Bridge Number: A3775

Route/County: 47 / Washington

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?

Bracing

Yes: ☐ No: ☒

Railing LBP?

Yes: ☐ No: ☐

Pile LBP?

Yes: ☒ No: ☐

MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: TMS

FROM: Diane Roegge
Environmental Chemist

DATE: May 18, 2017

SUBJECT: Materials
Asbestos Inspection & Heavy Metal Paint Survey
Route 47
Bridge A-3775
Washington 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://sp/sites/cm/chemicallab/environmental/shared documents/asbestos/districts/central (cd)/mt/a3775/dr17051809.docx
Attachments

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

ROUTE: 47
MODOT JOB NO.: N/A
DISTRICT: CD
COUNTY: Washington
DATE OF SURVEY: May 18, 2017
PARCEL NO.: Bridge A-3775

SURVEYED BY: Diane Roegge
CERTIFICATION #: 7020102516MOIR7165
SITE ADDRESS: Over Mineral Fork Creek
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	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:	47	**TESTED BY:**	Diane Roegge
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7020102516MOIR7165
DISTRICT:	CD	**SITE ADDRESS:**	Over Mineral Fork Creek
COUNTY:	Washington	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge A-3775		

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:	47	**TESTED BY:**	Diane Roegge
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7020102516MOIR7165
DISTRICT:	CD	**SITE ADDRESS:**	Over Mineral Fork Creek
COUNTY:	Washington	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge A-3775		

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

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:	47	**TESTED BY:**	N/A
MODOT JOB NO.:	N/A	**DATE OF TESTS:**	N/A
DISTRICT:	CD	**PARCEL NO.:**	Bridge A-3775
COUNTY:	Washington	**SITE ADDRESS:**	Over Mineral Fork Creek
SURVEYED BY:	Diane Roegge	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF SURVEY:	May 18, 2017		

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

Expiration Date **10/25/2017**

Training Date: **10/25/2016**

Certificate Number: 7020102516MOIR7165

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.

12/2/2016
Date

Kyra L Moore
Director of Air Pollution Control Program

MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: TMS

FROM: Diane Roegge
Environmental Chemist, Lead License #110506-300003365

DATE: May 24, 2017

SUBJECT: Materials
Job No. N/A
47/Washington County
Bridge A-3775

On May 18, 2017, a field check for regulated heavy metals was performed on the subject bridge. TMS paint data indicated a System B paint was applied in 1981. During the field check, no stencil was observed, so a paint screening for regulated heavy metals was performed. The following results were obtained:

	17MD1R245
Arsenic (As)	18,030 ppm** (1.8%)
Chromium (Cr)	7,104 ppm (0.7%)
Lead (Pb)	306,246 ppm (30.6%)
Cadmium (Cd)	403 ppm
Selenium (Se)	LOD*
Barium (Ba)	119 ppm
Mercury (Hg)	LOD
Silver (Ag)	LOD

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

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. Additionally be advised that System B paint used basic lead silico chromate so high levels of chromium, another regulated heavy metal, will also be found on this bridge. It is advised that any worker be strongly urged to use proper PPE when dealing with this material.

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/central (cd)/mt/a3775/lbp a3775.docx

Missouri Department of Transportation
State Bridge Inspection Report

December 19, 2022
10:50:09AM

COUNTY: WASHINGTON **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 3139** **BRIDGE: A3775**

GENERAL STRUCTURE INFORMATION

ROUTE: MO47S
FEATURE: MINERAL FK CR
STATUS: A-OPEN
LOG MILE: 97.032
DETOUR: 35.00 MILES
NHS: NO
BUILT: 1981
REHAB:
LOCATION: S 2066 T 39 R 3 E
LATITUDE: 38 5 44.86 (DMS)
LONGITUDE: 90 44 50.61 (DMS)

 # SPANS: 7
LANES ON: 2
LANES UNDER: 0
COMPASS DIRECTION: WEST to EAST
DIRECTION OF TRAFFIC: 2-WAY TRAF
FUNCTIONAL CLASS: RL-MINOR ARTERIAL
NBI OWNER: MODOT
NBI MAINTAINED: MODOT
MAINTENANCE DISTRICT: CD
MAINTENANCE COUNTY: WASHINGTON
SUB AREA: 7D43

PLACE CODE: 38882 KINGSTON
LENGTH: 422 FT 0 IN
MAXIMUM SPAN: 60 FT 8 IN
APPROACH ROADWAY: 28 FT 0 IN
CURB TO CURB: 40 FT 0 IN
OUT TO OUT: 42 FT 8 IN
AADT: 1596
AADT YEAR: 2021
AADT TRUCK: 14.2%
FUTURE AADT: 2394
FUTURE AADT YEAR: 2041

BRIDGE INSPECTION INFORMATION

DATE: 06/16/2022 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 21
TEAM LEADER: MICHAEL MEYERHOFF **ELEMENT:** NO
INSPECTOR 2: JOE GREEN **INSPECTOR 4:**
INSPECTOR 3:

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

GENERAL INSPECTION COMMENTS

(RAITHK, 11/13/2020)--NORTH TO SOUTH

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: 09/17/2014 **RESPONSIBILITY:** DISTRICT **CATEGORY:** CHANNEL CROSS SEC
FREQUENCY: 120 **CALCULATED INTERVAL**:** **NBI:** NO
TEAM LEADER: **INSPECTOR 3:** ALAN TRAMPE **METHOD:**
INSPECTOR 2: JEFF MADSEN **INSPECTOR 4:**

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

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

DATE: 06/16/2022 **RESPONSIBILITY:** DISTRICT **CATEGORY:** SHALLOW-WADE
FREQUENCY: 60 **CALCULATED INTERVAL**:** 26 **NBI:** NO
TEAM LEADER: MICHAEL MEYERHOFF **INSPECTOR 3:** **METHOD:** PROBE
INSPECTOR 2: JOE GREEN **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
05/05/2011	999	QUALITY ASSURANCE	NO		BRIDGEDIV	

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

Design_No = a3775

COUNTY: WASHINGTON **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 3139** **BRIDGE: A3775**

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, 02/09/2007)--(60'-60'-60'-60'-60'-60'-60') P/S CONC I-GDR SPANS

[ITEM 58] DECK: 6-SATISFACTORY CONDITION
RATING : 05/18/2001
COMMENTS: (MADSEJ, 04/23/2020)--EXCESSIVE TRANSVERSE CRACKS WITH LIGHT EFFLORESCENCE THROUGHOUT THE DECK. LESS THAN 10% DELAMINATIONS AND SPALLS THROUGHOUT THE BOTTOM OF THE SPAN 5, 6, AND 7 DECK.

[ITEM 59] SUPER: 7-GOOD CONDITION
RATING : 04/23/2020
COMMENTS: (MADSEJ, 04/23/2020)--FINE VERTICAL CRACKS AT THE END OF A FEW GIRDERS THROUGHOUT THE SUPERSTRUCTURE.

[ITEM 60] SUB: 6-SATISFACTORY CONDITION
RATING : 05/18/2001
COMMENTS: (MADSEJ, 04/23/2020)--A FEW LARGE DELAMINATIONS AND SPALLS THROUGHOUT THE BENT 4 BEAMCAP.

[ITEM 61] BANK/CHANNEL: 6-WIDESPREAD MINOR DAMAGE
RATING : 05/18/2001
COMMENTS: (MADSEJ, 04/23/2020)--VEGETATION AND DEBRIS IN THE DOWNSTREAM CHANNEL IS SLIGHTLY RESTRICTING FLOW. DRIFT AT THE BENT 3 COLUMNS IS SLIGHTLY RESTRICTING FLOW.

[ITEM 113] SCOUR: 8-STABLE FOR CALCULATED
RATING : 05/18/2001
EVALUATION TYPE :
COMMENTS: (MADSEJ, 04/23/2020)--MINOR LOCAL SCOUR AT THE BENT 3 AND 4 COLUMNS

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

[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD
RATING : 05/18/2001
COMMENTS:

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	SAFETY BARRIER CURB	BOTH	

[ITEM 36B] TRANSITION RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *10/29/2014* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	THRIE BEAM TO W-BEAM	ALL	

[ITEM 36C] APPROACH RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	ALL	

[ITEM 36D] RAIL END TREATMENT RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *10/29/2014* ***COMMENTS:***

COUNTY: WASHINGTON **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 3139** **BRIDGE: A3775**

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	BREKAWAY SYSTEM	ALL	

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH	GOOD	

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*	*.4 IN*			*FAIR*
	DECK PROTECTION	*EPOXY POLYMER*	*COATED REBAR*				
	MEMBRANE	*NOTAPPLICABLE*	*NONE*				
	SECONDARY DECK PROTECTION	*LIQUID SEALANT*	*INTERNALLY SEALED*		*2016*	*PAVON INDECK*	

COMMENT:

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

EXPANSION DEVICE COMPONENTS:

SUB UNIT-#	SUB LABEL	COMPONENT	MATERIAL	CONSTRUCTION	GAP	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
BENT-4		*CLOSED EXPANSION JOINT*	*ELASTOMERIC*	*STRIP SEAL*				*POOR*

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
FAILING	THROUGHOUT		NOT APPLICABLE	

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
DIAGONAL CRACKS	ENDS	WEST	FEW		
LEACHING	THROUGHOUT		LIGHT		
TRANSVERSE CRACKS	THROUGHOUT		FEW		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

LEACHING	THROUGHOUT		LIGHT		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DIAGONAL CRACKS	ENDS	BOTH	FEW		
LEACHING	THROUGHOUT		LIGHT		
PATCHES	AT JOINTS		FEW		
TRANSVERSE CRACKS	THROUGHOUT		FEW		

MAIN SPANS-4 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	BOTTOM	THROUGHOUT	SMALL		
DELAMINATION	DRIVING SURFACE		MINOR		(GREENA2, 07/14/2022)--AT JOINT
LEACHING	THROUGHOUT		LIGHT		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

MAIN SPANS-5 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DIAGONAL CRACKS	ENDS	EAST	FEW		
LEACHING	THROUGHOUT		LIGHT		
TRANSVERSE CRACKS	OVERHANGS		FEW		(RAITHK, 11/13/2020)--T-CRKS LEACHING
TRANSVERSE CRACKS	THROUGHOUT		MANY		

MAIN SPANS-6 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	BOTTOM	THROUGHOUT	SMALL		
DIAGONAL CRACKS	ENDS	BOTH	FEW		
LEACHING	THROUGHOUT		LIGHT		
SPALLS	BOTTOM	THROUGHOUT	FEW		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

MAIN SPANS-7 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	BOTTOM	THROUGHOUT	FEW		
DIAGONAL CRACKS	ENDS	EAST	FEW		
LEACHING	THROUGHOUT		LIGHT		
TRANSVERSE CRACKS	THROUGHOUT		FEW		

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
MAIN SERIES-1	*CONTINUOUS SPAN*	*PRESTRESSED CONCRETE*	*I-GIRDERS*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	COMPOSITE	60 FT 8 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
VERTICAL CRACKS	DIAPHRAGMS		FEW		
VERTICAL CRACKS	GIRDER ENDS		FINE		(MADSEJ, 04/23/2020)--GIRDER 5 BENT 2

MAIN SPANS-2 COMPOSITE 60 FT 0 IN NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
VERTICAL CRACKS	GIRDER ENDS		FINE		(MADSEJ, 04/23/2020)--GIRDER 1 BENT 2

MAIN SPANS-3 COMPOSITE 60 FT 3 IN NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

MAIN SPANS-4 COMPOSITE 60 FT 3 IN NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	DIAPHRAGMS		LIGHT		
OTHER	DIAPHRAGMS		NOT APPLICABLE		(MADSEJ, 04/23/2020)--THE DIAPHRAGM OVERHANGS THE BEAM CAP APPROXIMATELY 2" IN 2020
VERTICAL CRACKS	DIAPHRAGMS		FEW		
VERTICAL CRACKS	GIRDER ENDS		FINE		(MADSEJ, 04/23/2020)--GIRDERS 2, 4, AND 5 AT BENT 5

MAIN SPANS-5 COMPOSITE 60 FT 0 IN NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
COLLISION DAMAGE	EXTERIOR GIRDERS		MINOR		
VERTICAL CRACKS	GIRDER ENDS		FINE		(MADSEJ, 04/23/2020)--GIRDER 4 AND 5 AT BENT 5

MAIN SPANS-6 COMPOSITE 60 FT 0 IN NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
VERTICAL CRACKS	GIRDER ENDS		FINE		(GREENA2, 07/14/2022)--GIRDER 1 AND 5 AT BENT 6 ALSO 1, 3, AND 5 AT BENT 7.

MAIN SPANS-7 COMPOSITE 60 FT 8 IN NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
VERTICAL CRACKS	DIAPHRAGMS		FEW		
VERTICAL CRACKS	GIRDER ENDS		FINE		(RAITHK, 11/13/2020)--DID NOT SEE 2020 (GREENA2, 07/14/2022)--GIRDERS 1, 3, AND 4 AT BENT 7.

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	*RA-20 DEGREES*	*45 FT 5 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
PILING	STEEL	H-SHAPE			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
FIXED BEARING	ELASTOMERIC	PLAIN NEOPRENE			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

BENT-2	*RA-20 DEGREES*	*43 FT 2 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***
FOOTING		REINFORCED CONCRETE	SPREAD			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FIXED BEARING		ELASTOMERIC	PLAIN NEOPRENE			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
BENT-3	*RA-20 DEGREES*	*43 FT 2 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***
FOOTING		REINFORCED CONCRETE	SPREAD			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FIXED BEARING		ELASTOMERIC	PLAIN NEOPRENE			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
BENT-4	*RA-20 DEGREES*		*REINFORCED CONCRETE*	*MULTIPLE COLUMN*		
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DRIFT		WATERLINE		MEDIUM AMOUN		
ASSOCIATED COMPONENT		***MATERIAL***	***CONSTRUCTION***			
BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION		THROUGHOUT		LARGE		
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION		THROUGHOUT		LARGE		
DETERIORATION		ENDS	NORTH	MODERATE		
SPALLS		THROUGHOUT		LARGE		
COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DELAMINATION		TOP	THROUGHOUT	LARGE		
FOOTING		REINFORCED CONCRETE	SPREAD			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FIXED BEARING		ELASTOMERIC	PLAIN NEOPRENE			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
BENT-5	*RA-20 DEGREES*	*43 FT 2 IN*	*REINFORCED CONCRETE*	*PILE CAP*		
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***
PILING		STEEL	H-SHAPE			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
RUSTING		GROUND LINE		LIGHT		
FIXED BEARING		ELASTOMERIC	PLAIN NEOPRENE			
CONDITION		***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
BENT-6	*RA-20 DEGREES*	*43 FT 2 IN*	*REINFORCED CONCRETE*	*PILE CAP*		
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
PILING	STEEL	H-SHAPE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
RUSTING	GROUND LINE		LIGHT		
FIXED BEARING	ELASTOMERIC	PLAIN NEOPRENE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-7 RA-20 DEGREES 43 FT 2 IN REINFORCED CONCRETE PILE CAP

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**
PILING	STEEL	H-SHAPE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
RUSTING	GROUND LINE		LIGHT		(RAITHK, 11/13/2020)--DID NOT SEE 2020
FIXED BEARING	ELASTOMERIC	PLAIN NEOPRENE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

ABUTMENT-8 RA-20 DEGREES 45 FT 5 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**
PILING	STEEL	H-SHAPE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
FIXED BEARING	ELASTOMERIC	PLAIN NEOPRENE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

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: WASHINGTON **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 3139** **BRIDGE: A3775**

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 :** 7 = .2% OF SURFACE RUSTED **STEEL TONS :** 3

ORIGINAL PAINT	CONTRACT REPAINT	DEPARTMENT REPAINT	
PAINT TYPE : B SYSTEM	**PAINT TYPE :**	**PAINT TYPE :**	**MANUFACTURE :**
NAME : BASIC LEAD CHROMIUM	**NAME :**	**NAME :**	**SURFACE PREP :**
PAINT COLOR : ALUMINUM	**PAINT COLOR :**	**PAINT COLOR :**	
PAINT YEAR : 1981	**PAINT YEAR :**	**PAINT YEAR :**	
MILS : 8	**MILS :**	**MILS :**	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	LOCATION	ITEM	CATEGORY	PRIORITY	DATE	WORK ITEM COMMENT
DISTRICT ROUTINE	WEST	REPAIR APPROACH ROADWAY	APPROACH	3	04/09/2016	
DISTRICT ROUTINE	EAST	REPAIR APPROACH ROADWAY	APPROACH	3	04/09/2016	
DISTRICT SPECIAL	ROADWAY SURFACE	SEAL DECK WITH IN DECK	DECK	3	06/28/2019	
DISTRICT ROUTINE	BENT	REMOVE DRIFT	CHANNEL	1	04/21/2020	
DISTRICT SPECIAL	BENT	REPAIR EXPANSION DEVICE	EXPANSION DEVICE	1	09/03/2020	(RAITHK, 11/13/2020)--ASAP
CONTRACT	BENT-COLUMN	REPAIR COLUMN OR SHAFT	SUBSTRUCTURE	3	09/03/2020	
CONTRACT	BENT-CAPS	REPAIR BEAM CAP	SUBSTRUCTURE	3	09/03/2020	

UTILITY ATTACHMENTS

UTILITY	OWNER	METHOD	MEASUREMENT TYPE	VALUE	NUMBER	UTILITY ATTACHMENT COMMENT

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

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:	6-EQ TO PRESENT MIN CRITR	3/25/2002
[Item 68] Deck Geometry Rating:	7-BETTER THAN PRESENT MIN	3/5/2019
[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001
Sufficiency Rating:	85.0%	2/22/2022
Deficiency:	NOT DEFICIENT	5/18/2001
Funding Eligibility:		----
Estimated New Structure Length:		----
Estimated Structure Cost:		----
Estimated Total Project Cost:		----
Year of Cost Estimate:		----

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			

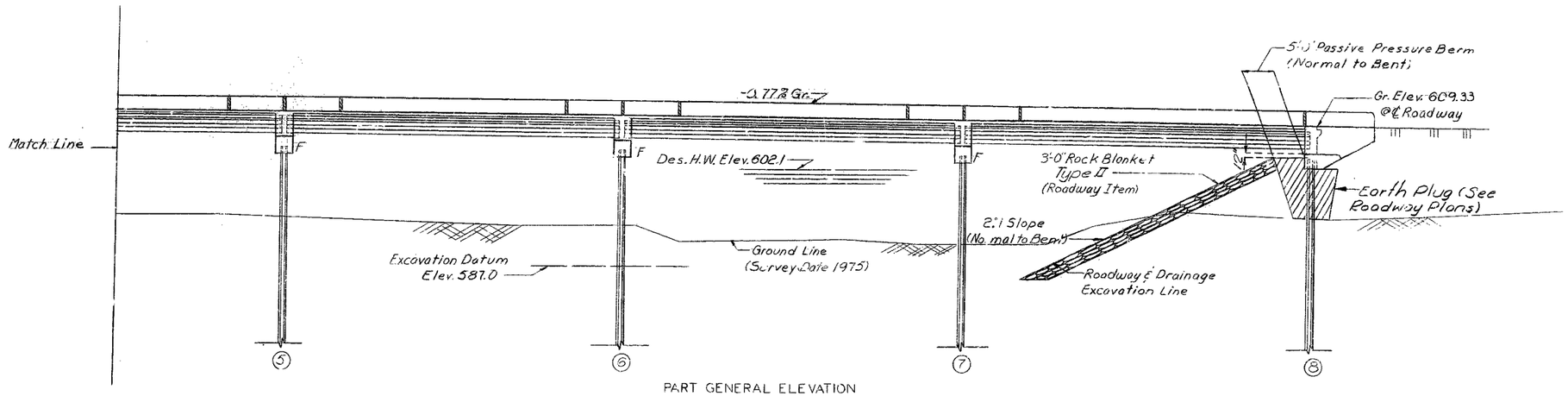
OUTFALL INSPECTION INFORMATION

 # OUTFALLS: **INSPECTOR:**

STATUS: **DATE:**

NOTES:

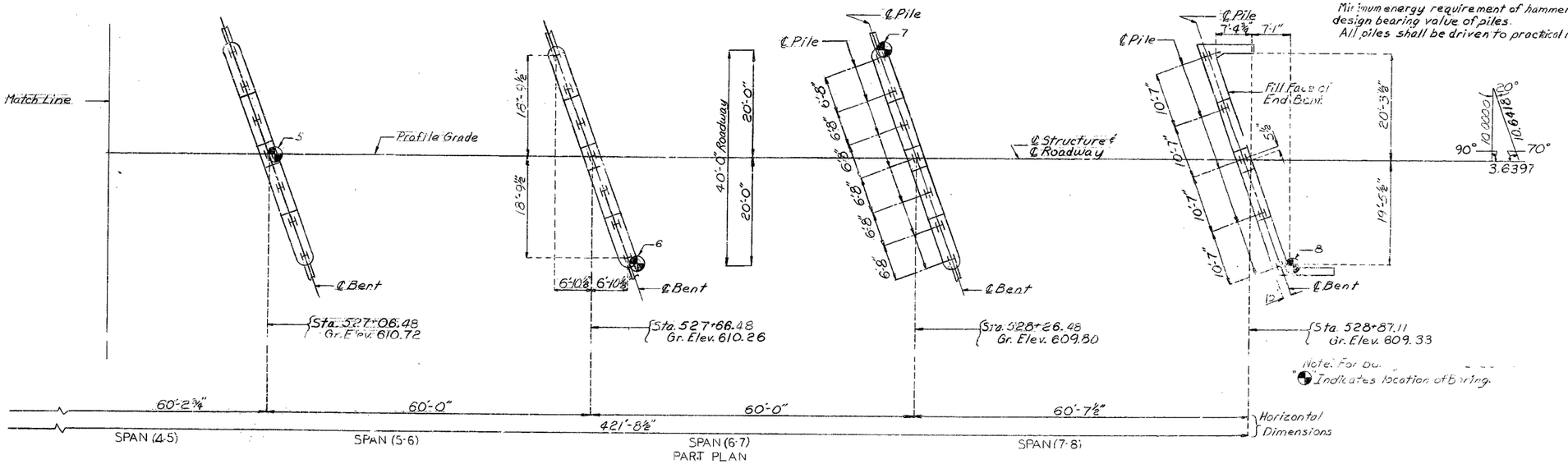
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	15	



PART GENERAL ELEVATION

PILE & FOOTING DATA									
	BENT NO.	1	2	3	4	5	6	7	8
BEARING PILE	Pile Type & Size	HP10×42				HP 10×42			
	Number	5				7	7	7	5
	Apprx. Length Ft.	34				31	31	29	29
	Design Bearing Tons	47				53	53	53	47
	Hammer Eng. required Ft. lbs.	10,800				12500	12500	12500	10,800
SPREAD FOOTINGS	Foundation Material					Rock	Rock	Rock	
	Design Bearing Tons / Sq. Ft.					11	11	12	

Minimum energy requirement of hammer based on plan length and design bearing value of piles.
All piles shall be driven to practical refusal.



