorescence, rust staining, cracking, spalling, exposed steel, disintegration of panel edges at joints, etc. Typically observed at or near panel joints. The location and "Type" of deterioration should be recorded.)

Picture #

3

APPROACH SLABS

* **Is there a bridge approach slab in place?** ☐ Yes ☑ No * **Type:** ☐ Concrete ☐ Asphalt ☐ Other

* **Is there rdwy. approach pavement in place?** ☑ Yes ☐ No * **Type:** ☐ Concrete ☑ Asphalt ☐ Other

* **Is the approach slab sinking at the end bent?** ☑ N/A ☐ Yes ☐ No

* **Are repairs needed to the bridge approach slab driving surface?** ☐ Yes ☐ No
(Typically a roadway item but will be reported to District on the Bridge Memorandum.)

* **Full replacement of bridge approach slab?** ☐ Yes ☐ No

* **Notes:**

Picture # DSCN2364, DSCN2386

4

SLAB DRAINS

* **Is the drainage system working adequately?** ☑ Yes ☐ No

* **Recommendations:** _____

* **Notes:** _____

_____

Picture # **DSCN2367**

5

CURBS & RAILS

* **Existing curb (left side):** ☑ Safety Barrier Curb ☑ Curb/parapet ☐ Blockouts ☐ Thrie Beam ☐ Baluster ☑ Steel Channel

☐ Other _____ ☐ Handrail ☐ Fence _____

* Does curb need repair ☐ Yes ☐ No * Curb repair _____ lin. ft.

* Remove hand rail ☐ Yes ☐ No * Add curb blockou ☐ Yes ☐ No

* **Existing curb (right side):** ☐ Safety Barrier Curb ☑ Curb/parapet ☐ Blockouts ☐ Thrie Beam ☐ Baluster ☑ Steel Channel

☐ Other _____ ☐ Handrail ☐ Fence _____

* Does curb need repair ☐ Yes ☐ No * Curb repair _____ lin. ft.

* Remove hand rail ☐ Yes ☐ No * Add curb blockou ☐ Yes ☐ No

* **Existing median curb:** Type: _____ Width _____" Height _____"

* Does curb need repair ☐ Yes ☐ No * Curb repair _____ lin. ft.

* **Approach rail attachment:** ☐ None ☐ Not attached ☐ 4 Hole ☐ 5 Hole ☐ Turn-down ☐ Other _____

* **If the existing handrails will be removed, does the local maintenance supervisor wish to keep them?** ☐ Yes ☐ No

Storage address: *location:* _____

address: _____

city: _____ *state:* _____ *zip:* _____

* **Notes:** _____

_____

Picture # **DSCN2364, DSCN2367**

6

EXPANSION DEVICES

Bent	Type	Recommendations	Gap Left	Gap Right	Temperature & Other Info
4		☐ USE-IN-PLACE ☐ REPAIR ☐ REPLACE	"	"	
3		☐ USE-IN-PLACE ☐ REPAIR ☐ REPLACE	"	"	
2		☐ USE-IN-PLACE ☐ REPAIR ☐ REPLACE	"	"	
1		☐ USE-IN-PLACE ☐ REPAIR ☐ REPLACE	"	"	
		☐ USE-IN-PLACE ☐ REPAIR ☐ REPLACE	"	"	
		☐ USE-IN-PLACE ☐ REPAIR ☐ REPLACE	"	"	

