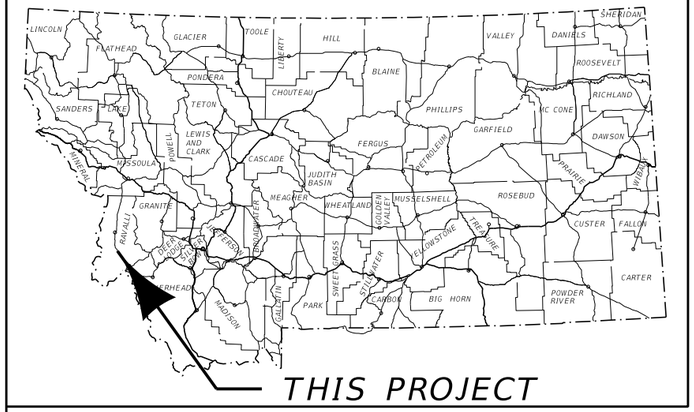
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MONTANA DEPARTMENT OF TRANSPORTATION

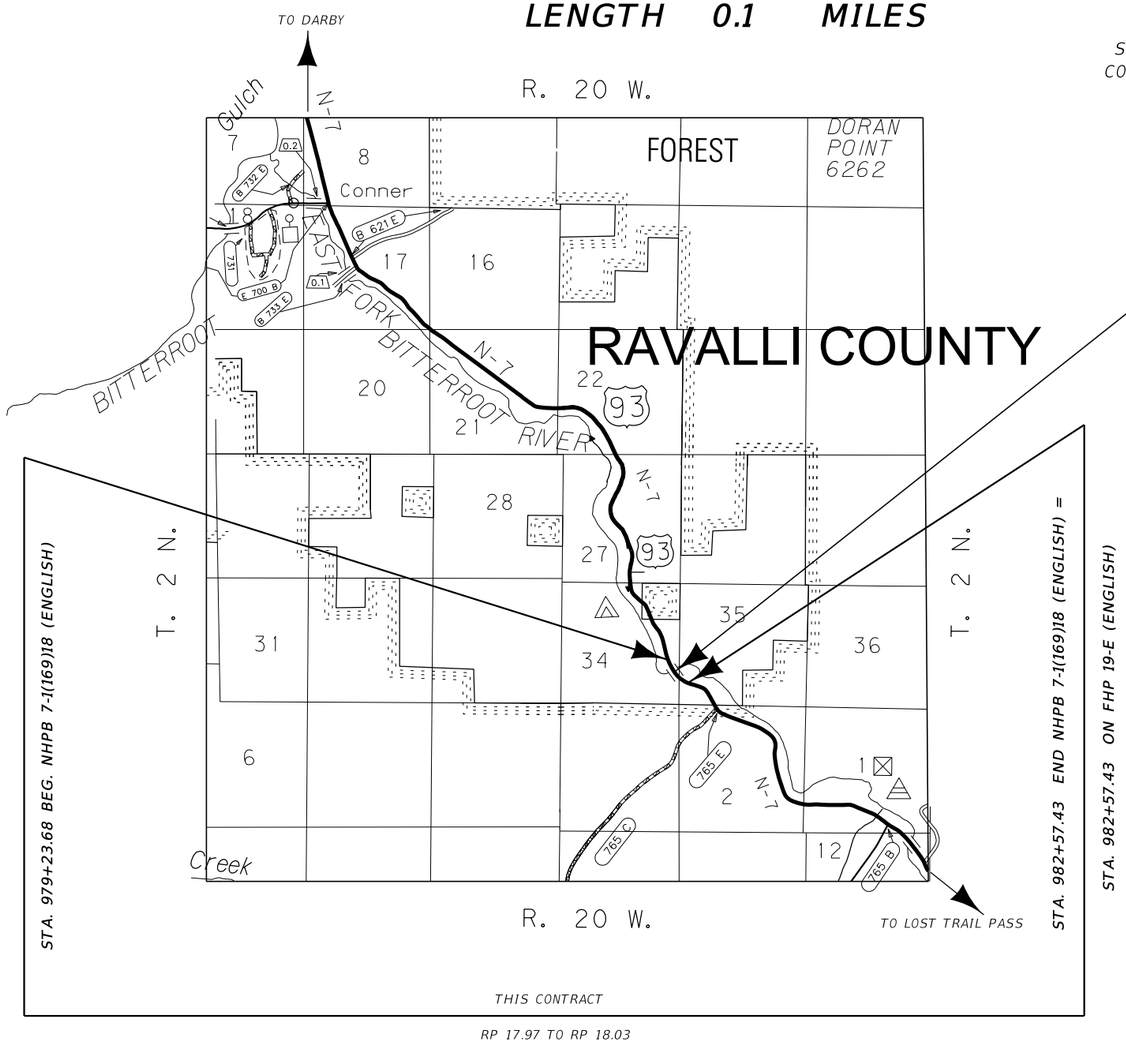
FEDERAL AID PROJECT NHPB 7-1(169)18
MAJOR BRIDGE REHABILITATION
E FORK BITTERROOT - 5M SE CONNER
RAVALLI COUNTY