PART PLAN

Note: For Bo... "⊕" Indicates location of Boring.

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DETAILED AUG. 1977
CHECKED JUNE 1978

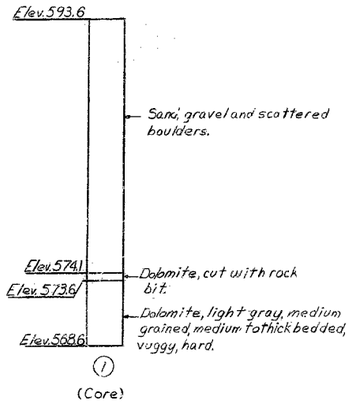
Note: This drawing is not to scale. Follow dimensions.

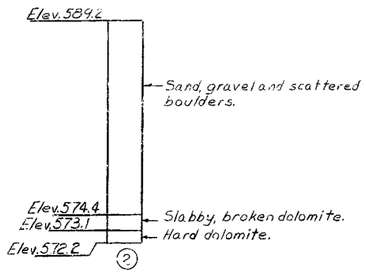
Sheet No. 2 of 20

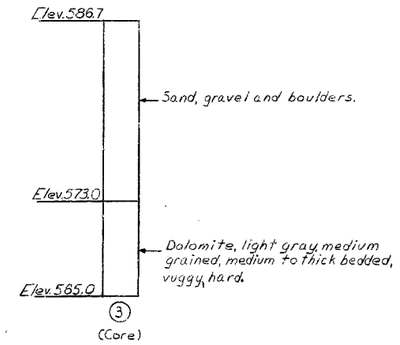
WASHINGTON COUNTY

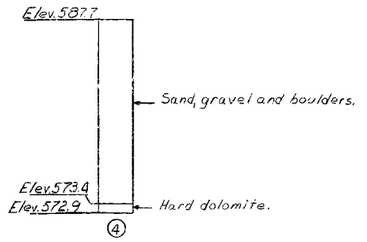
A-3775

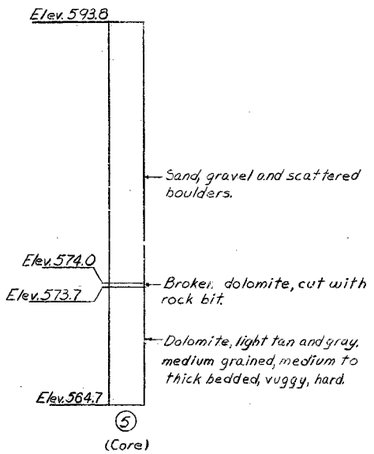
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		15	16	

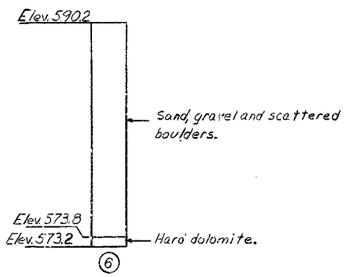


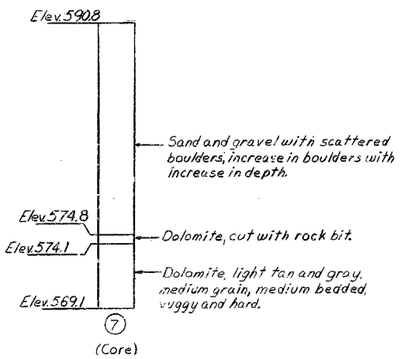


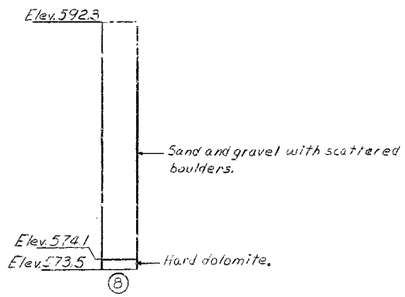












BORING DATA

Note: For location of borings see Sheet No 1 & 2.

360

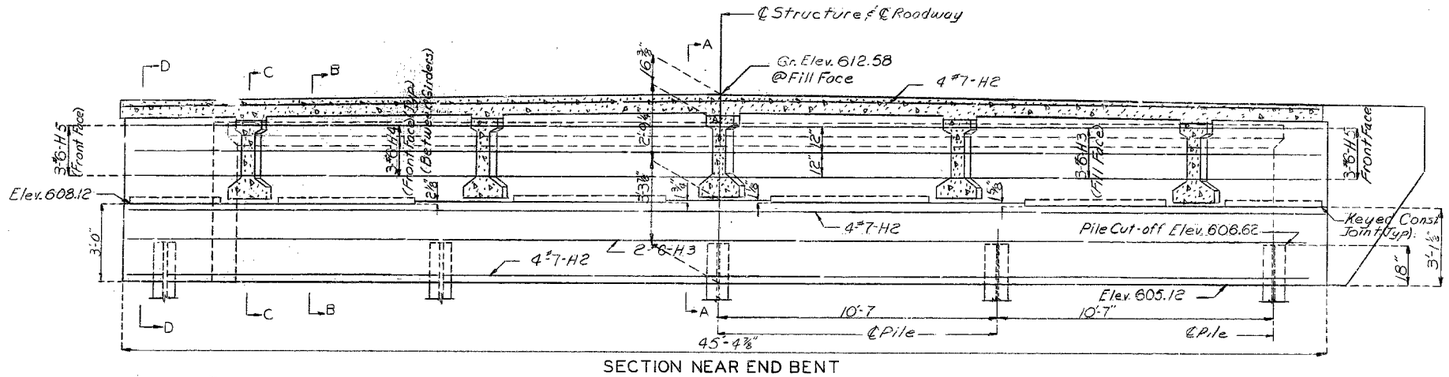
DETAILED JULY 1977
CHECKED MAY 1978

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

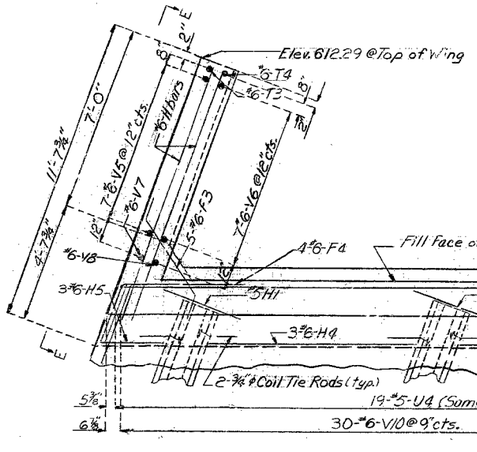
WASHINGTON COUNTY

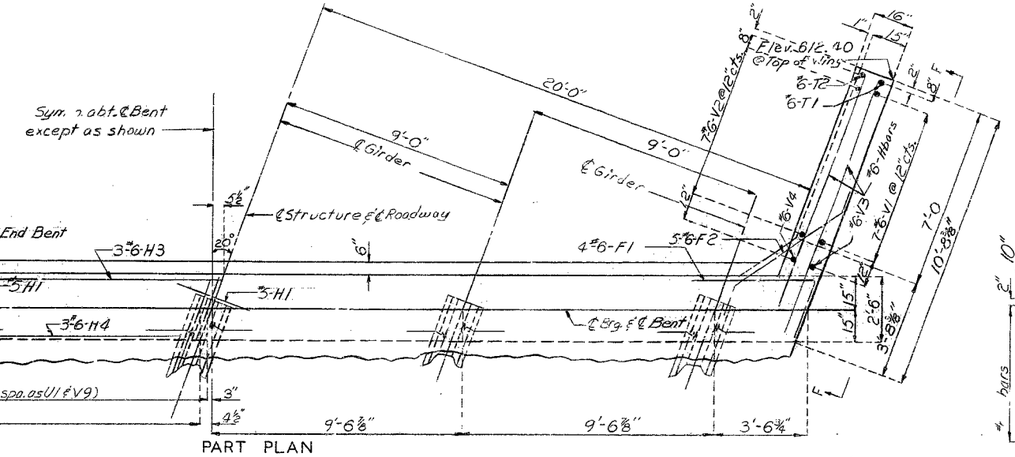
A-3775

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	17	

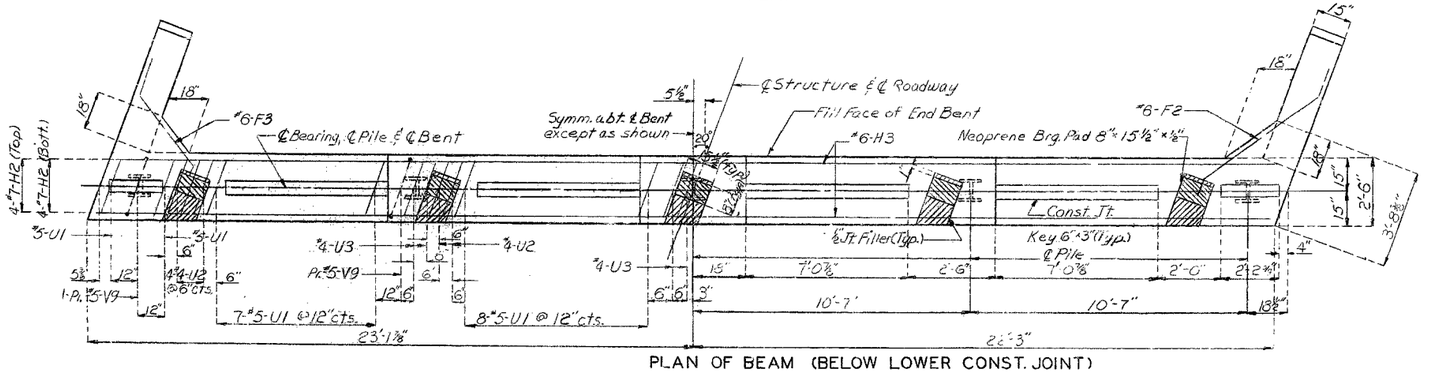


SECTION NEAR END BENT

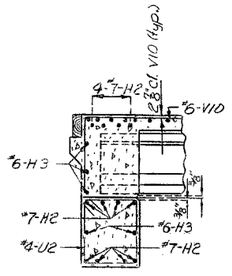




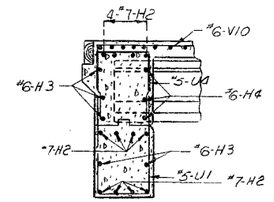
PART PLAN



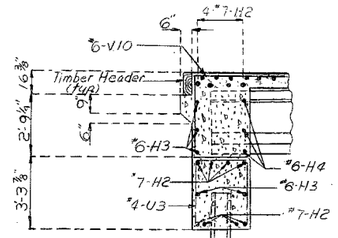
PLAN OF BEAM (BELOW LOWER CONST. JOINT)



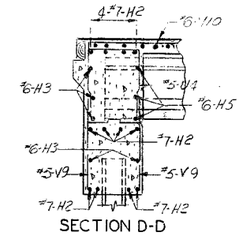
SECTION C-C



SECTION B-B

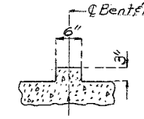


SECTION A-A

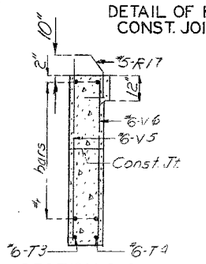


SECTION D-D

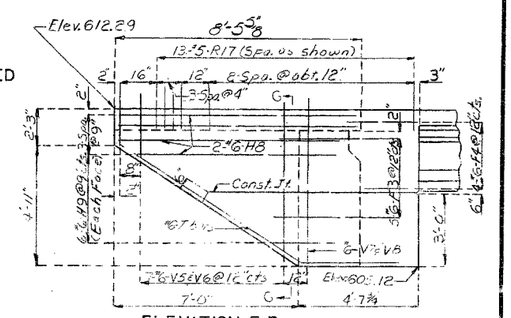
Note: For location of Coil ties see sheet No. 9
For details of barrier curb see sheet No. 16 & 17
All U-bars in End Bent are to be placed parallel to ℄ Roadway.
Bend F bars in field to clear prestressed beam flange.
For detail of Timber Header see Sheet No. 16.
All concrete in the end bents above lower Const. Jt. shall be Class BE.



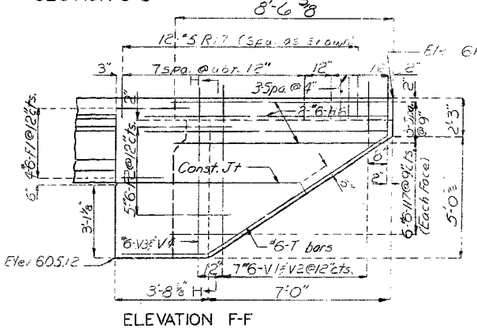
DETAIL OF KEYED CONST. JOINT



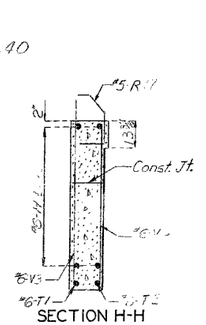
SECTION G-G



ELEVATION E-E



ELEVATION F-F



SECTION H-H

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DETAILS OF END BENT NO. 1

DETAILED AUG. 1977
CHECKED MAY 1978

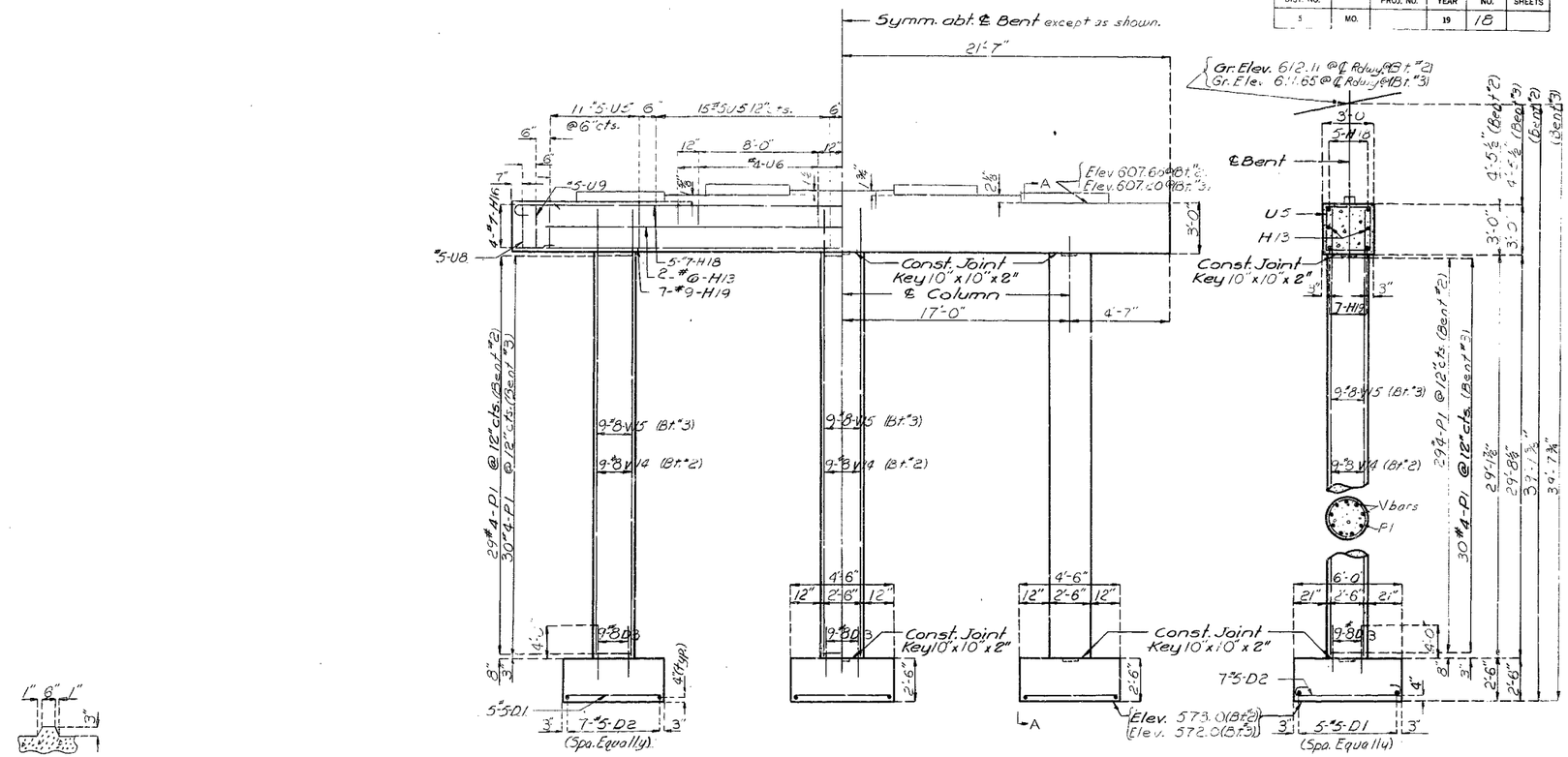
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 20

WASHINGTON COUNTY

A-3775

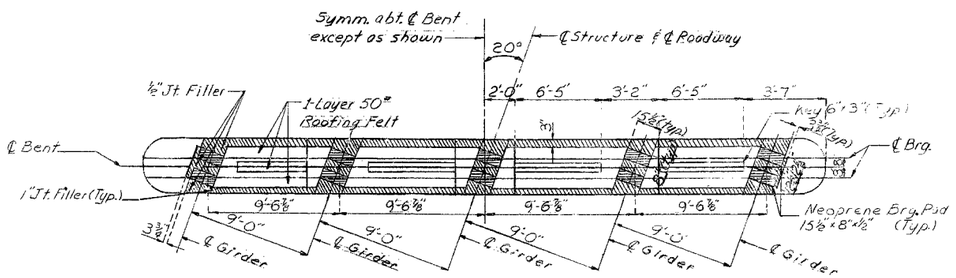
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	18	



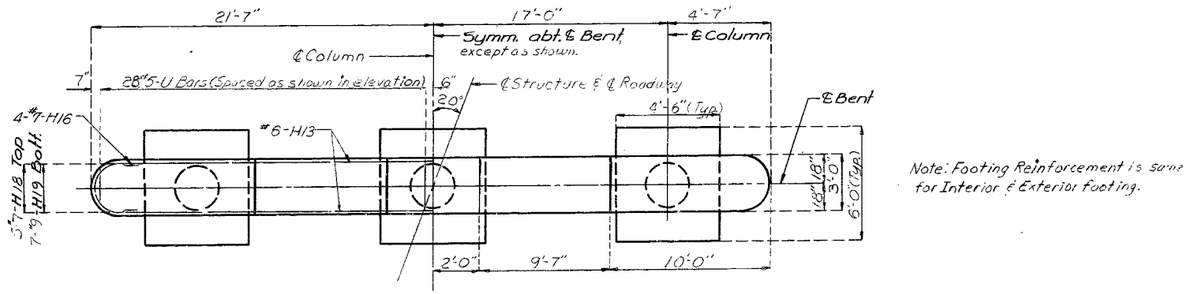
ELEVATION

SECTION A-A

DETAIL OF KEY



PLAN OF BEAM



Note: Footing Reinforcement is same for Interior & Exterior footing.