* **Notes:** Will be replaced with the redeck

Picture #

7

BEARINGS

Bent	Coating	Recommendations	Notes (indicate which bearings at each bent)
4	☐ CLEAN & OVERCOAT ☑ BLAST CLEAN & RECOAT	☐ USE-IN-PLACE ☑ REPAIR ☑ RESET ☐ REPLACE ☐ MAKE END BENT SLIDING SLAB ☐ MAKE END BENT INTEGRAL	All bearings
3	☑ CLEAN & OVERCOAT ☐ BLAST CLEAN & RECOAT	☑ USE-IN-PLACE ☐ REPAIR ☐ RESET ☐ REPLACE ☐ MAKE END BENT SLIDING SLAB ☐ MAKE END BENT INTEGRAL	All bearings
2	☑ CLEAN & OVERCOAT ☐ BLAST CLEAN & RECOAT	☑ USE-IN-PLACE ☐ REPAIR ☐ RESET ☐ REPLACE ☐ MAKE END BENT SLIDING SLAB ☐ MAKE END BENT INTEGRAL	All bearings
1	☐ CLEAN & OVERCOAT ☑ BLAST CLEAN & RECOAT	☐ USE-IN-PLACE ☑ REPAIR ☑ RESET ☐ REPLACE ☐ MAKE END BENT SLIDING SLAB ☐ MAKE END BENT INTEGRAL	All bearings
	☐ CLEAN & OVERCOAT ☐ BLAST CLEAN & RECOAT	☐ USE-IN-PLACE ☐ REPAIR ☐ RESET ☐ REPLACE ☐ MAKE END BENT SLIDING SLAB ☐ MAKE END BENT INTEGRAL	
	☐ CLEAN & OVERCOAT ☐ BLAST CLEAN & RECOAT	☐ USE-IN-PLACE ☐ REPAIR ☐ RESET ☐ REPLACE ☐ MAKE END BENT SLIDING SLAB ☐ MAKE END BENT INTEGRAL	

* **Notes:**

Picture # (Provide Pictures of Each Bearing)

DSCN2368, DSCN2369, DSCN2370, DSCN2371, DSCN2375, DSCN2376, DSCN2377, DSCN2389, DSCN2390, DSCN2391, DSCN2392, DSCN2395, DSCN2396, DSCN2397, DSCN2398,

8

COATING SYSTEM (PAINT)

* **Existing coating system:** System S ☐ green ☑ gray ☐ other

* **Date last coated:** 7/2006

* **Is existing coating peeling?** ☐ Yes (Overcoat is not an option ☑ No

* **Coating recommendation:**

☐ Blast clean & recoat all steel ☑ Clean & overcoat all steel

☐ Blast clean & recoat only at joint locations ☐ Blast & recoat at joint locations and clean & overcoat all other steel

Note: Pull-off test required for overcoat (Calcium Sulfonate) option. Bridge Division will request pull-off tests.

* **Notes:** Rust areas on top and botom flanges.

Picture # **DSCN2380, DSCN2379**

9

SUPERSTRUCTURE REPAIRS *(Repairs needed not previously stated.)*

Concrete Slab Superstructure or Girder: *(above the bearings)* Steel I-beam

(Example: Deck solid slabs, voided slabs, box girders, deck girders & prestressed girders)

Steel: *(Example: Beams, stringers, girders, diaphragms, cross-frames, misc. steel)*

Member *(Check all that apply) (Attach pictures)*							Describe & Locate
4	☐	Section Loss	%	☐	Cracks	in.	
3	☐	Section Loss	%	☐	Cracks	in.	
2	☐	Section Loss	%	☐	Cracks	in.	
1	☐	Section Loss	%	☐	Cracks	in.	

Notes: No issues noticed

Picture #

10

SUBSTRUCTURE REPAIR

Bent	Formed Repair	Unformed Repair	Seal Concrete Beam Cap Bts.	Coat Exposed Pile @ Int. Pile Cap Bts.	Describe (Beam, Backwall, Wing, etc.)
4	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	
3	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	
2	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	
1	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	
	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	

* **Does the structure need graffiti protection?** ☑ No ☐ Bottom 8' of Concrete ☐ End Bents ☐ Other

* **Notes:** No repair needed.

Picture #

11

SIGNS, SIGNALS &/OR LIGHTING ATTACHED TO STRUCTURE

* **Are there signs attached directly to this structure?** ☐ Yes ☑ No quantity _____ location _____

* **Describe proposed work to be done to signs.** _____

* **Are there signals attached directly to this structure?** ☐ Yes ☑ No quantity _____ location _____

* **Describe proposed work to be done to signals.** _____

* **Is there aviation lighting attached to this structure?** ☐ Yes ☐ No ☑ N/A ☐ Red _____ *qnty.* ☐ Green _____ *qnty.*

* **Is there navigational lighting attached to this structure?** ☐ Yes ☐ No ☑ N/A ☐ Red _____ *qnty.* ☐ Green _____ *qnty.*