PROJECT DESIGN DATA		
PRESENT 2017	A.D.T. =	1,170
LETTING 2018	A.D.T. =	1,180
DESIGN 2038	A.D.T. =	1,450
	D.H.V. =	220
	TRUCKS =	6.2 %
	V. =	
	18 KIP ESAL'S =	33 DAILY
	GROWTH RATE =	1.0 % ANNUALLY

LETTING DATE - _____

LENGTH 0.1 MILES

SURFACING SOURCES -
CONTRACTOR FURNISHED



MONTANA
DEPARTMENT OF TRANSPORTATION

MALCOLM "MACK" LONG
DIRECTOR OF TRANSPORTATION

APPROVED BY:

BRIDGE
ENGINEER

MONTANA
STEPHANIE L F BRANDENBERGER
13094PE
LICENSED PROFESSIONAL ENGINEER

DocuSigned by:
Stephanie Brandenberger
D351A85FB36C411...

10/18/2021
DATE

ASSOCIATED PROJECT AGREEMENT NUMBERS	
R / W	
I.C.	
P. E.	NHPB 7-1(168)18

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9995000rdttl001.dgn	DESIGNED BY	F. Cobarrubias	6/22/2021	ROAD PLANS
2		9/14/2021	REVIEWED BY			
		9:46:47 AM CPS - U3484	CHECKED BY			UPN 9995000

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TABLE OF CONTENTS

ROAD PLANS	SHEET NO.
TITLE SHEET	1
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LINEAR DATA	2
TYPICAL SECTIONS	3
SUMMARIES	4
SURFACING	4
TEMPORARY GUARDRAIL	4
PAVEMENT MARKINGS	4

BRIDGE PLANS	
BRIDGE PLANS	B1-B4

NOTES

BASIS OF PLAN QUANTITIES

(QUANTITIES FOR ESTIMATING PURPOSES ONLY)

COMP. AGGREGATE WEIGHT	= 3700 LBS. PER CUBIC YARD
COMP. WEIGHT OF PL. MIX BIT. SURF.	= 3855 LBS. PER CUBIC YARD
ASPHALT CEMENT - GRADE S - 3/8" AGG.	= 6.2% OF PL.MIX BIT.SURF.
BITUMINOUS MATERIAL	= 8.5 LBS. PER GAL.
EMULSIFIED ASPHALT - TACK (ALL OTHER SURFACES)	= 0.05 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT - TACK (CONCRETE SURFACES)	= 0.10 GAL. PER SQ.YARD (UNDILUTED)

WETLANDS

WETLANDS MAY EXIST ADJACENT TO THE ROADWAY AND BEYOND THE PROJECT LIMITS. A WETLAND DELINEATION HAS NOT BEEN COMPLETED FOR THIS PROJECT. IMPACTS TO WETLAND AREAS ARE NOT ANTICIPATED IN ASSOCIATION WITH THE PROPOSED WORK. NO PERMITS HAVE BEEN OBTAINED. ANY ACTION IMPACTING WETLAND AREAS WITHOUT THE APPROPRIATE PERMITTING IS THE RESPONSIBILITY OF THE CONTRACTOR.