PLAN

DETAILS OF INTERMEDIATE BENT NO. 2&3.

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STD. 19.5	REVISED
JAN. 1965	JUNE 1974

DETAILED JULY 1977
CHECKED MAY 1978

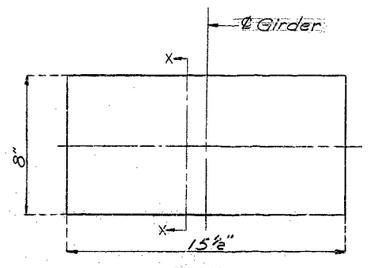
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 20.

WASHINGTON COUNTY

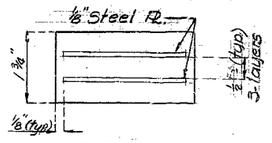
A-3775

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



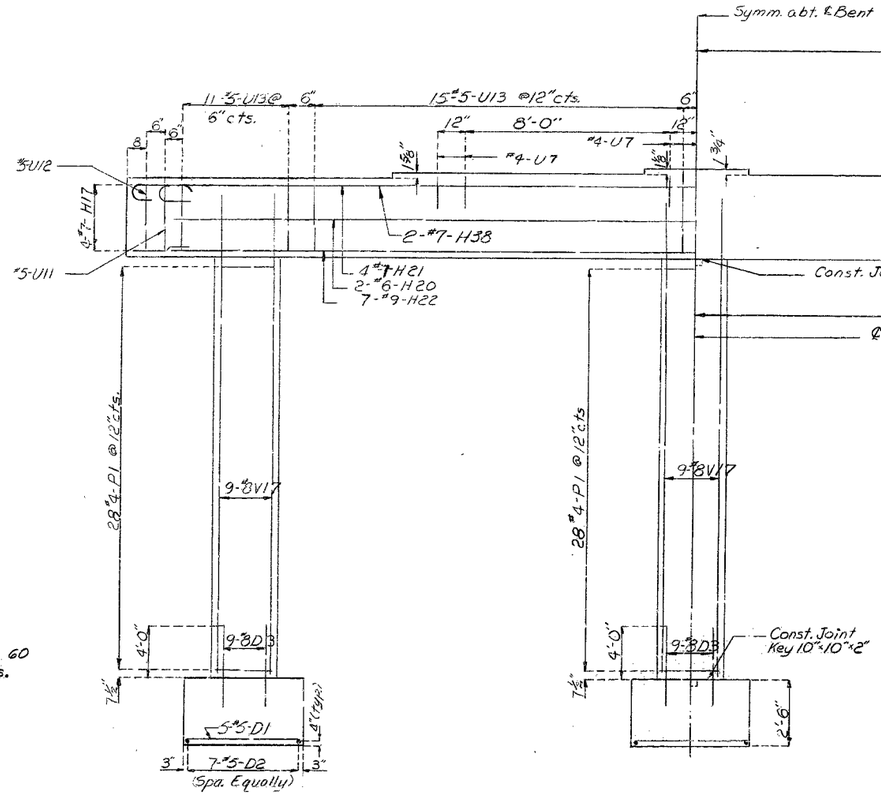
PLAN

Note: Bearings shall be 60 durometer Neoprene Pads. Steel ℟ shall be 36.

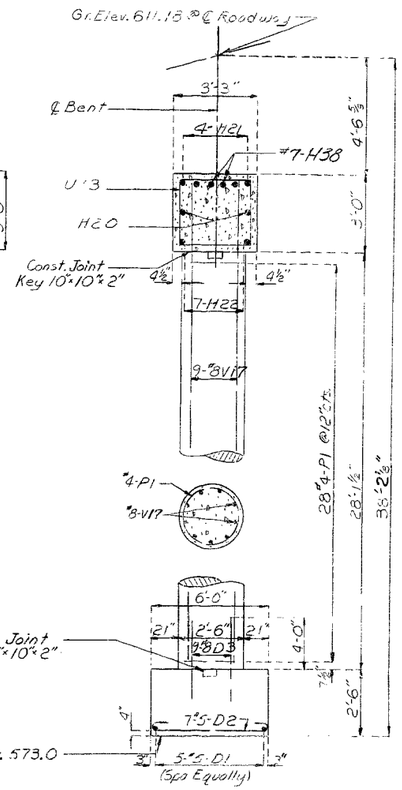


SECTION X-X

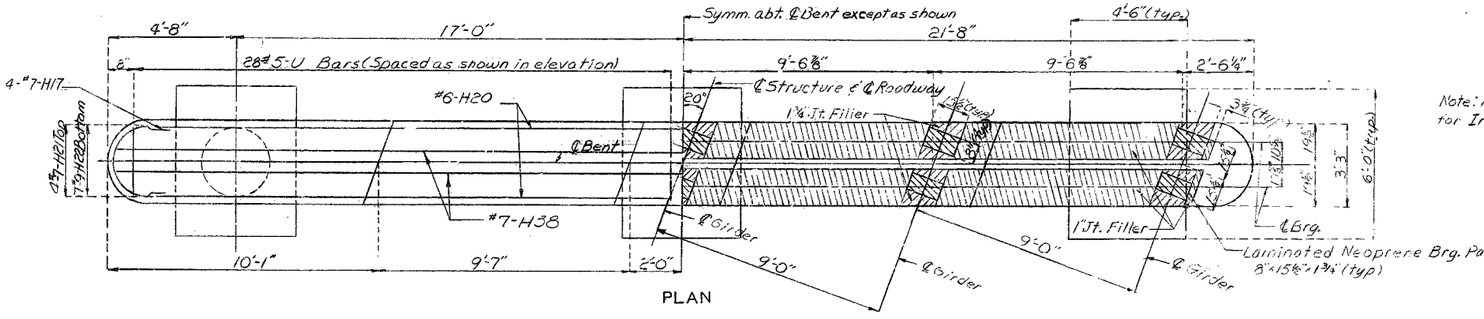
DETAIL OF LAMINATED NEOPRENE BRG. PAD BENT NO. 4



ELEVATION



SECTION A-A



PLAN

Note: Footing Reinforcement is same for Interior & Exterior footing.

DETAILS OF INTERMEDIATE BENT NO. 4

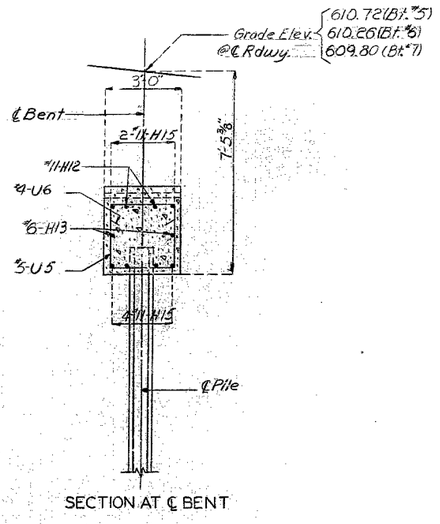
363

DETAILED JULY 1977
CHECKED MAY 1978

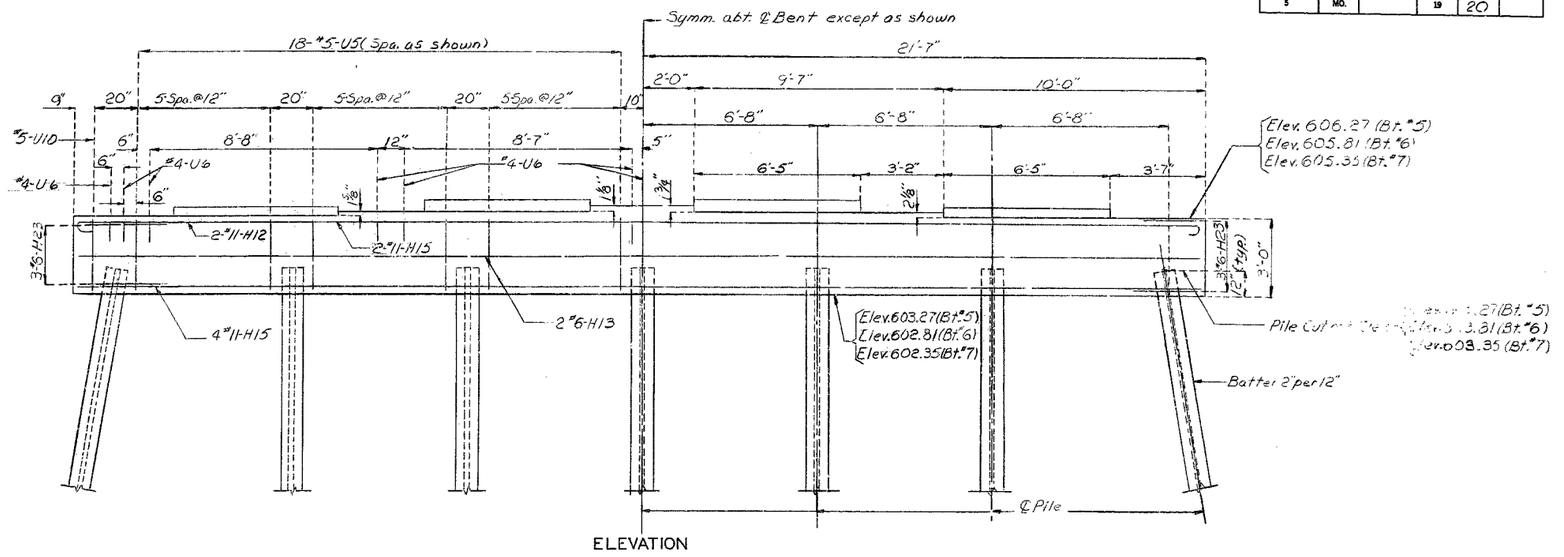
Note: This drawing is not to scale. Follow dimensions.

WASHINGTON COUNTY A-3775

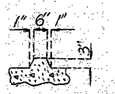
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	20	



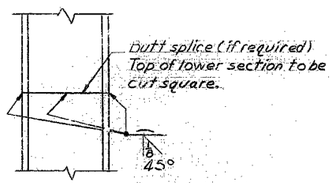
SECTION AT ℄ BENT



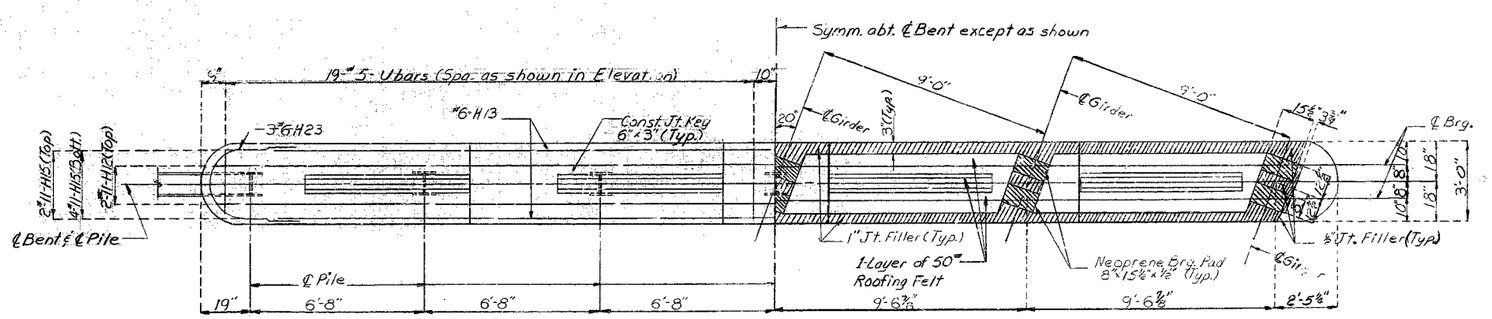
ELEVATION



DETAIL OF KEY



DETAIL OF STEEL PILE SPLICE



PLAN

DETAILS OF INTERMEDIATE BENTS NO. 5,6 & 7

364

DETAILED JULY 1977
CHECKED MAY 1978

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

Sheet No. 7 of 20

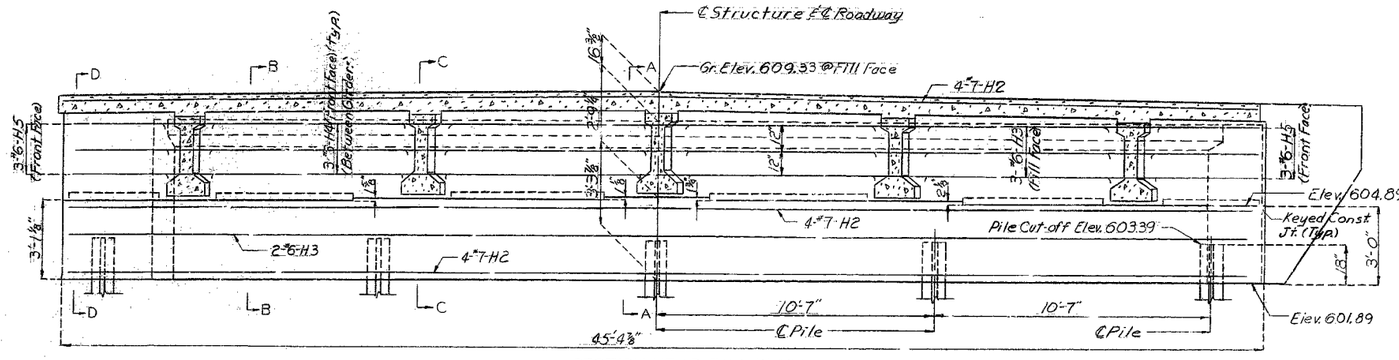
WASHINGTON COUNTY

A-3775

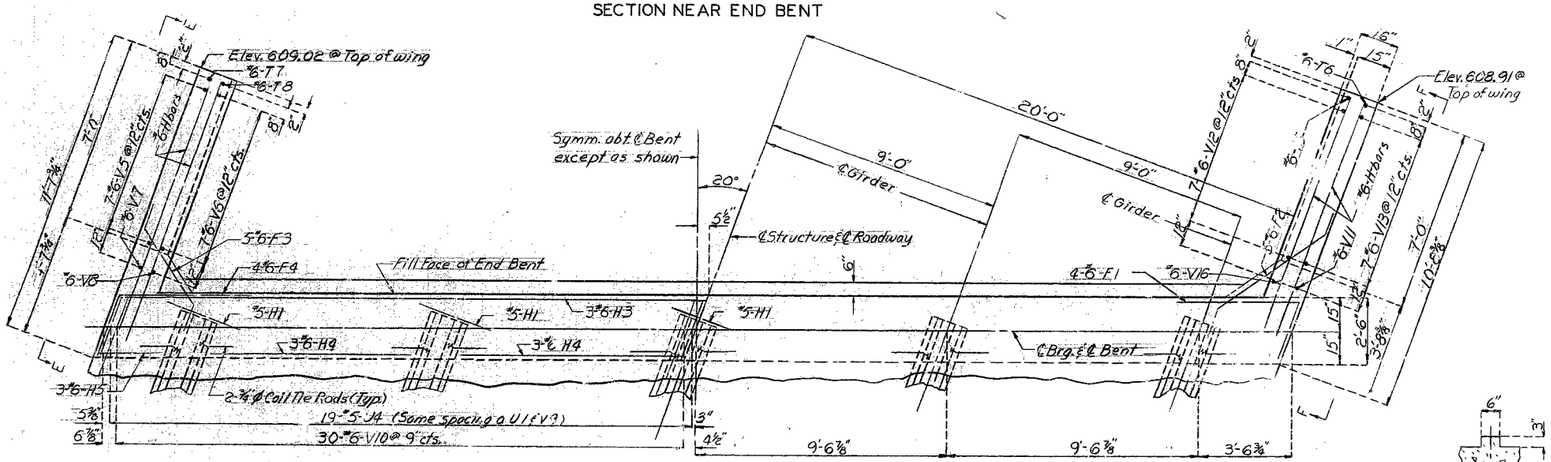
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	21	

Note: For location of soil ties see sheet No. 9
For details of barrier curb see sheet No. 16 & 17
All U-bars in End Bent are to be placed parallel to ℄ Roadway.
Bend F bars in field to clear prestressed beam flange.
For detail of Timber Header see Sheet No. 16

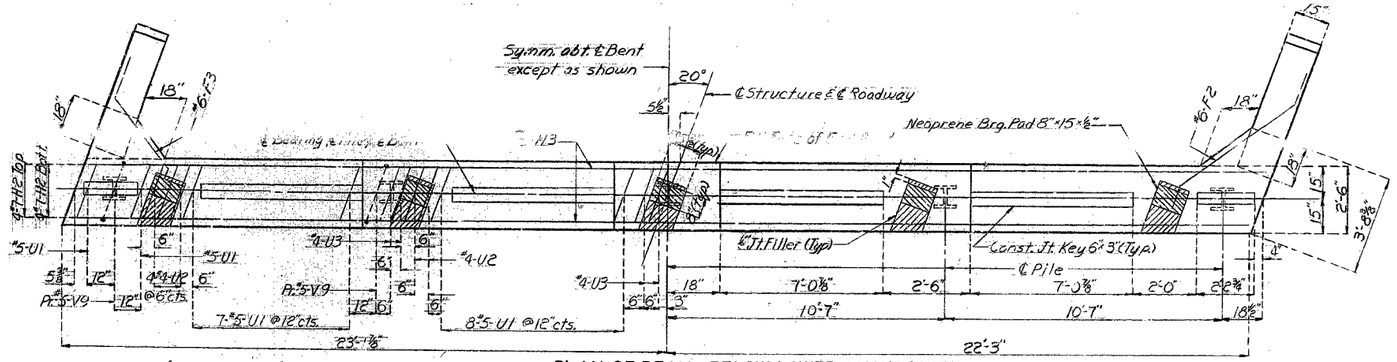
All concrete in the end bents above lower const. Jt. shall be Class B2



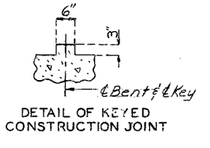
SECTION NEAR END BENT



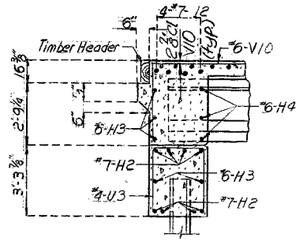
PART PLAN



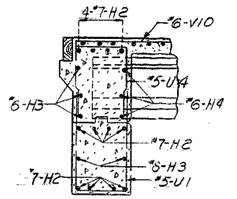
PLAN OF BEAM (BELOW LOWER CONST. JOINT)



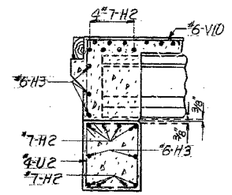
DETAIL OF KEYED CONSTRUCTION JOINT



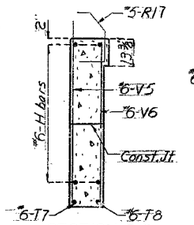
SECTION A-A



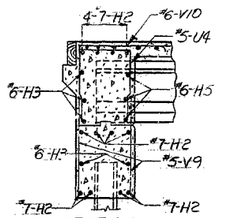
SECTION B-B



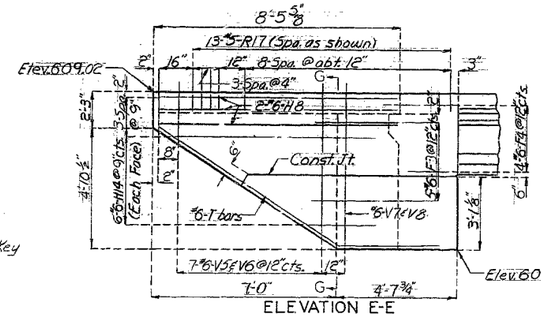
SECTION C-C



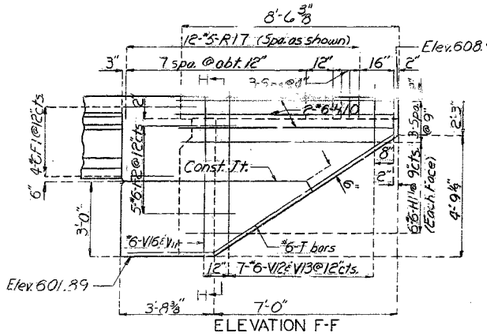
SECTION G-G



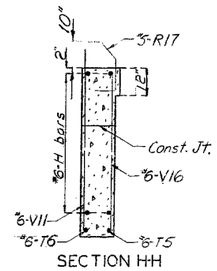
SECTION D-D



ELEVATION E-E



ELEVATION F-F



SECTION H-H

DETAILS OF END BENT NO. 8

DETAILED AUG. 1977
CHECKED MAY 1978

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

Sheet No. 8 of 20.