* **Is there roadway lighting attached to this structure?** ☐ Yes ☐ No ☑ N/A

* **Describe proposed work to be done to lighting.** _____

* **Notes:** _____

Picture #

12

UTILITIES ATTACHED TO STRUCTURE

Type	Qty.	Size	Owner	Condition
☐ Conduit ☐ Pipeline ☐ Other				☐ Repaint ☐ Repair ☐ Replace ☐ Remove
☐ Conduit ☐ Pipeline ☐ Other				☐ Repaint ☐ Repair ☐ Replace ☐ Remove
☐ Conduit ☐ Pipeline ☐ Other				☐ Repaint ☐ Repair ☐ Replace ☐ Remove
☐ Conduit ☐ Pipeline ☐ Other				☐ Repaint ☐ Repair ☐ Replace ☐ Remove

* **Notes:** **No utilities attached to bridge**

Picture #

13

CATHODIC PROTECTION SYSTEM

* **Is there a cathodic system on this structure?** ☐ Yes ☑ No ☐ Remove ☐ Do not alter ☐ Abandon in place (grooved system)

* **Is it on and working?** ☐ Yes ☐ No ☐ Unknown _____

* **Notes:** _____

_____

Picture #

14

CHANNEL ALIGNMENT, SLOPE PROTECTION & SCOUR

* **Is channel aligned to bridge opening?** ☑ Yes ☐ No Describe _____

* **Is drift a continual problem?** ☐ Yes ☑ No Describe & Locate _____

* **Is erosion a problem?** ☑ Yes ☐ No Describe & Locate **Along edge drip line**

* **Describe slope protection in place.** _____

* **Scour**	**At Footing**	**At Piling**	**Depth**	**Bent**	**Recommendation**
	☐	☐			
	☐	☐			

* **Describe needed work.** **Add rip-rap along the edge drip line.**

_____

_____

Picture # **DSCN2372, DSCN2373, DSCN2374, DSCN2383, DSCN2385,**

15

TRAFFIC LANES

* **Number of lanes striped:** on structure **2** under structure **N/A**

* **Shoulder width:** ☑ None on structure _____ (left) _____ (right) under structure _____ (left) _____ (right)

* **Sidewalk widths:** on structure _____ (left) _____ (right) under structure _____ (left) _____ (right)

* **Median width:** on structure _____ under structure _____

* **Proposed improvements for lanes/shoulders/sidewalks:** _____

_____

Picture #

16

GENERAL AREA CONDITIONS

* **Primary area:** ☐ Commercial ☐ Industrial ☐ Residential ☑ Agricultural ☐ Military ☐ Other _____

* **Posted speed limit on structure:** N/A mph

* **Posted load on structure:** _____ tons @ _____ mph ☑ NA

Single Unit: _____ tons @ _____ mph ☑ NA

Semi (tractor/trailer): _____ tons @ _____ mph ☑ NA

* **Are both signs in place?** ☐ Yes ☐ No

* **Do pedestrians and/or bicyclists regularly use this structure?** ☐ Yes ☑ No ☐ Undetermined

* **Notes:** No load posting observed.

Picture #

17

MAINTENANCE

* **What work has been done to this structure that may not be reflected on existing bridge plans?** _____

Picture #

18

ADDITIONAL FIELD NOTES _____

Picture #

19

STAGING / DETOUR

* **Traffic Control:** ☑ Close structure ☐ Stage construction on structure ☐ Cross over traffic to adjacent structure ☑ Detour

☐ Other option _____

* **Define probable detour route.** _____

_____

_____

20

PERSONS ASSISTING WITH CHECKLIST

Name	Joyce Reynolds	Title	Project Manager	Ph.	(816) -387 - -2411
Name	Shannon Kusilek	Title	District Design Engineer	Ph.	(816) 387 - 2441
Name		Title		Ph.	( ) -
Name		Title		Ph.	( ) -
Name		Title		Ph.	( ) -

21

REQUIRED SIGNATURES

I have reviewed the information on this checklist and believe it to be as accurate as possible.

Name Joyce Reynolds **Date** 12/2/2022

Transportation Project Manager

Name Bryce Acton **Date** 12/2/2022

District Bridge Engineer

The structural rehabilitation checklist indicates how the bridge is functioning and aging.

All deterioration should be noted, even if it is known that the work will not be completed under the proposed project.

Send **NEW** Structural Rehabilitation Checklist by email
To: "Bridge Survey Processor"
Cc: Structural Project Manager or Structural Resource Manager