WASHINGTON COUNTY

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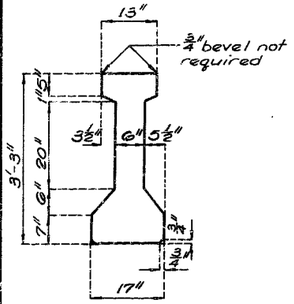
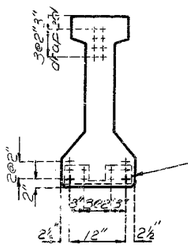
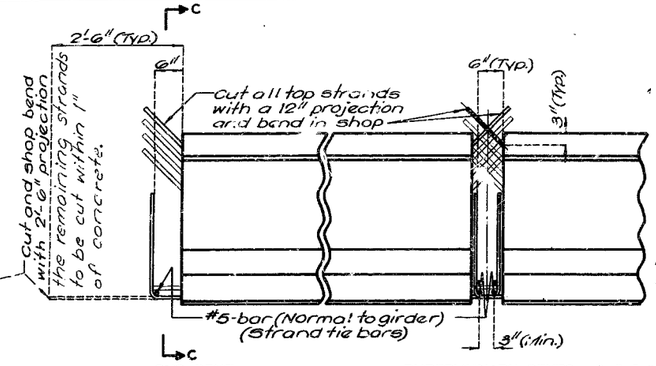
365

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	WA.		19	22	





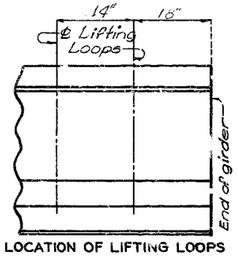
ELEVATION C-C



END BENT INTERMEDIATE BENTS 2,3,5,6,& 7

Note: Cut all strands to within 1" of concrete @ Bent No. 4.

STRAND DETAILS AT GIRDER ENDS



LOCATION OF LIFTING LOOPS

Note: Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plug until girders are erected and then replaced by coil tie rods.

NOTES:

CONCRETE FOR PRESTRESSED GIRDERS SHALL BE CLASS A1 WITH f'c = 5,000 psi.

(+) INDICATES PRESTRESSED STRAND.

USE 18 STRANDS WITH AN INITIAL PRESTRESS FORCE OF 521 KIPS.

BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	LENGTH	SHAPE	BENDING DIAGRAMS
2	5A1	59'-2"	20	
128	5B1	3'-10"	19S	
8	5B2	3'-0"	19S	
64	4B3	2'-8"	50S	
64	3C1	13"	10	
128	3D1	2'-11"	9S	

SHAPE 10 SHAPE 9S SHAPE 19S SHAPE 50S SHAPE 20

NOTE: ALL DIMENSIONS ARE OUT TO OUT.

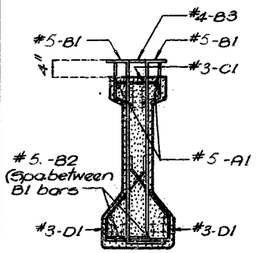
WHERE DEFLECTING STRANDS INTERFERE WITH PLACEMENT, SOME IN-PLACE BENDING MAY BE NECESSARY.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.

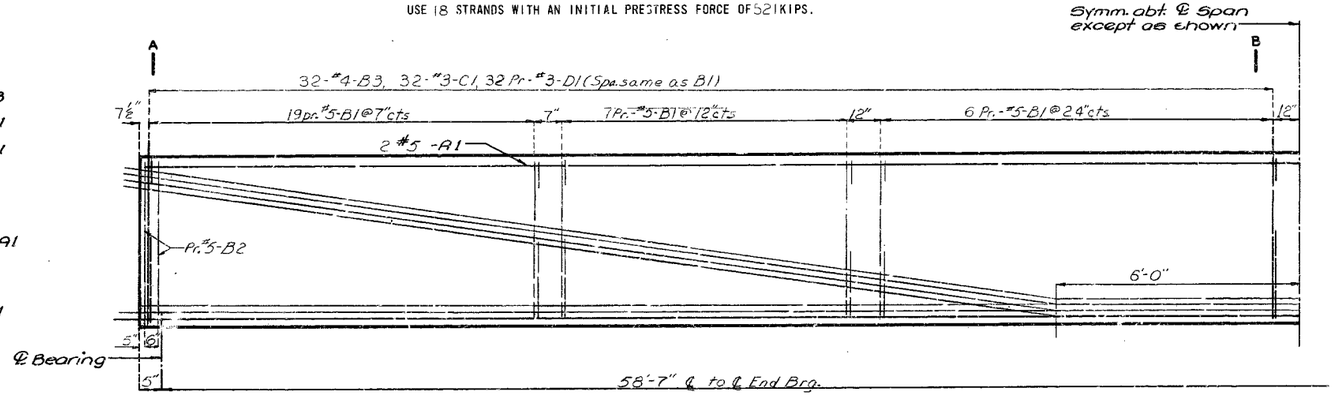
THE LETTER S AFTER THE SHAPE NUMBER, IN BENDING SKETCHES, INDICATES BARS THAT ARE TO BE BENT ACCORDING TO CRSI STIRRUP AND TIE DIMENSIONS.

LENGTH - TOTAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

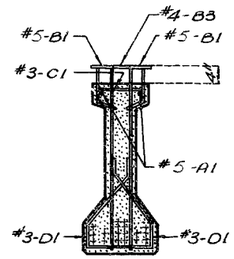
MINIMUM CLEARANCE TO REINFORCING SHALL BE 1".



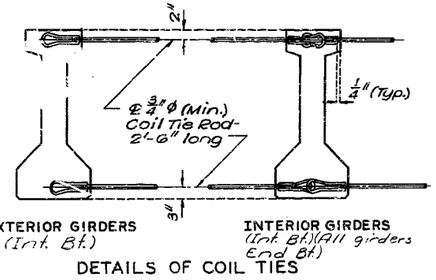
SECTION A-A



PART ELEVATION



SECTION B-B

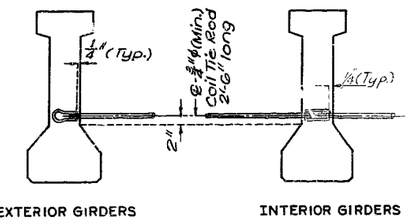


EXTERIOR GIRDERS (Int. Bf.)

INTERIOR GIRDERS (Int. Bf.) (All girders End Bf.)

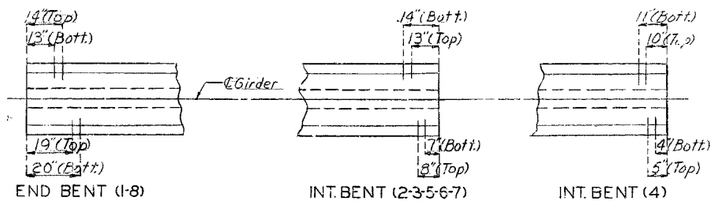
DETAILS OF COIL TIES

Note: Exterior and interior girders are the same except for coil ties.



EXTERIOR GIRDERS INTERIOR GIRDERS

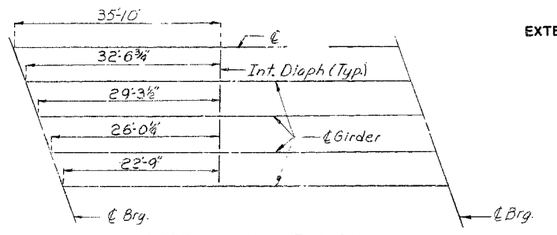
DETAILS OF COIL TIES AT INTERMEDIATE DIAPHRAGMS



END BENT (1-8) INT. BENT (2-3-5-6-7) INT. BENT (4)

LOCATION OF COIL TIES

Note: Cost of 3/4" ϕ coil tie rods placed in diaphragms is included in price bid for prestressed members.



LOCATION OF INT. DIAPH. (ALL SPANS)

366

STD. 55.3.6	REVISED
APRIL 1973	FEB. 1977

DETAILED JULY 1977
CHECKED MAY 1978

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

Sheet No. 9 of 20

WASHINGTON COUNTY

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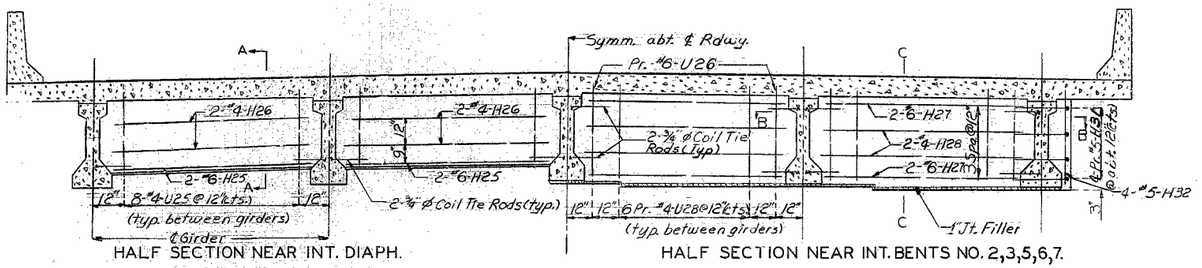
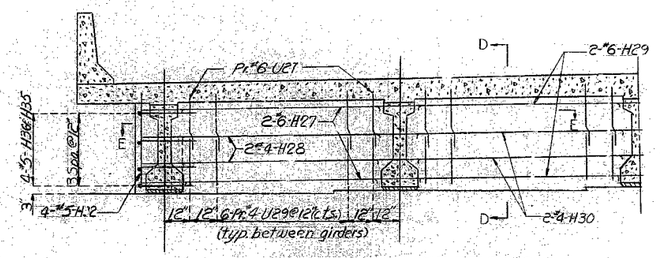
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	23	

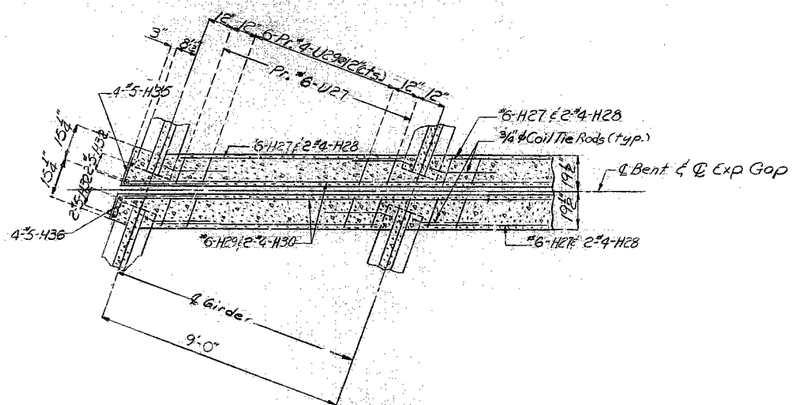


HALF SECTION NEAR INT. DIAPH.

HALF SECTION NEAR INT. BENTS NO. 2,3,5,6,7.

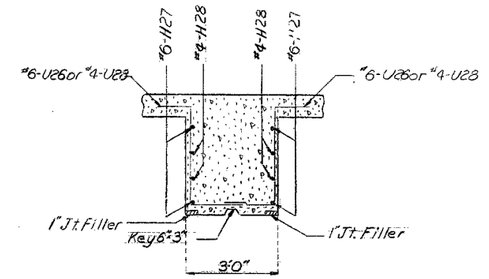


HALF SECTION NEAR INT. BENT NO. 4

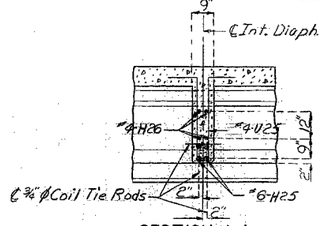


PART SECTION E-E

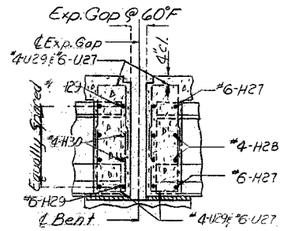
Note: Intermediate diaphragms are normal to girder. Diaphragms at Intermediate Bents are vertical.
For location of Intermediate Diaphragms see sheet No. 9.



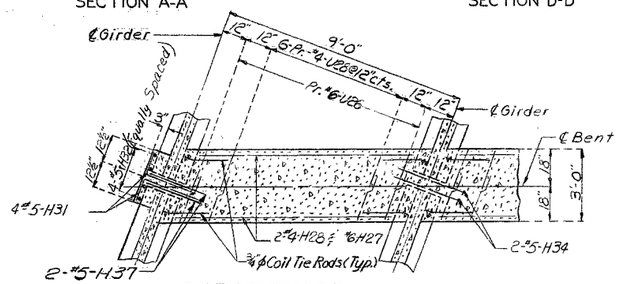
SECTION C-C



SECTION A-A



SECTION D-D



PART SECTION B-B

DETAILS OF DIAPHRAGMS

36.7

DETAILED AUG. 1977
CHECKED MAY 1978

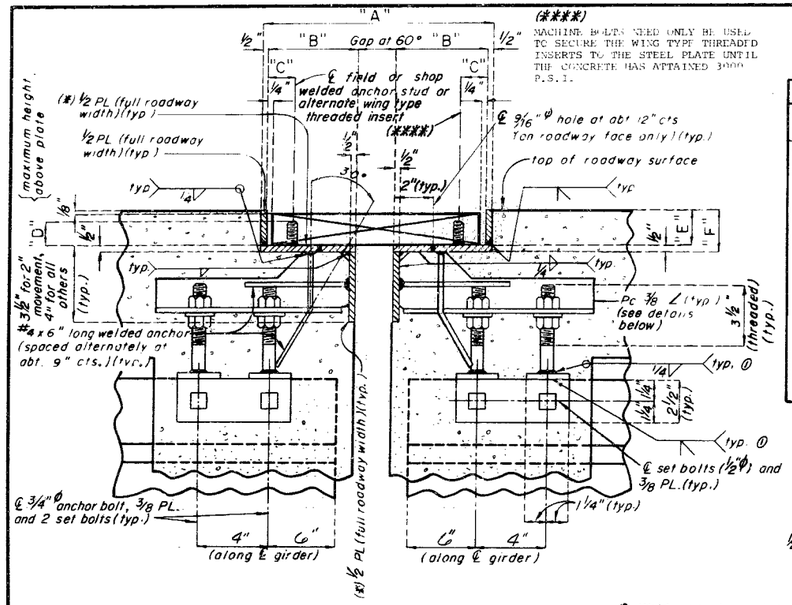
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 10 of 20

WASHINGTON **COUNTY**

A-3775

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

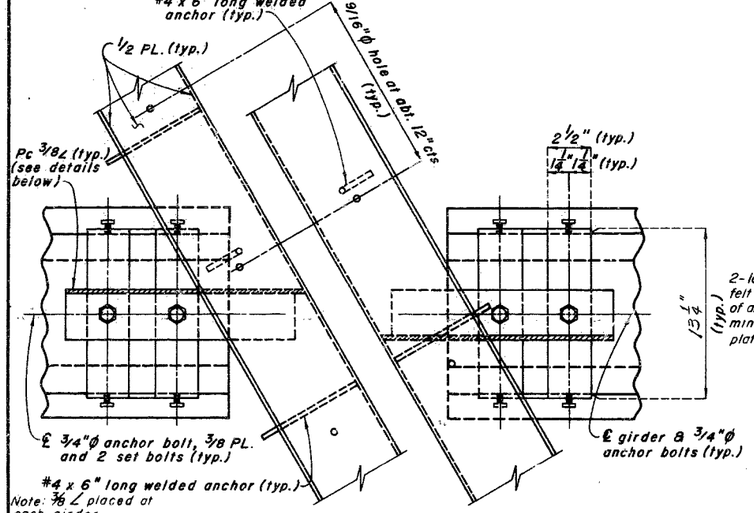


PART SECTION THRU ARMORED JOINT

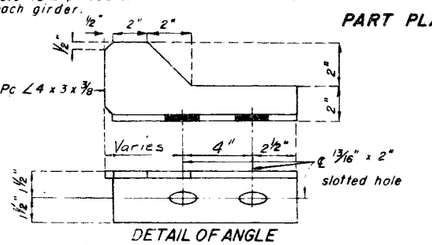
① Welds may be made by a experienced welder.

Note: Bend prestress girder bars in field to clear angles.

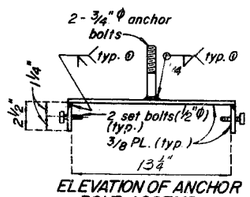
(*) these plates may be one piece by using legs of equal or unequal angles.



PART PLAN



DETAIL OF ANGLE



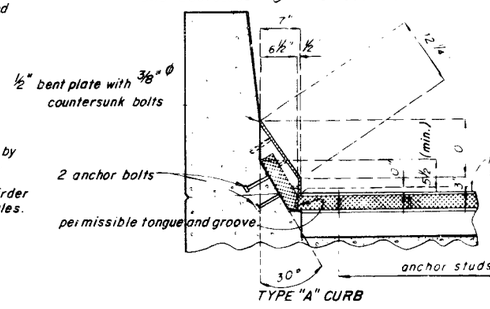
ELEVATION OF ANCHOR BOLT ASSEMBLY

DETAILED Mar 1980
CHECKED Mar 1980

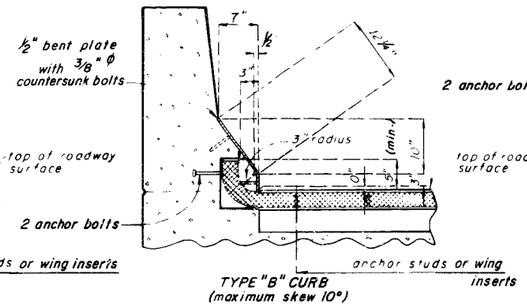
TABLE OF DIMENSIONS

LOCATION	ACCEPTABLE ALTERNATE TYPES	EXP. GAP AT 60°	"A" AT 60°	"B"	"C"	"D"	"E"	"F"	ANCHOR STUDS SIZE	ANCHOR STUDS "G"
Bent #4										
	On-Flex ES	1½"	11"	4½"	1 5/16"	1½"	1 3/4"	2½"	¾"	65
	Wabo-Elastodam 800	1½"	11½"	4½"	1 5/8"	1"	1½"	2"	¾"	40
	Fel-Span T20	1 5/8"	11 5/8"	4½"	1 5/8"	1"	1 7/16"	1 15/16"	¾"	50

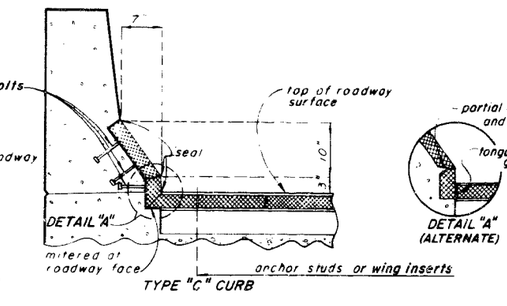
NOTE: All dimensions are at right angles.
Expansion gap and dimension "A" shall be increased ⅛" for each 10° fall in temperature and decreased ⅛" for each 10° rise in temperature.



TYPE "A" CURB

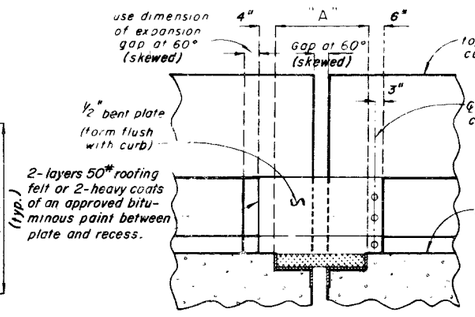


TYPE "B" CURB (maximum skew 10°)

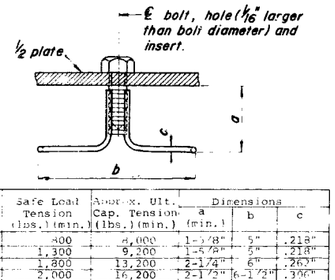


TYPE "C" CURB

ALTERNATE CURB TREATMENTS

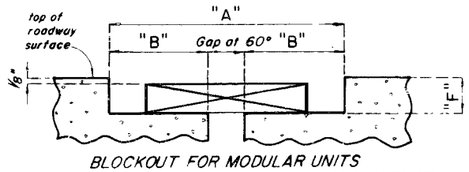


PART ELEVATION OF BARRIER CURB



Bolt Diameter	Safe Load Tension (lbs.) (min.)	Approx. Ult. Cap. Tension (lbs.) (min.)	Dimensions a (min.)	b	c
1/2"	800	4,000	1-3/8"	5"	.218"
5/8"	1,300	9,200	1-5/8"	5"	.218"
3/4"	1,800	13,200	2-1/4"	6"	.265"
7/8"	2,000	16,200	2-1/2"	6-1/2"	.306"
1"	2,000	16,200	2-1/2"	6-1/2"	.336"

DETAILS OF ALTERNATE WING TYPE THREADED INSERT



BLOCKOUT FOR MODULAR UNITS

NOTE: WHEN MODULAR UNITS ARE SPECIFIED AS AN ALTERNATE STEEL CURB PLATE TREATMENTS ARE REQUIRED.

GENERAL NOTES:

THE EXPANSION JOINT SEAL SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS SHOWN ON THE SHOP DRAWINGS AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE NUTS ON THE ANCHOR STUDS OR THE BOLTS FOR THE WING TYPE THREADED INSERTS SHALL BE TIGHTENED TO THE FOOT POUNDS "G" SPECIFIED IN THE TABLE OF DIMENSIONS. RETIGHTEN TO "G" FOOT POUNDS A MINIMUM OF 30 MINUTES AFTER INITIAL TIGHTENING. THE WELDED ANCHOR STUDS SHALL BE THE REDUCED BASE TYPE.

MATERIAL FOR THE ARMORED JOINT SHALL BE ASTM STRUCTURAL GRADE STEEL. NO. 4 REINFORCING BARS FOR ANCHORS SHALL BE STRUCTURAL GRADE STEEL. APPROVED STUD WELDED ANCHORS OR DEFORMED BAR ANCHORS (ASTM A496) MAY BE USED IN LIEU OF NO. 4 BARS SHOWN.

SEE SPECIAL PROVISIONS FOR PAINTING.

ANCHOR BOLTS IN THE BARRIER CURB SHALL BE CAST-IN-PLACE, GROUTED OR CONE-EXPANSION TYPE. HOLES IN THE BARRIER CURB FOR ANCHORS SHALL NOT BE DRILLED UNTIL THE CONCRETE IS AT LEAST 7 DAYS OLD.

PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60°F. THE EXPANSION GAP AND THEE DIMENSIONS SHALL BE ADJUSTED DURING INSTALLATION FOR COMPLIANCE WITH ANY TEMPERATURE CHANGE.

CONTACT SURFACE OF STEEL TO ALUMINUM SHALL BE INSULATED WITH THE MATERIAL SPECIFIED ON THE SHOP DRAWINGS.

FURNISHING AND INSTALLING THE ELASTOMERIC EXPANSION JOINT SEAL WILL BE PAID FOR AT THE CONTRACT BID PRICE PER LINEAR FOOT.

FURNISHING, PAINTING AND INSTALLING THE STRUCTURAL STEEL ARMORED JOINT WILL BE INCLUDED IN THE CONTRACT PRICE BID FOR OTHER ITEMS.

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SPS-P/S-INT.	REVISED	JULY 1979
	FEB. 1978	

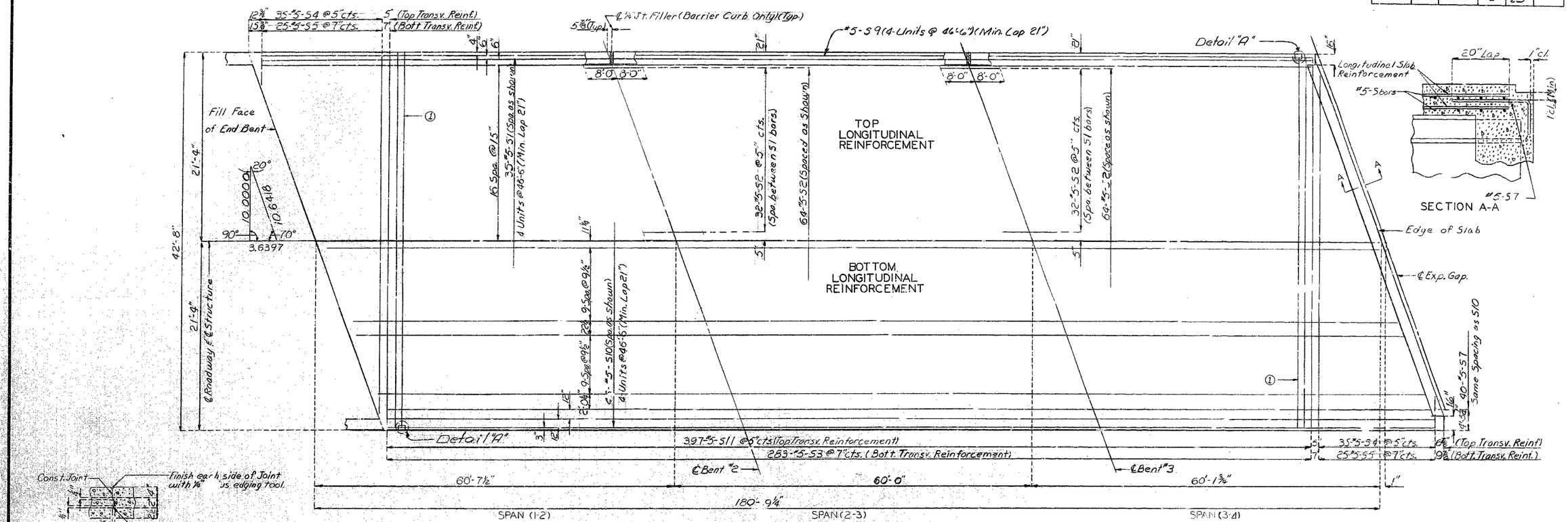
Note: This drawing is not to scale. Follow dimensions.

DETAILS OF ELASTOMERIC EXPANSION JOINT SEAL AT BENT NO. 4

WASHINGTON COUNTY

A-3775

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



	SEQUENCE OF POURS		
	DIRECTION		
BASIC SEQUENCE	1	2	3
	END TO 2	1 TO 3	2 TO END
ALTERNATE 'A' POURS	1 + 2		3
	END TO 3		2 TO END
ALTERNATE 'B' POURS	1 + 2 + 3		
	END TO END		

SLAB POURING SEQUENCE

Note: Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Section 703.3.12.4 of Missouri Standard Specifications.

Note: "The diaphragm at the intermediate bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured."
Note: "Intermediate Diaphragm within spans may be poured with construction joint between diaphragm and slab or monolithic with slab."

The contractor shall furnish an approved retarder to retard the set of concrete to 2.5 hours, and shall pour and satisfactory finish the slab pours at a rate of not less than 85.0 cubic yards per hour.

Note: For locations of Slab Drains see sheet No. 14.

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DETAILED JULY 1977
CHECKED MAY 1978

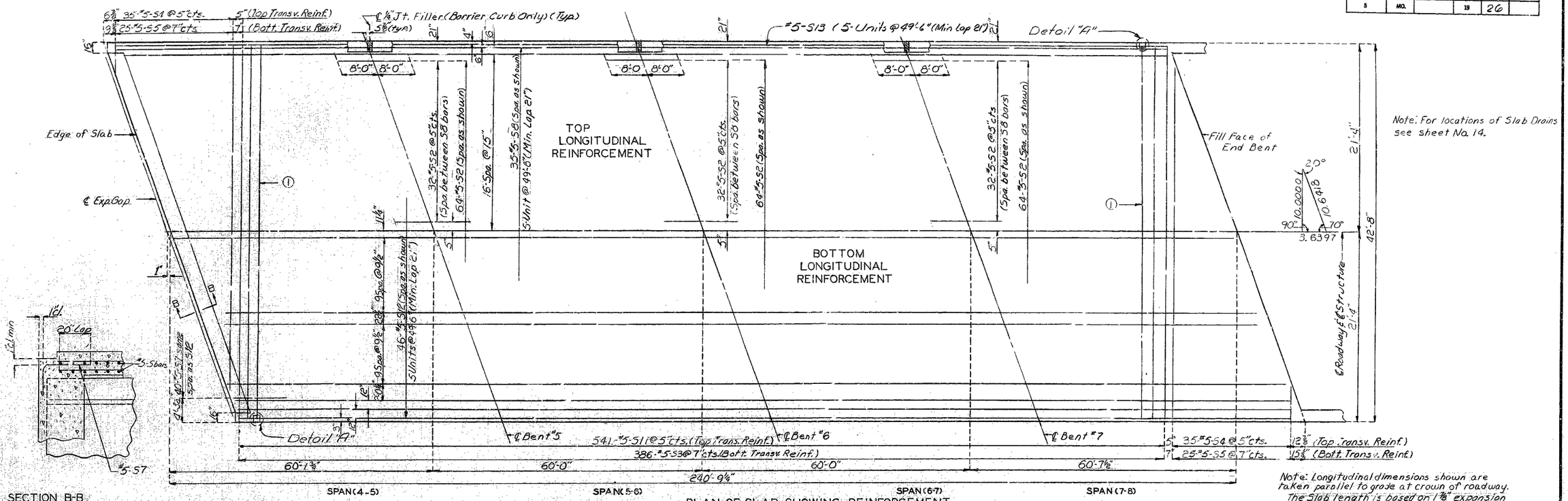
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 12 of 20

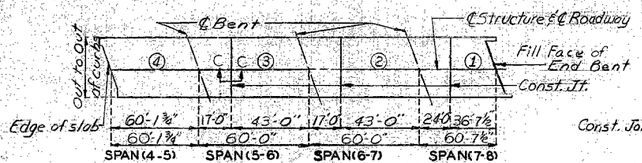
WASHINGTON COUNTY

A-3775

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



Note: Longitudinal dimensions shown are taken parallel to grade at crown of roadway. The Slab length is based on 1⅛" expansion gap at 60°F. Adjust Slab length for any change in expansion gap as noted on Sheet No. 11.

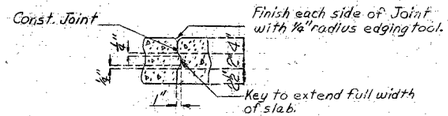


	SEQUENCE OF POURS			
	DIRECTION			
BASIC SEQUENCE	1	2	3	4
	END TO 2	1 & 3	2 TO 4	3 TO END
ALTERNATE "A" POURS	1 + 2		3	4
	END TO 3		2 TO 4	3 TO END
ALTERNATE "B" POURS	1 + 2		3 + 4	
	END TO 3		2 TO END	
ALTERNATE "C" POURS	1 + 2 + 3 + 4			
	END TO END			

Note: The contractor shall furnish an approved retorder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the slab pours of a rate of not less 25.0 cubic yards per hour.
The diaphragm at the intermediate bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured. Intermediate Diaphragms within spans may be poured with construction joint between diaphragm and slab or monolithic with slab.

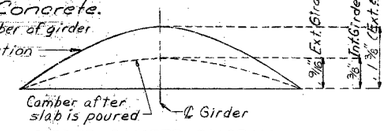
SLAB POURING SEQUENCE

① Shift top transverse bar to edge of slab.
Note: For details of Electrical Lead Connections see sheet No. 12.



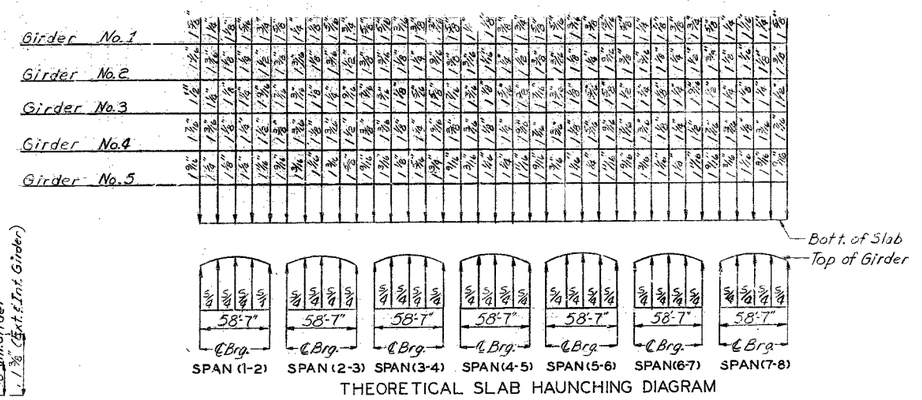
SECTION C-C

Note: Slab to be built parallel to grade and to a minimum thickness of 8½". Slab haunches to be adjusted for any difference in girder camber from that shown in camber diagram. Concrete in the slab haunches is included in the Estimated Quantities as Class B2 Concrete.



GIRDER CAMBER DIAGRAM
ALL SPANS

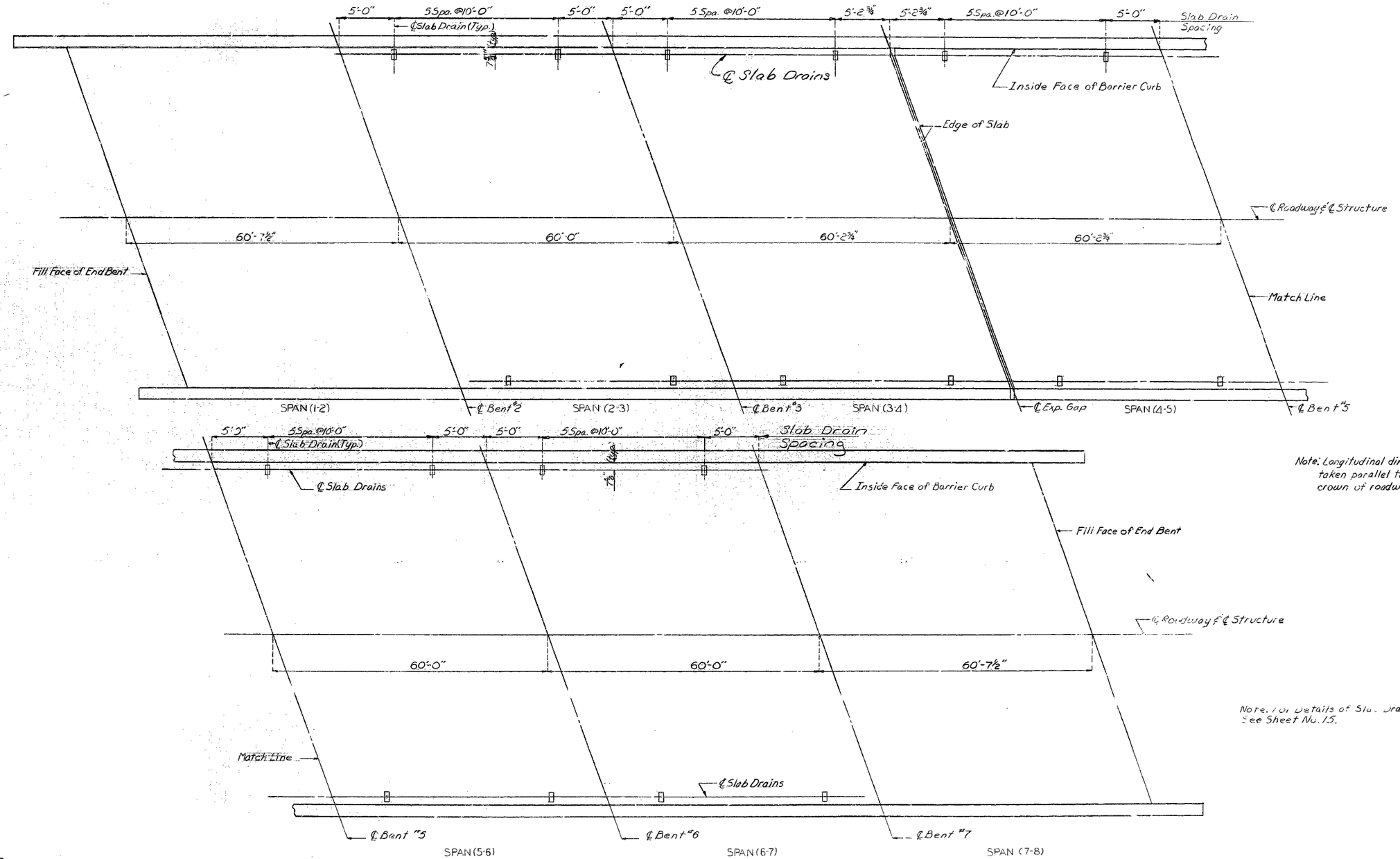
Note: Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Section 703.3.12.4 of Missouri Standard Specifications.



THEORETICAL SLAB HAUNCHING DIAGRAM

310

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



Note: Longitudinal dimensions are taken parallel to grade at crown of roadway.

Note: For Details of Slab Drains See Sheet No. 15.

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DETAILED JULY 1977
CHECKED MAY 1978

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

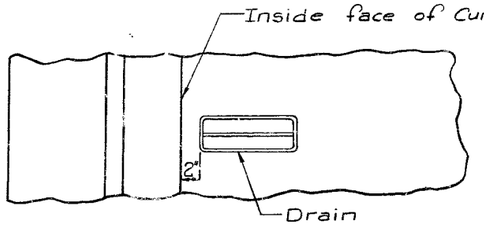
PLAN OF SLAB SHOWING LOCATION OF SLAB DRAINS

Sheet No. 14 of 20

WASHINGTON COUNTY

A-3775

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



PARTIAL PLAN OF SLAB

GENERAL NOTES

Slab Drains shall be fabricated of welded sheets of A.S.T.M. A36 Steel or from ¼" Structural Steel Tubing A.S.T.M. A500 or A501.

Outside dimensions of Drains are 8"x4".

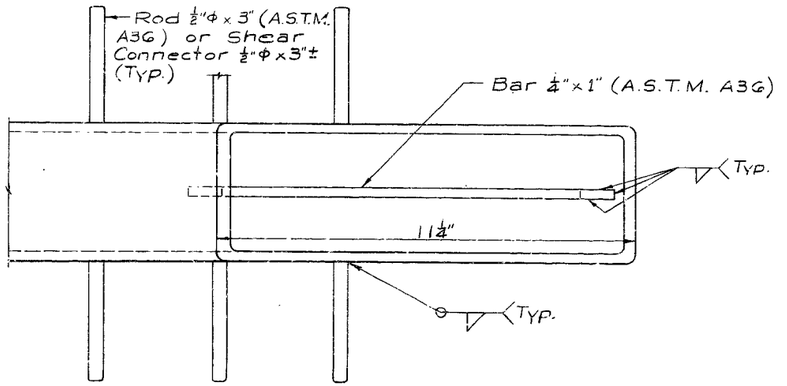
The Drains shall be cast in the Concrete with the top of the drains being ⅛" below the finished concrete line.

Locate Drains in Slab by dimensions shown in Partial Elevation.

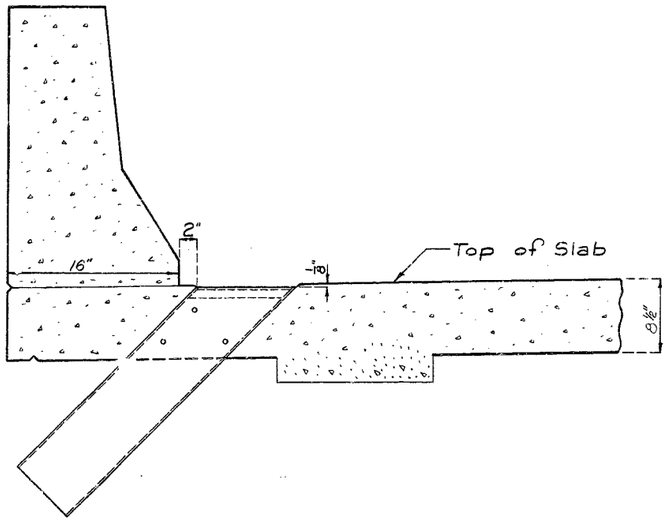
Shift Reinforcing Steel in field where necessary to clear drains.

The Drains shall be Galvanized in accordance with A.S.T.M. A123.

Shop Drawings will not be required for the Slab Drains.

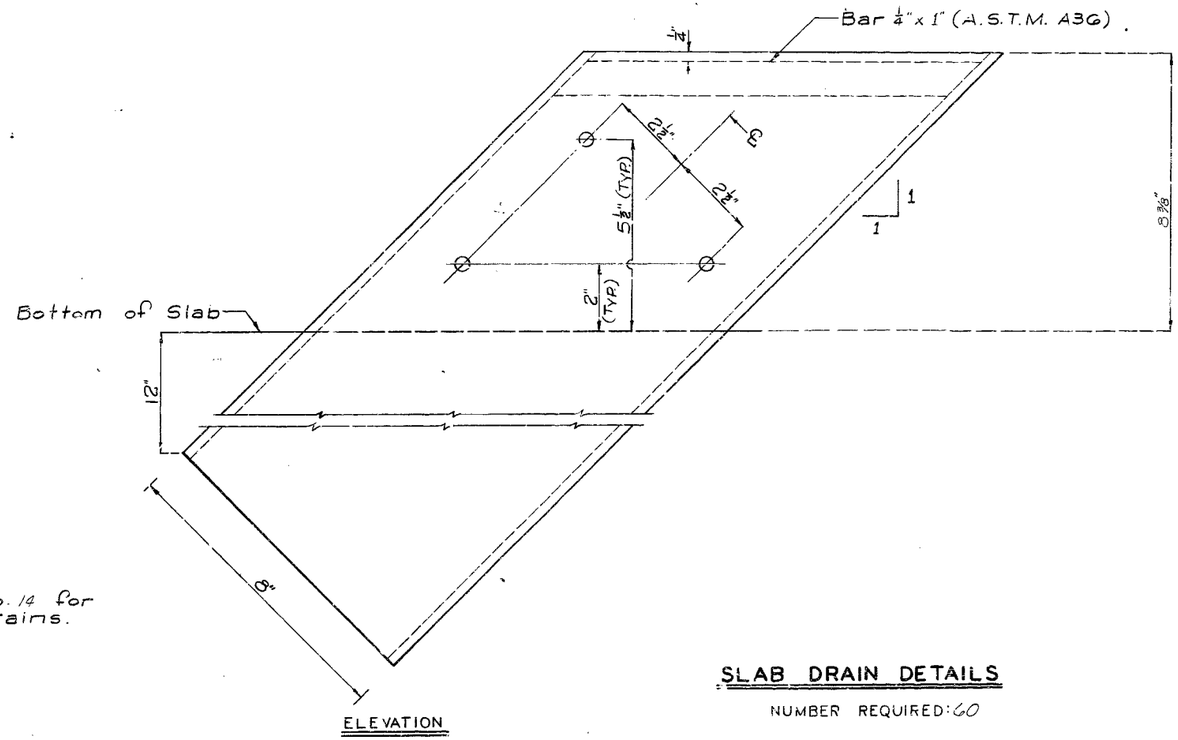


PLAN



PARTIAL ELEVATION OF SLAB

NOTE: See Sheet No. 14 for location of Drains.



ELEVATION

SLAB DRAIN DETAILS

NUMBER REQUIRED: 60

372

STD. S.D.-ALL-N.W.S.	REVISED
FEB. 1975	NOV. 1976

DETAILED JULY 1977
CHECKED MAY 1978

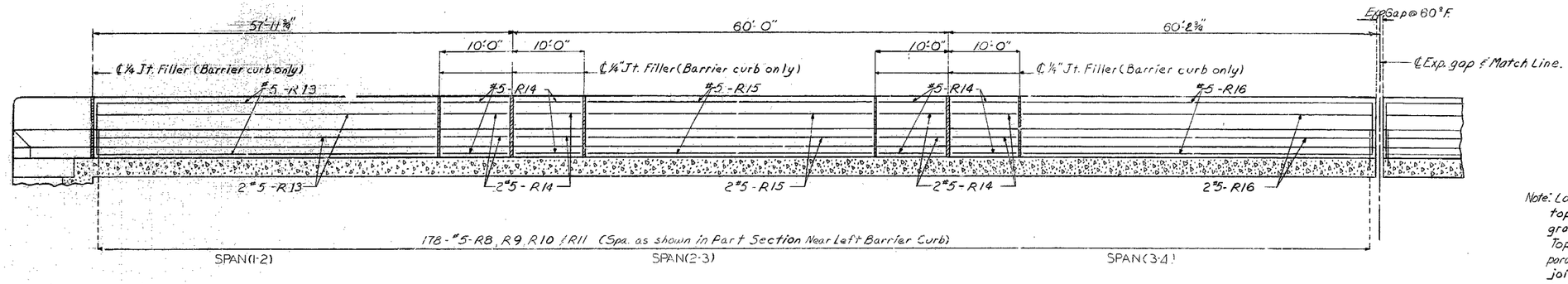
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 15 of 20

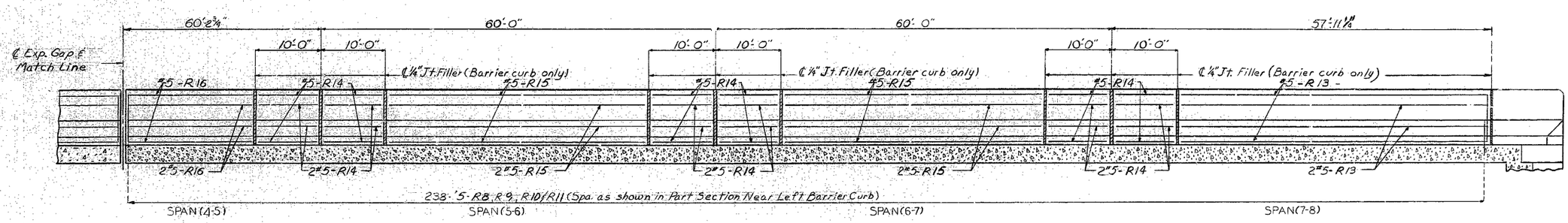
WASHINGTON COUNTY

A-3775

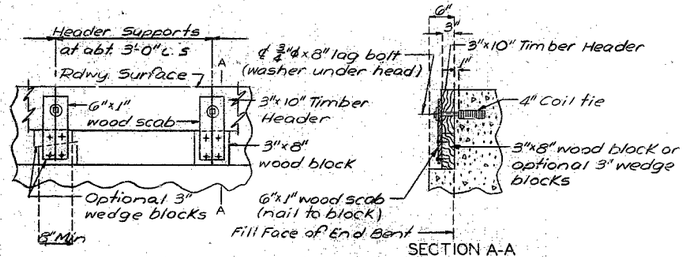
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	29	



Note: Longitudinal dimensions are along top of barrier curb parallel to grade.
Top of barrier curb to be built parallel to grade with barrier curb joints (except at end bents) normal to grade.
All exposed edges of barrier curb shall have ½" radius or ⅜" bevel unless otherwise noted.



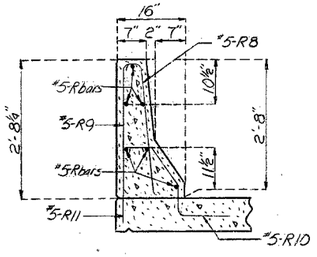
SECTION NEAR LEFT BARRIER CURB



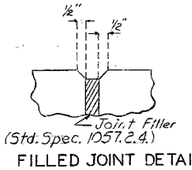
SECTION A-A

Note: Cost of timber headers complete in place to be included in price bid for concrete.

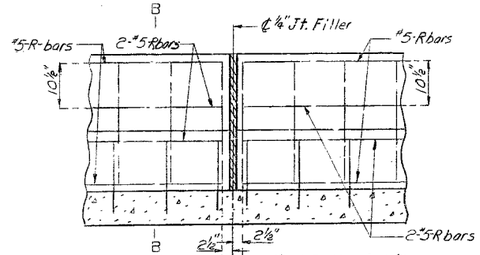
DETAILS OF TIMBER HEADER AT END BENTS



SECTION B-B



FILLED JOINT DETAIL



PART SECTION NEAR LEFT BARRIER CURB

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DETAILED JULY 1977
CHECKED MAY 1978

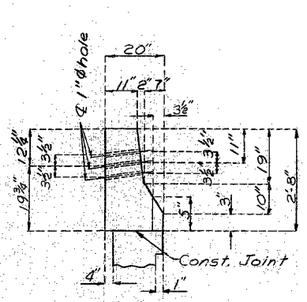
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 16 of 20

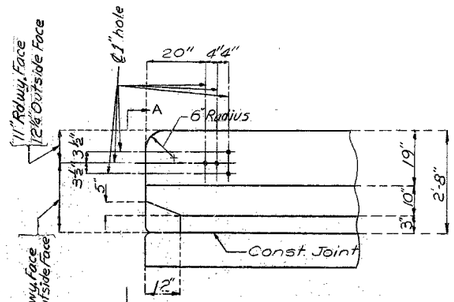
WASHINGTON COUNTY

A-3775

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	30	



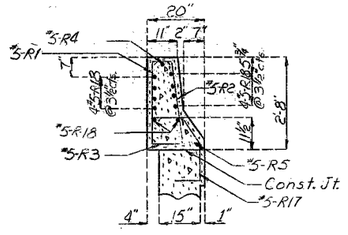
SECTION A-A



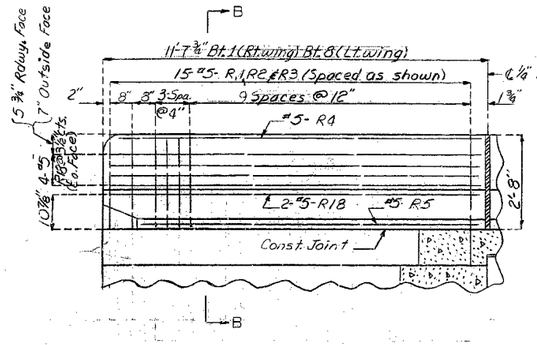
PART ELEVATION

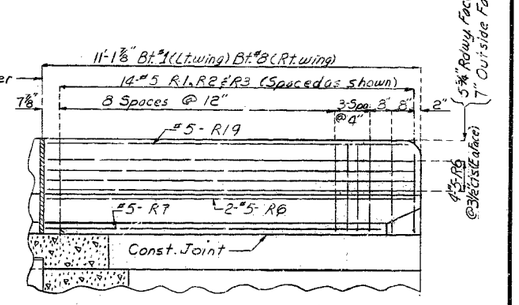
DETAILS OF GUARD RAIL ATTACHMENT

PLAN OF GUARD RAIL ATTACHMENT

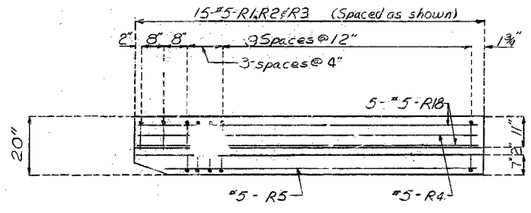


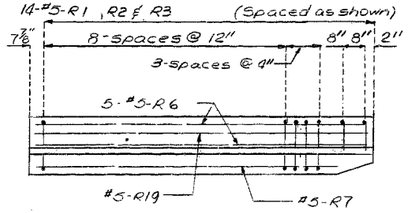
SECTION B-B





ELEVATION OF BARRIER CURB AT END BENTS





PLAN OF BARRIER CURB AT END BENTS

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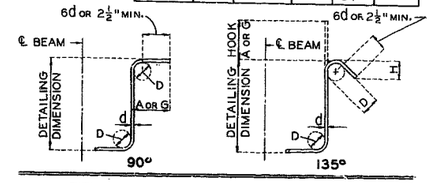
COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	GRADE 60 (H)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SUBSTRUCTURE																									
			INT BENT NO 2																									
15	5D1		FOOTING	H	20		X			4	3.000													4	3	4	3	66
21	5D2		FOOTING	H	18		X			5	9.000													7	5	7	5	162
27	8D3		FOOTING	H	20		X			6	4.000													6	4	6	4	457
2	6H13		BEAM	H	20		X			41	0.000													41	0	41	0	123
8	7H16		BEAM	H	7		X			4	0.000	2	7.750											9	4	9	4	154
5	7H18		BEAM	H	18		X			41	0.000													42	8	42	8	436
7	9H19		BEAM	H	20		X			41	0.000													41	0	41	0	976
87	4P1		COLUMN	H	16		X			2	3.000													7	11	7	11	460
52	5U5		BEAM	H	13	S	X			2	9.000	2	9.000	2	9.000	2	9.000							11	11	11	7	623
7	4U6		BEAM	H	10	S	X					6	0.000	2	9.000									3	9	3	7	17
2	5U8		BEAM	H	13	S	X			2	0.375	2	9.000	2	0.375	2	9.000							10	6	10	2	21
2	5U9		BEAM	H	13	S	X			2	7.375	2	9.000	2	7.375	2	9.000							11	8	11	4	24
27	8V14		COLUMN	H	20		X			31	6.000													31	6	31	6	2271
			INT BENT NO 3																									
15	5D1		FOOTING	H	20		X			4	3.000													4	3	4	3	66
21	5D2		FOOTING	H	18		X			5	9.000													7	5	7	5	162
27	8D3		FOOTING	H	20		X			6	4.000													6	4	6	4	457
2	6H13		BEAM	H	20		X			41	0.000													41	0	41	0	123
8	7H16		BEAM	H	7		X			4	0.000	2	7.750											9	5	9	5	154
5	7H18		BEAM	H	18		X			41	0.000													42	8	42	8	436
7	9H19		BEAM	H	20		X			41	0.000													41	0	41	0	976
90	4P1		COLUMN	H	16		X			2	3.000													7	11	7	11	476
52	5U5		BEAM	H	13	S	X			2	9.000	2	9.000	2	9.000	2	9.000							11	11	11	7	628
7	4U6		BEAM	H	10	S	X					6	0.000	2	9.000									3	9	3	7	17
2	5U8		BEAM	H	13	S	X			2	0.375	2	9.000	2	0.375	2	9.000							10	6	10	2	21
2	5U9		BEAM	H	13	S	X			2	7.375	2	9.000	2	7.375	2	9.000							11	8	11	4	24
27	8V15		COLUMN	H	20		X			32	0.000													32	0	32	0	2307
			INT BENT NO 4																									
15	5D1		FOOTING	H	20		X			4	3.000													4	3	4	3	66
21	5D2		FOOTING	H	18		X			5	9.000													7	5	7	5	162
27	8D3		FOOTING	H	20		X			6	4.000													6	4	6	4	457
8	7H17		BEAM	H	7		X			4	0.000	2	10.750											9	7	9	7	57
2	6H20		BEAM	H	20		X			41	1.000													41	1	41	1	123
4	7H21		BEAM	H	18		X			41	1.000													42	9	42	9	336
7	9H22		BEAM	H	20		X			41	1.000													41	1	41	1	978
2	7H38		BEAM	H	18		X			43	0.000													44	8	44	8	193
84	4P1		COLUMN	H	16		X			2	3.000													7	11	7	11	444
7	4U7		BEAM	H	10	S	X					6	0.000	3	0.000									4	0	3	10	18
2	5U11		BEAM	H	13	S	X			2	10.750	2	9.000	2	10.750	2	9.000							12	3	11	11	25
2	5U12		BEAM	H	13	S	X			2	3.500	2	9.000	2	3.500	2	9.000							11	0	10	8	22
52	5U13		BEAM	H	13	S	X			3	0.000	2	9.000	3	0.000	2	9.000							12	5	12	1	655

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	GRADE 60 (H)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
27	8V17		COLUMN	H	20		X			30	6.000													30	6	30	6	2199
			INT BENT NO 5																									
2	11H12		BEAM	H	18		X			42	6.000													45	8	45	8	485
2	6H13		BEAM	H	20		X			41	0.000													41	0	41	0	123
6	11H15		BEAM	H	20		X			41	0.000													41	0	41	0	1307
6	6H23		BEAM	H	7		X			3	5.000	2	7.750											8	3	8	3	75
36	5U5		BEAM	H	13	S	X			2	9.000	2	9.000	2	9.000	2	9.000							11	11	11	7	435
13	4U6		BEAM	H	10	S	X					6	0.000	2	9.000									3	9	3	7	31
2	5U10		BEAM	H	13	S	X			2	3.625	2	9.000	2	3.625	2	9.000							11	0	10	9	22
			INT BENT NO 6																									
2	11H12		BEAM	H	18		X			42	6.000													45	8	45	8	485
2	6H13		BEAM	H	20		X			41	0.000													41	0	41	0	123
6	11H15		BEAM	H	20		X			41	0.000													41	0	41	0	1307
6	6H23		BEAM	H	7		X			3	5.000	2	7.750											8	3	8	3	75
36	5U5		BEAM	H	13	S	X			2	9.000	2	9.000	2	9.000	2	9.000							11	11	11	7	435
13	4U6		BEAM	H	10	S	X					6	0.000	2	9.000									3	9	3	7	31
2	5U10		BEAM	H	13	S	X			2	3.625	2	9.000	2	3.625	2	9.000							11	0	10	9	22
			INT BENT NO 7																									
2	11H12		BEAM	H	18		X			42	6.000													45	8	45	8	485
2	6H13		BEAM	H	20		X			41	0.000													41	0	41	0	123
6	11H15		BEAM	H	20		X			41	0.000													41	0	41	0	1307
6	6H23		BEAM	H	7		X			3	5.000	2	7.750											8	3	8	3	75
36	5U5		BEAM	H	13	S	X			2	9.000	2	9.000	2	9.000	2	9.000							11	11	11	7	435
13	4U6		BEAM	H	10	S	X					6	0.000	2	9.000									3	9	3	7	31
2	5U10		BEAM	H	13	S	X			2	3.625	2	9.000	2	3.625	2	9.000							11	0	10	9	22
			SUPERSTRUCTURE																									
			END BENT NO 1																									
4	6F1		DIAPH	H	21					2	4.750	5	3.000											7	8	7	4	44
5	6F2		DIAPH & BEAM	H	23						14.000	5	4.000	14.000		8.000		11.500		8.000		11.500		7	8	7	7	57
5	6F3		BEAM & DIAPH	H	23						14.000	3	10.500	14.000		11.500		8.000		11.500		8.000		6	3	6	0	45
4	6F4		DIAPH	H	15					2	4.500	4	9.000							2	3.000	9.000		2	7	2	10	42
5	5H1		DIAPH	H	20						3	11.000												3	11	3	11	20
12	7H2		DIAPH & BEAM	H	20						45	1.000												45	1	45	1	1106
5	6H3		DIAPH & BEAM	H	20						45	1.000												45	1	45	1	339
12	6H4		DIAPH	H	20						7	8.000												7	8	7	8	138
6	6H5		DIAPH	H	20						2	7.000												2	7	2	7	23
6	6H6		WING	H	20						9	10.000												9	10	9	10	89
12	5H7		WING	H	20			V	2		4	5.000												4	5	4	5	
			INCR = 12.375 IN									9	7.000											9	7	9	7	126
6	6H8		WING	H	20						9	10.000												9	10	9	10	89
12	6H9		WING	H	20			V	2		4	7.000												4	7	4	7	
			INCR = 12.750 IN									9	11.000											9	11	9	11	131
25	5R17		WING	H	27	S							9.000	11.125		9.000		12.000		9.125		6.375		3	5	3	3	85 *

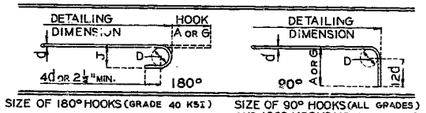
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19 31		



STIRRUP HOOK DIMENSIONS
GRADES 40-50-60 KSI

BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#3	1-1/2"	4"	4"	2-1/2"
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	8"	7"	4-1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



SIZE OF 180° HOOKS (GRADE 40 KSI)
D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18

SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

END HOOK DIMENSIONS

BAR SIZE	180° HOOKS				90° HOOKS
	GRADE 40		GRADE 60		ALL GRADES
	A OR G	J	A OR G	J	A OR G
#3	5"	2-3/4"	5"	3"	6"
#4	6"	3-1/2"	6"	4"	8"
#5	7"	4-1/2"	7"	5"	10"
#6	8"	5-1/4"	8"	6"	12"
#7	9"	6-1/4"	10"	7"	14"
#8	10"	7"	11"	8"	16"
#9	12"	8"	15"	11-1/4"	19"
#10	13"	9"	17"	12-3/4"	22"
#11	14"	10"	19"	14-1/4"	21-0"
#14	21-2"	20-1/2"	21-2"	20-1/2"	21-7"
#18	21-11"	21-3"	21-11"	21-3"	31-5"

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

H - HIGH STRENGTH (ASTM A-615 GRADE 60).

S - STIRRUP.

X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.

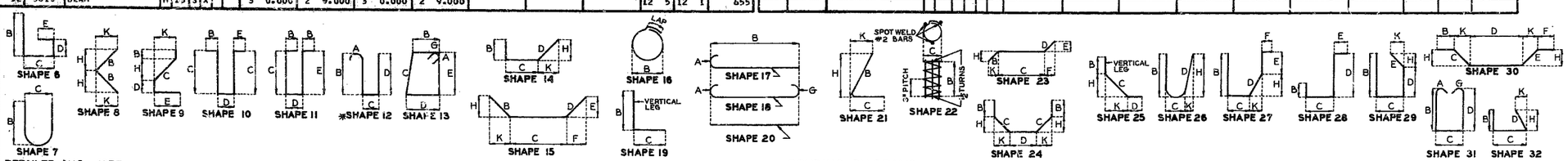
V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

NO. EA. - NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS - ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

* Indicates bars to be coated with epoxy.



BENDING DIAGRAMS

REVISED OCT. 1976
STD. 90.8 MAY 1974
DETAILED AUG. 1977
CHECKED JUNE 1978

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

Sheet No. 18 of 20

WASHINGTON COUNTY

A-3775

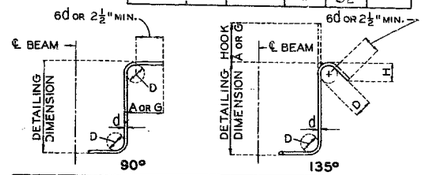
375

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	WA.		19	32	

COMPLETE BILL OF REINFORCING STEEL

*	NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	GRADE 60 (H)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
*	1	6T1		WING	H	25					3 2.000	8 5.000	3 0.000			4 11.000	6 10.000	14 7	14 6	22
	1	6T2		WING	H	25					2 1.000	8 5.000	3 0.000			4 11.000	6 10.000	13 6	13 5	20
*	1	6T3		WING	H	25					3 2.000	8 5.000	3 5.000			4 11.000	6 10.000	15 0	14 11	22
	1	6T4		WING	H	25					2 1.000	8 5.000	3 5.000			4 11.000	6 10.000	13 11	13 10	21
	34	5U1		BEAM	H	10	S					4 6.000	2 4.750					11 5	11 2	396
	12	4U2		BEAM	H	13	S				2 4.750	2 9.000	2 4.750	2 9.000				11 1	10 10	87
	8	4U3		BEAM	H	10	S					2 9.000	2 4.750					7 11	7 9	41
	38	5U4		DIAPH	H	10	S					3 8.000	2 4.750					9 9	9 6	377
*	7	6V1		WING	H	20		V	1	3 8.000								3 8	3 8	
				INCR = 8.875 IN						8 1.000								8 1	8 1	62
	7	6V2		WING	H	20		V	1	2 6.000								2 6	2 6	
				INCR = 8.875 IN						6 11.000								6 11	6 11	50
*	1	6V3		WING	H	20				8 1.000								8 1	8 1	12
	1	6V4		WING	H	20				7 0.000								7 0	7 0	11
*	7	6V5		WING	H	20		V	1	3 7.000								3 7	3 7	
				INCR = 8.500 IN						7 10.000								7 10	7 10	60
	7	6V6		WING	H	20		V	1	2 6.000								2 6	2 6	
				INCR = 8.500 IN						6 9.000								6 9	6 9	49
*	1	6V7		WING	H	20				8 0.000								8 0	8 0	12
	1	6V8		WING	H	20				6 11.000								6 11	6 11	10
	8	5V9		BEAM	H	20				2.000								4 2	4 2	35
	60	6V10		DIAPH	H	19				3 6.000	3 9.000							7 3	7 1	638
*	1	6V11		WING	H	20				7 10.000								7 10	7 10	12
*	7	6V12		WING	H	20		V	1	2 6.500								2 7	2 7	
				INCR = 8.125 IN						6 7.500								6 8	6 8	49
*	7	6V13		WING	H	20		V	1	3 7.500								3 8	3 8	
				INCR = 8.125 IN						7 8.500								7 9	7 9	60
	1	6V16		WING	H	20				6 9.500								6 10	6 10	10
				INTER DIAPH.																
	56	6H25		DIAPH	H	20				7 4.000								7 4	7 4	617
	112	4H26		DIAPH	H	20				7 9.000								7 9	7 9	580
	96	6H27		DIAPH	H	20				7 10.000								7 10	7 10	1129
	96	4H28		DIAPH	H	20				8 3.000								8 3	8 3	529
	4	6H29		DIAPH	H	20				40 0.000								40 0	40 0	240
	4	4H30		DIAPH	H	20				40 0.000								40 0	40 0	107
	80	5H31		DIAPH	H	19	S				9.000	2 9.000						3 6	3 5	285
	48	5H32		DIAPH	H	20					3 7.000							3 7	3 7	179
	60	5H34		DIAPH	H	20					3 11.000							3 11	3 11	245
	8	5H35		DIAPH	H	21					19.500	2 2.000				18.250	6.750	3 10	3 7	30
	8	5H36		DIAPH	H	15					11.250	2 0.000				10.500	4.000	2 11	2 10	24
	40	5H37		DIAPH	H	20					2 8.000							2 8	2 8	111
	224	4U25		DIAPH	H	10	S				12.000	3 0.000	6.000	12.000				8 6	8 2	1222
	80	6U26		DIAPH	H	28						2 4.000	3 5.000	12.000				6 9	6 5	771
	32	6U27		DIAPH	H	10						2 7.000	16.000					6 6	6 2	296
	240	4U28		DIAPH	H	28	S					2 1.000	3 5.000	12.000				6 6	6 4	1015
	96	4U29		DIAPH	H	10	S					2 4.000	16.000					6 0	5 10	374
				BARRIER																
*	58	5R1		BARRIER	H	19	S				2 6.000	6.000						3 0	2 11	176
*	58	5R2		BARRIER	H	19	S				2 6.125	6.000				2 6.000	3.000	3 0	2 11	176
	58	5R3		BARRIER CURB	H	10	S					9.000	10.000					2 4	2 2	131
*	2	5R4		BARRIER	H	20					11 3.000							11 3	11 3	23
*	2	5R5		BARRIER	H	20					10 6.000							10 6	10 6	22
*	20	5R6		BARRIER	H	20					10 10.000							10 10	10 10	226
*	4	5R7		BARRIER	H	20					10 0.000							10 0	10 0	92
*	832	5R8		BARRIER CURB	H	15	S				2 8.125	3.500				2 8.000	3.000	3 0	2 11	2531
*	832	5R9		BARRIER CURB	H	19	S				2 8.000	3.500						3 0	2 10	2459
*	832	5R10		BARRIER CURB	H	27	S					6.000	11.125	9.000	12.000	9.125	6.375	3 2	3 0	2603
*	832	5R11		BARRIER CURB	H	19	S				19.000	6.000						2 1	2 0	1736
*	24	5R13		BARRIER CURB	H	20					47 8.000							47 8	47 8	1193
*	120	5R14		BARRIER	H	20					9 8.000							9 8	9 8	1210
*	36	5R15		BARRIER CURB	H	20					39 8.000							39 8	39 8	1489
*	24	5R16		BARRIER CURB	H	20					49 8.000							49 8	49 8	1243
*	20	5R18		BARRIER CURB	H	20					11 4.000							11 4	11 4	236
*	2	5R19		BARRIER	H	20					10 9.000							10 9	10 9	22
				SLAB																
*	120	5S1		SLAB	H	20					46 6.000							46 6	46 6	6790
*	320	5S2		SLAB	H	20					16 0.000							16 0	16 0	5340
*	669	5S3		SLAB	H	20					42 5.000							42 5	42 5	29597
*	7	6V5		WING	H	20		V	1	3 7.000								3 7	3 7	
				INCR = 8.500 IN						7 10.000								7 10	7 10	60

376

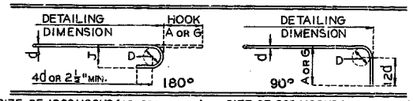


STIRRUP HOOK DIMENSIONS

GRADES 40-50-60 KSI

BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#3	1-1/2"	4"	4"	2-1/2"
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	8"	7"	4-1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



SIZE OF 180° HOOKS (GRADE 40 KSI)
D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18

SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

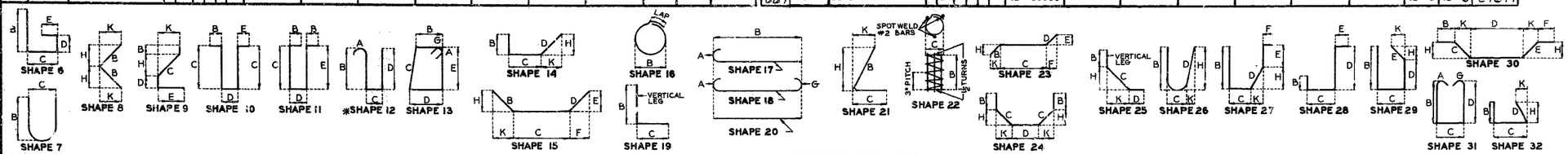
END HOOK DIMENSIONS

BAR SIZE	180° HOOKS				90° HOOKS
	GRADE 40		GRADE 60		ALL GRADES
	A OR G	J	A OR G	J	A OR G
#3	5"	2-3/4"	5"	3"	6"
#4	6"	3-1/2"	6"	4"	8"
#5	7"	4-1/2"	7"	5"	10"
#6	8"	5-1/4"	8"	6"	12"
#7	9"	6-1/4"	10"	7"	14"
#8	10"	7"	11"	8"	16"
#9	12"	8"	15"	11-1/4"	19"
#10	13"	9"	17"	12-3/4"	22"
#11	14"	10"	19"	14-1/4"	2'-0"
#14	2'-2"	20-1/2"	2'-2"	20-1/2"	2'-7"
#18	2'-11"	2'-3"	2'-11"	2'-3"	3'-5"

NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
H - HIGH STRENGTH (ASTM A-615 GRADE 60).
S - STIRRUP.
X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. - NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS - ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

* Indicates bars to be coated with epoxy. Two additional #5-R7, & #6-V7 are included in bar bill for testing. See Spec. Provisions.

BENDING DIAGRAMS



REVISED	OCT. 1976
STD. 90.8	MAY 1974

DETAILED AUG. 1977
CHECKED JUNE 1978

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

Sheet No. 19 of 20

WASHINGTON COUNTY

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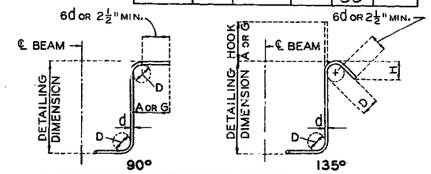
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	NO.		19	33	

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE MARK	LOCATION	GRADE 60 (H)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT.IN.	ACTUAL LENGTH FT.IN.	WEIGHT LBS.
* 140	5S4	SLAB	H	20			V	4	2 5.000							2 5	2 5	
		INCR = 13.750 IN							41 4.000							41 4	41 4	3194
100	5S5	SLAB	H	20			V	4	3 11.000							3 11	3 11	
		INCR = 18.750 IN							41 6.000							41 6	41 6	2368
* 80	*S7	SLAB	H	19	S				12.000	2 1.000						3 1	3 0	250
* 175	558	SLAB	H	20		X			49 6.000							49 6	49 6	9035
8	559	Slab	H	20					46 6.000							46 6	46 6	388
184	5S10	Slab	H	20					46 6.000							46 6	46 6	8924
* 938	5S11	Slab	H	20					42 5.000							42 5	42 5	41498
230	5S12	Slab	H	20					49 6.000							49 6	49 6	11875
10	5 S13	Slab	H	20					49 6.003							49 6	49 6	516

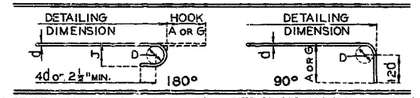


STIRRUP HOOK DIMENSIONS

GRADES 40-50-60 KSI

BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	135° HOOK APPROX. H
#3	1-1/2"	4"	4"	2-1/2"
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	8"	7"	4-1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



SIZE OF 180° HOOKS (GRADE 40 KSI)
D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18

SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

END HOOK DIMENSIONS

BAR SIZE	180° HOOKS GRADE 40 A OR G	180° HOOKS GRADE 40 J	180° HOOKS GRADE 60 A OR G	180° HOOKS GRADE 60 J	90° HOOKS ALL GRADES A OR G
#3	5"	2-3/4"	5"	3"	6"
#4	6"	3-1/2"	6"	4"	8"
#5	7"	4-1/2"	7"	5"	10"
#6	8"	5-1/4"	8"	6"	12"
#7	9"	6-1/4"	10"	7"	14"
#8	10"	7"	11"	8"	16"
#9	12"	8"	15"	11-1/4"	19"
#10	13"	9"	17"	12-3/4"	22"
#11	14"	10"	19"	14-1/4"	21'-0"
#14	2'-2"	20-1/2"	2'-2"	20-1/2"	2'-7"
#18	2'-11"	2'-3"	2'-11"	2'-3"	3'-5"

NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

H - HIGH STRENGTH (ASTM A-615 GRADE 60).

S - STIRRUP.

X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.

V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

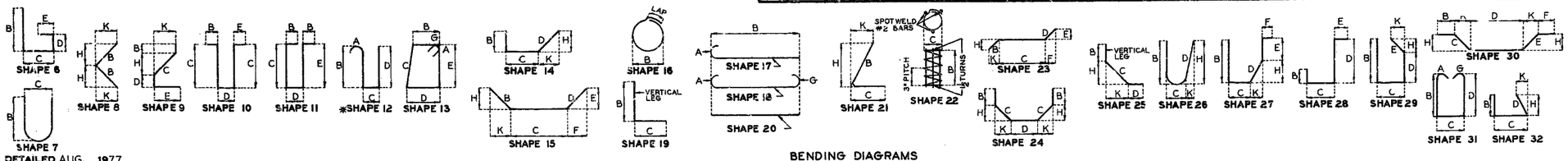
NO. EA. - NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS - ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

* * ALL HOOKS AND BENDS FOR SHAPE NO. 12 - GRADE 40 (ONLY) ARE BASED ON D = 3d.

* Indicates bars to be coated with epoxy.



BENDING DIAGRAMS

STD. 90.8.5 | REVISED | OCT. 1976
MAY 1974 |

DETAILED AUG. 1977
CHECKED JUNE 1978

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

Sheet No. 20 of 20

WASHINGTON COUNTY

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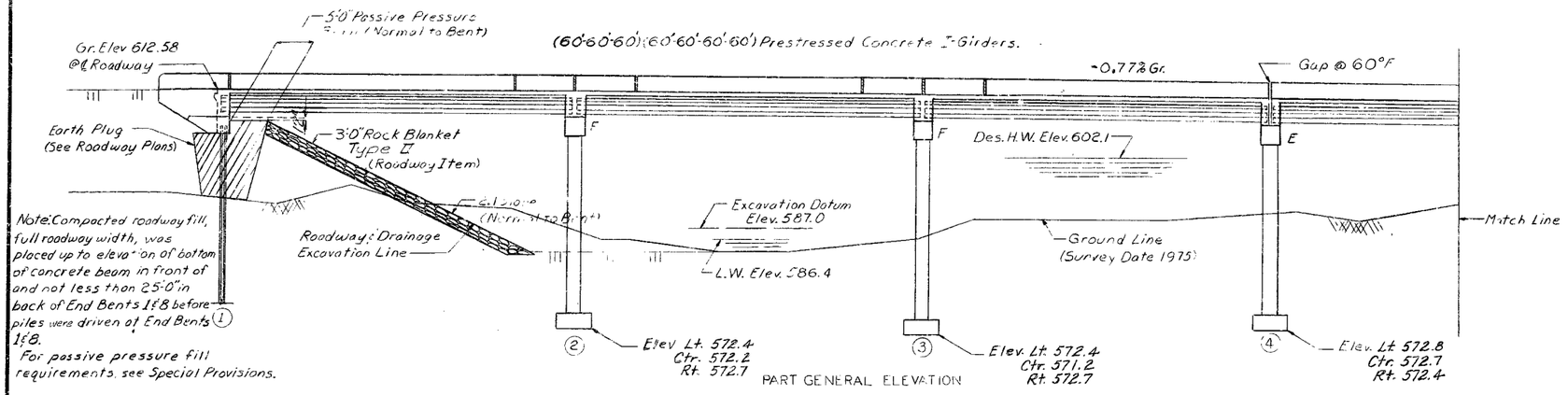
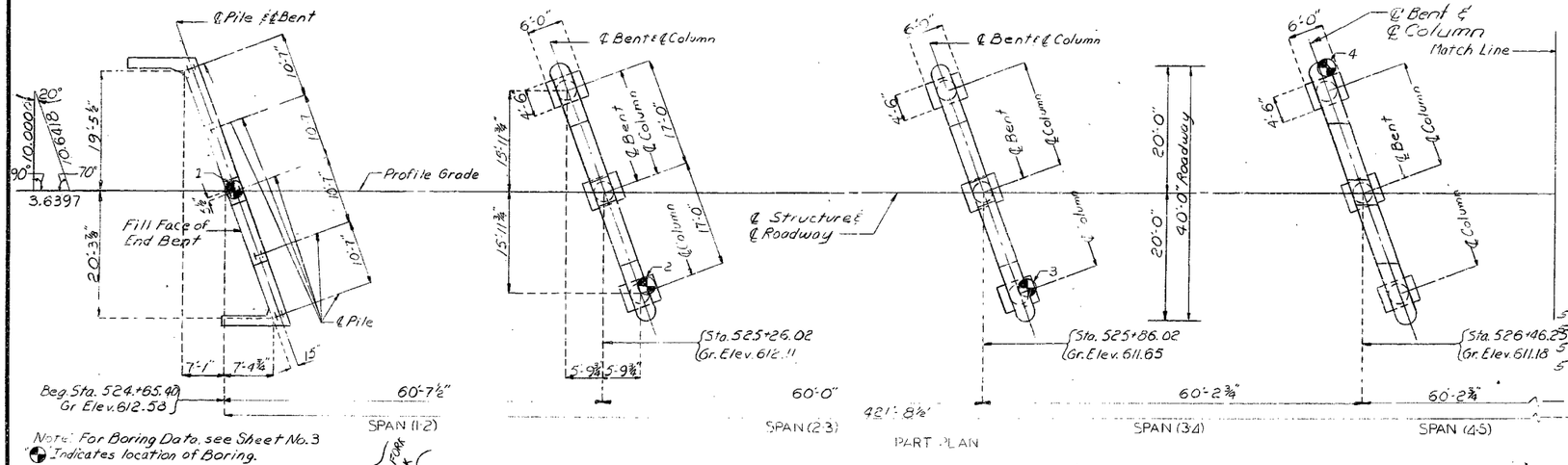
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FINAL PLANS

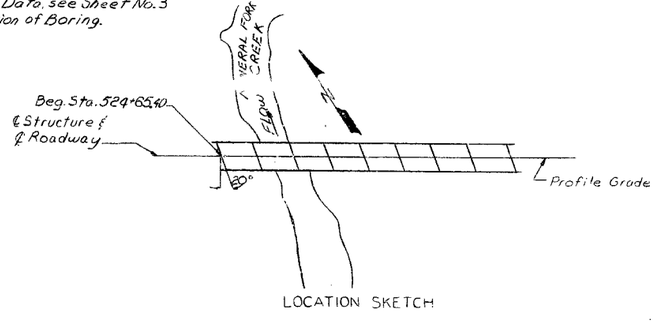
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19		



PART GENERAL ELEVATION



PART PLAN



LOCATION SKETCH

HYDRAULIC DATA	
Drainage Area =	160 sq. miles
Des. Discharge:	24,400 cfs.
Des. H.W. Elev. =	602.1
Frequency =	50 yr.
BASIC FLOOD DATA	
Q(100) =	28,200
H.W. Elev.	603.0

TEST HOLES			
Location	No.	Lgth.	Total
Bent 2 Lt	1	4'	4'
" Ctr.	2	4'	8'
" Rt.	1	4'	4'
Bent 3 Lt.	1	4'	4'
" Ctr.	2	4'	8'
" Rt.	1	4'	4'
Bent 4 Lt.	1	4'	4'
Ctr.	1	4'	4'
Rt.	1	4'	4'
	TOTAL		44'

GENERAL NOTES:

Design Specifications: A.A.S.H.T.O. - 1973 Load Factor Design

Design Loading: H 20-44, 15% Future Wearing Surface
Earth 120# Equivalent Fluid Pressure 30#
Superstructure: Simply supported non-composite for Dead Load Continuous composite for Live Load.

Design Unit Stresses:
Class B Concrete (substructure) f'c = 3,000 psi
Class B² Concrete (superstructure except P/S Girders) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi
Reinforcing Steel (Grade 60) (Superstructure Slab and Safety Barrier Curb) fy = 60,000 psi.
Steel Pile fb = 9000 psi
For Prestressed Girder Stresses see Sheet No 9

Reinforcing Steel:
Minimum clearance to reinforcing steel was 1½" unless otherwise shown

Paint: Shop none, Field all exposed surfaces of steel piles were painted in accordance with Std. Spec. 702.4.7 using System A or B. Color of final coat was aluminum.

Joint Filler Met the requirements of Std. Spec. 1057.2.4.

Bearings were neoprene Pads. (60 durometer)

FINAL QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
Removal of Bridge	Each			1
Class 1 Excavation	Cu. Yds.	30.5		30.5
Class 2 Excavation	Cu. Yds.	302		302
Structural Steel Piles (HP10x42)	Lin. Ft.	1004		1004
Class B Concrete	Cu. Yds.	189.6		189.6
Class B² Concrete	Cu. Yds.		691.9	691.9
Plain Neoprene Bearing Pads (⅛" thick)	Each		60	60
Laminated Neoprene Bearing Pads (1⅜" thick)	Each		0	0
Elastomeric Exp. Jt. Seal (2.0)	Lin. Ft.		43	43
Prestressed Concrete Members, I-Sec. (60' Spans)	Each		35	35
Reinforcing Steel (Epoxy coated)	Lb.		33,470	83,470
Reinforcing Steel (Grade 60)	Lb.	24,910	68,100	93,010
Slab Drains	Each		60	60
CONTINGENT ITEMS				
502.01 Laminated Neoprene Bearing Pads (1⅜" thick)	Each			10
502.02 Force Account Cut Re-Bars				1157.62
502.03 Class 2 Excavation Below Plan Elev	Cu. Yds.	3.5		3.5
502.04 Test Holes	Lin. Ft.	44		44

Note: All concrete above lower const. joint in end bents was included with Superstructure quantities. All reinforcement in the end bents was included with Superstructure quantities.

B.M. "176" Elev. 615.01 Bolt head in top of Lt. Barrier Curb at End Bent No. 1, Bridge No. A-3775, 21' Lt. of Sta. 524+65.40

- **BRIDGE** OVER MINERAL FORK CREEK

STATE ROAD FROM RTE. H TO RTE. 21

ABOUT 1.5 MILES NORTH OF RTE. 21

PROJECT NO. F-BRF-47-1(13) **STA.** 524+65.40

JOB NO. 6-P-47-45 **RTE** 47

WASHINGTON **COUNTY**

DATE: 4/4/78

STD. SID. 706.35

A-3775

DESIGNED JUNE 1977
DETAILED AUG. 1977
CHECKED JUNE 1978

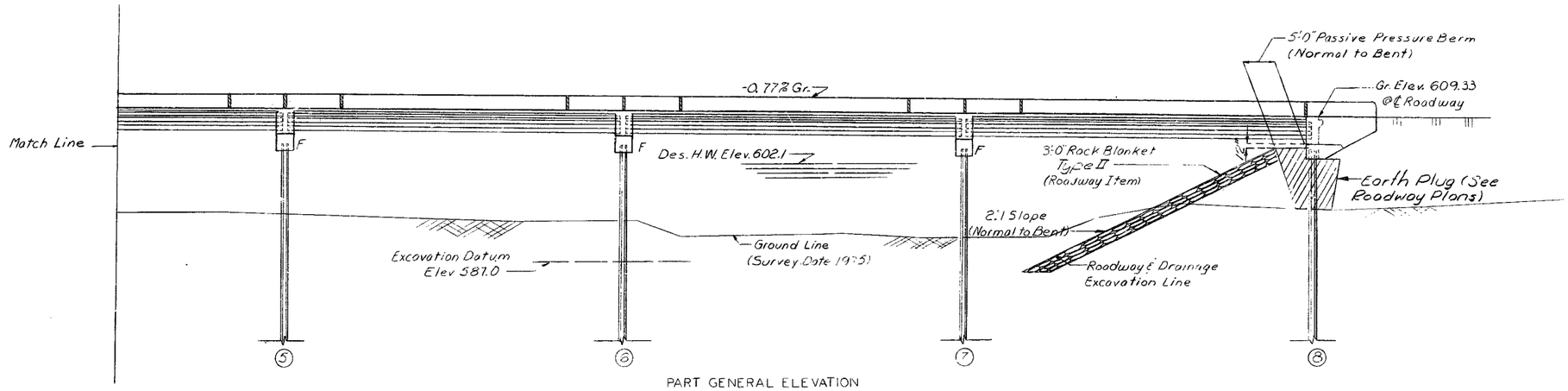
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1A of 20.

378

FINAL PLANS

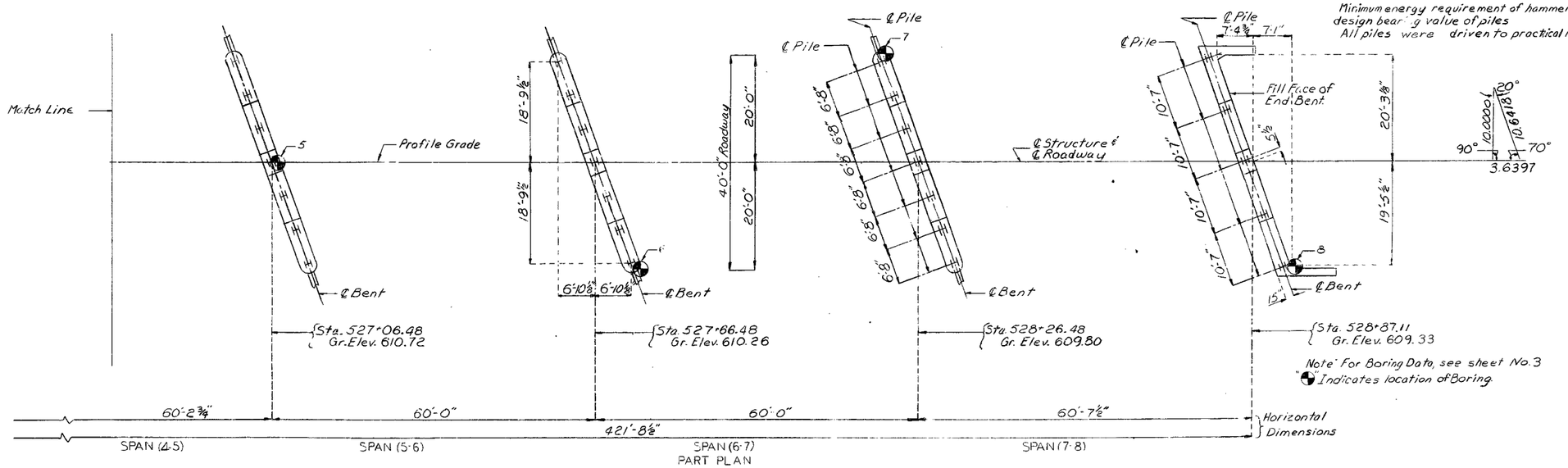
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19		



PART GENERAL ELEVATION

PILE & FOOTING DATA									
	BENT NO.	1	2	3	4	5	6	7	8
BEARING PILE	Pile Type & Size	HP10x42				HP10x42			
	Number	5				7	7	7	5
	Approximate Length Ft.	34				36	31	30	31
	Design Bearing Tons	47				53	53	53	47
	Hammer Energy Required Ft lbs.	10,800				12,500	12,500	12,500	10,800
SPREAD FOOTINGS	Foundation Material		Rock	Rock	Rock				
	Design Bearing Tons / Sq. Ft.		11	11	12				

Minimum energy requirement of hammer based on plan length and design bearing value of piles
All piles were driven to practical refusal, or refusal



PART PLAN

Note: For Boring Data, see sheet No. 3
Indicates location of Boring.

319

DETAILED AUG, 1977
CHECKED JUNE 1978

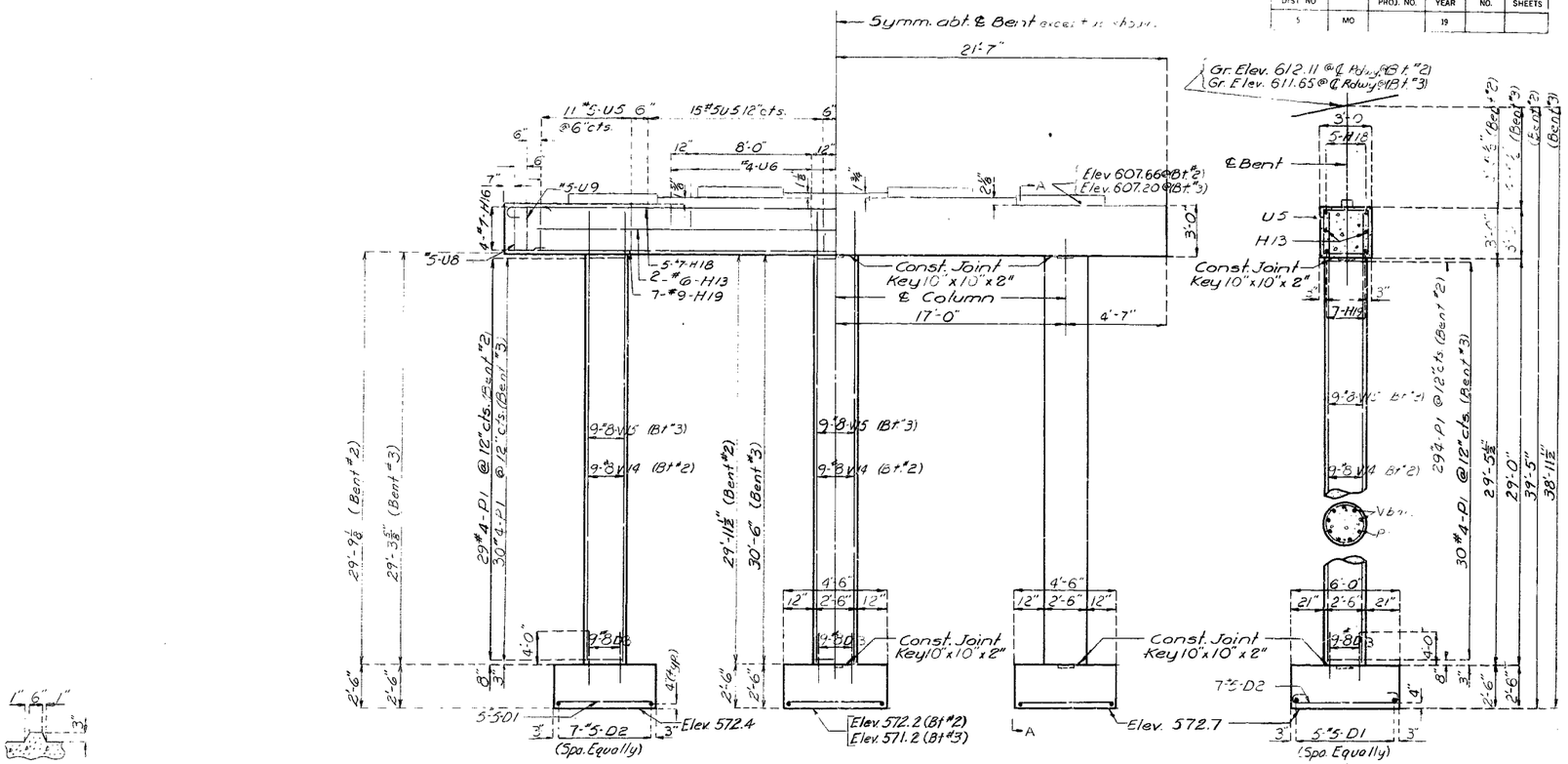
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2A of 20

WASHINGTON COUNTY

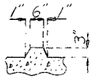
A-3775

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

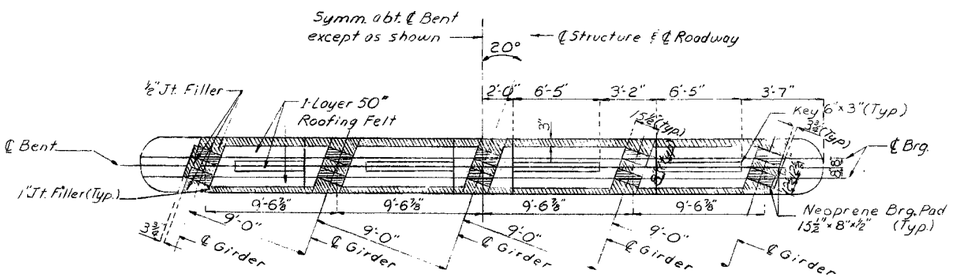


ELEVATION

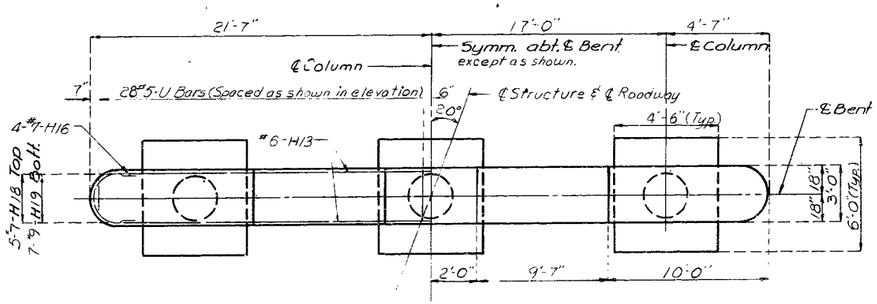
SECTION A-A



DETAIL OF KEY



PLAN OF BEAM



Note: Footing Reinforcement is same for Interior & Exterior footing.

PLAN
DETAILS OF INTERMEDIATE BENT NO. 2&3.

380

STD. 19.5	REVISED
JAN. 1965	JUNE 1974

DETAILED JULY 1977
CHECKED MAY 1978

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

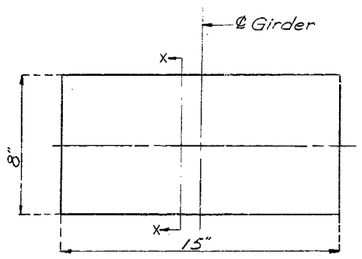
Sheet No. 5A of 20.

WASHINGTON COUNTY

A-3775

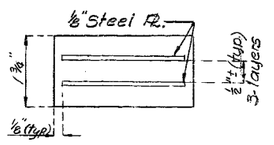
FINAL PLANS

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



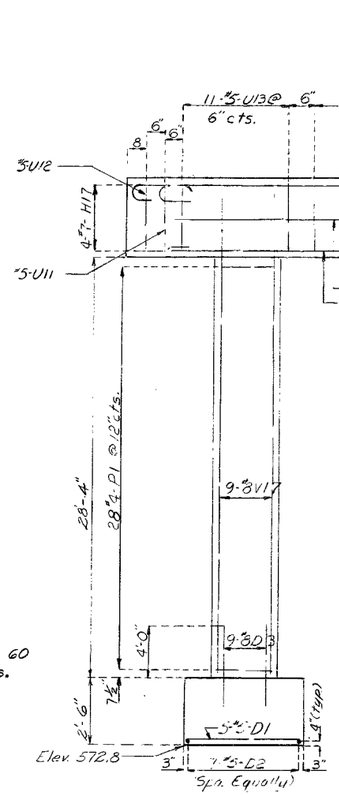
PLAN

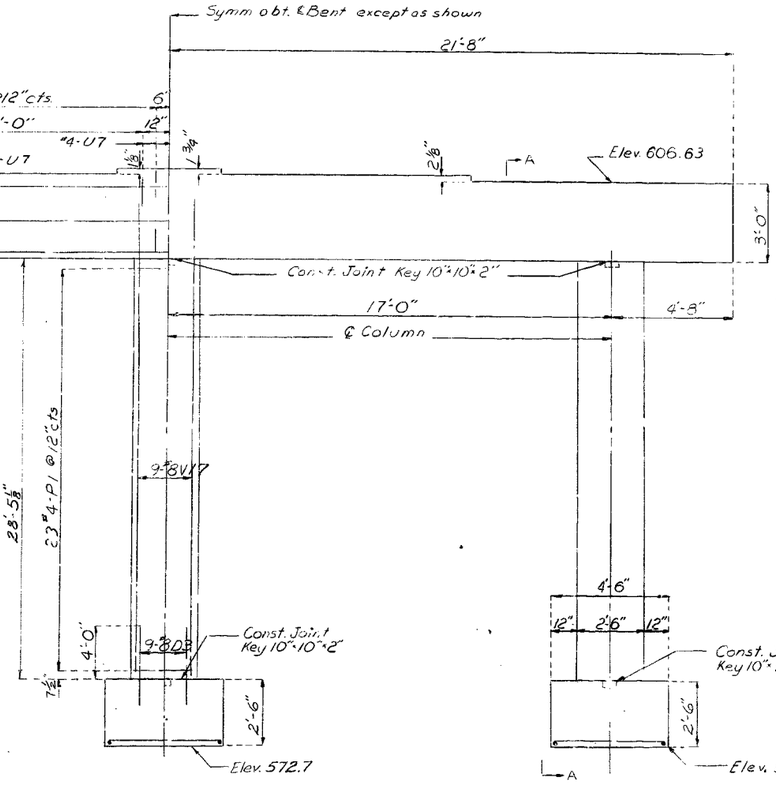
Note: Bearings were 60 durometer Neoprene Pads. Steel Pl was A-36.



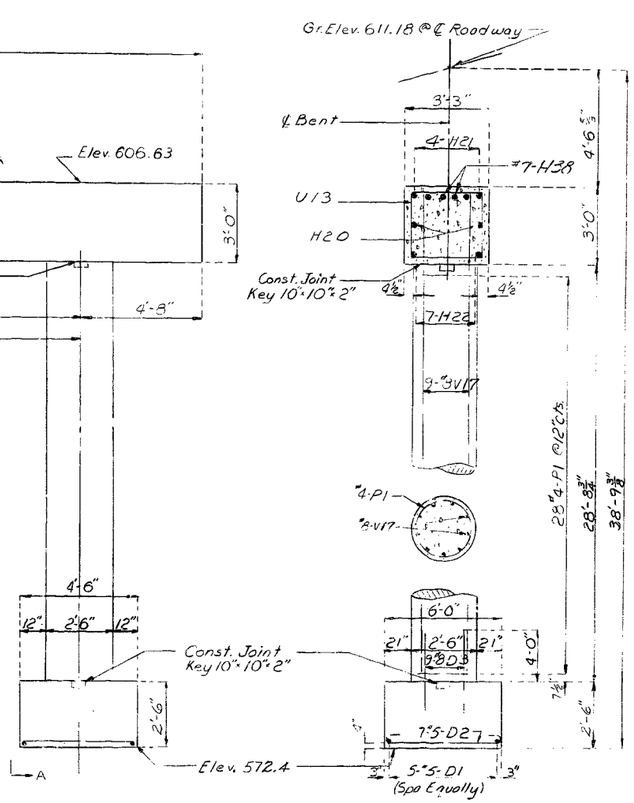
SECTION X-X

DETAIL OF LAMINATED NEOPRENE BRG. PAD
BENT NO. 4

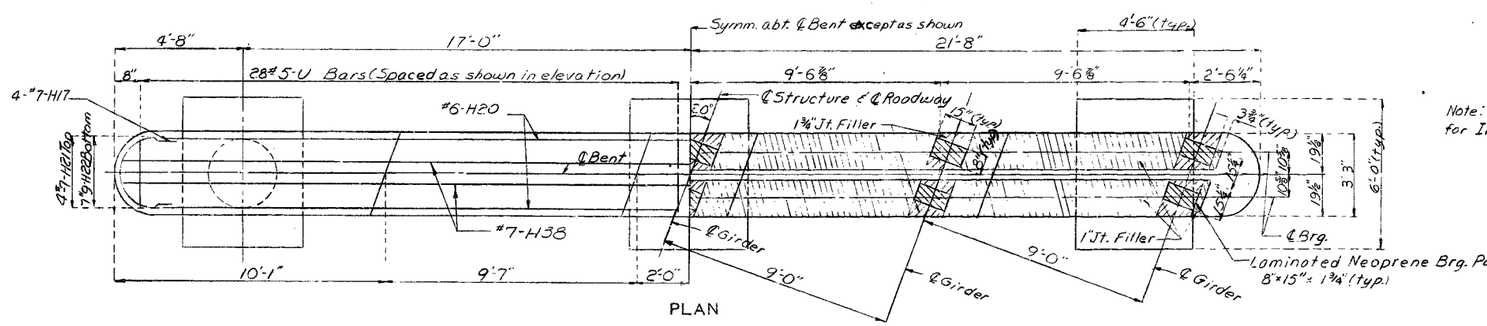




ELEVATION



SECTION A-A



PLAN

Note: Footing Reinforcement is same for Interior & Exterior footing.

DETAILS OF INTERMEDIATE BENT NO. 4

381

DETAILED JULY 1977
CHECKED MAY 1978

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

Sheet No. 6A of 20

WASHINGTON COUNTY

A-3775

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

December 19, 2022
10:52:05am

COUNTY : WASHINGTON **BRIDGE :** A3775 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	WASHINGTON
8	Federal ID No.	3139
27	Year Built	1981
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	00047
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 47 S
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000000050
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	06-RURAL MINOR ARTERIAL
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	KINGSTON
	Code	38882
9	Location	S 2066 T 39 N R 3 E
11	Milepoint	96.82 miles
16	Latitude	38 D 5 M 45 S
17	Longitude	90 D 44 M 51 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	1596
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	14%
114	Future AADT	2394
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	MINERAL FK 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	34.72 miles
32	Approach Roadway Width	27 Ft. 11 In.
34	Skew	20.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	41 Ft. 4 In.
48	Maximum Span Length	60 Ft. 8 In.
49	Structure Length	421 Ft. 11 In.
50A	Left Curb/Sidewalk Width	0 Ft. 8 In.
50B	Right Curb/Sidewalk Width	0 Ft. 8 In.
51	Curb to Curb Br. Width	40 Ft. 0 In.
52	Deck Width (Out-Out)	42 Ft. 8 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = a3775

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

December 19, 2022
10:52:05am

COUNTY : WASHINGTON **BRIDGE :** A3775 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 20
41	Structure Status	A - OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	63 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	25 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	85.0 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	0 Ft. 0 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	MEETS ACCEPTBLE STND
36B	Transition Rail App. Rating	MEETS ACCEPTBLE STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	6
68	Deck Geometry App. Rating	7
69	Underclearance App. Rating	N
71	Waterway Adeq. App. Rating	8
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	8

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	PRESTRSED CONCRETE CONTIN
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	7
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
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.	1 EPOXY

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date	9 / 20	
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.

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 = a3775

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

December 19, 2022
10:52:05am

COUNTY : WASHINGTON **BRIDGE :** A3775 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	WASHINGTON
8	Federal ID No.	3139
27	Year Built	1981
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
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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	00047
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 47 S
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000000050
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	06-RURAL MINOR ARTERIAL
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

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	Code	38882
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11	Milepoint	97.60 miles
16	Latitude	38 D 5 M 45 S
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30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	14%
114	Future AADT	2394
115	Future AADT Year	2041

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54B	Vert. Clearance	0 Ft. 0 In.
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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	35.00 miles
32	Approach Roadway Width	27 Ft. 11 In.
34	Skew	20.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	41 Ft. 4 In.
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49	Structure Length	421 Ft. 11 In.
50A	Left Curb/Sidewalk Width	0 Ft. 8 In.
50B	Right Curb/Sidewalk Width	0 Ft. 8 In.
51	Curb to Curb Br. Width	40 Ft. 0 In.
52	Deck Width (Out-Out)	42 Ft. 8 In.
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Design_No = a3775

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

December 19, 2022
10:52:05am

COUNTY : WASHINGTON **BRIDGE :** A3775 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 20
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	63 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	25 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	85.0 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	0 Ft. 0 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

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36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	6
68	Deck Geometry App. Rating	7
69	Underclearance App. Rating	N
71	Waterway Adeq. App. Rating	8
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	8

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	PRESTRSED CONCRETE CONTIN
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	7
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.	1 EPOXY

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date	6 / 22	
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.

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 = a3775