AS BUILT:

NR 19 A-F

FHP 19-A1, B, C, D, E, F.

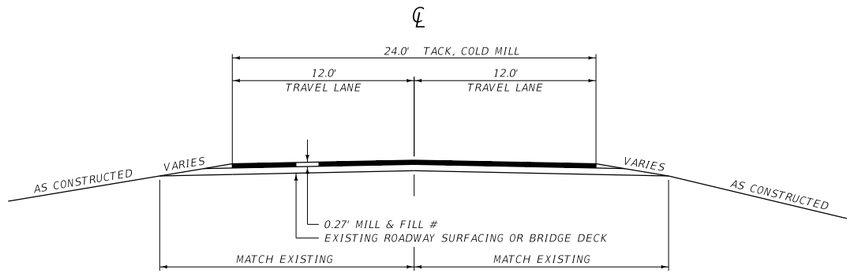
LINEAR DATA

LENGTH OF ROADWAY	2 LANE RURAL	200.00 ft
LENGTH OF BRIDGE	2 LANE RURAL	133.75 ft
TOTAL LENGTH OF NHPB 7-(169)18	2 LANE RURAL	333.75 ft

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TYPICAL SECTION NO. 1

MAINLINE



979+23.68 TO 980+23.68 BE
980+23.68 BE TO 981+57.43 BE
981+57.43 BE TO 982+57.43

QUANTITIES

UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL			
		PLANT MIX					EMULSIFIED ASPHALT TACK*	COLD MILL
AREA square feet		6.48		square yards PER STATION			534	267
cubic yards PER STATION		24.0		tons PER STATION				
tons PER STATION		46.3		gals. PER STATION			27	
square yards PER STATION								

* BASED ON 2 APPLICATIONS
# DO NOT MILL BRIDGE DECK. REMOVE ASPHALT FROM DECK (SEE BRIDGE PLANS)

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SUMMARY

SURFACING

STATION		linear feet				FOR	AGGREGATE	BITUMINOUS MATERIAL		REMARKS
		GROSS	NET	+	-		tons	gals.	sq. yards	
FROM	TO						COMMERCIAL PLANT MIX BIT. SURF. GR. S - 3/8" *	EMULSIFIED ASPHALT TACK	COLD MILLING	
979+23.68	980+23.68 BE	100.00	100.00				46	27	267	TYPICAL NO. 1
980+23.68 BE	981+57.43 BE	133.75	133.75			BRIDGE	62	36		TYPICAL NO. 1. SEE BRIDGE PLANS FOR REMOVING ASPHALT ON BRIDGE DECK.
981+57.43 BE	982+57.43	100.00	100.00				46	27	267	TYPICAL NO. 1
TOTAL		333.75	333.75	~	~		154	90	534	

* PG 64-28

TEMPORARY GUARDRAIL

STATION		linear feet		each		REMARKS
		RESET TEMPORARY BARRIER RAIL	TEMPORARY BARRIER RAIL	RESET TEMPORARY IMPACT ATTENUATOR	TEMPORARY IMPACT ATTENUATOR	
FROM	TO					
979+23.68	982+57.43	260	130	4	2	
TOTAL		260	130	4	2	

PAVEMENT MARKINGS

ITEM	UNIT	INTERIM APPLICA-TION #	FINAL APPLICA-TION	TOTAL
STRIPING - WHITE PAINT	gallon	4		4
STRIPING - YELLOW PAINT	gallon	4		4
STRIPING - WHITE EPOXY	gallon		3	3
STRIPING - YELLOW EPOXY	gallon		3	3

BASED ON 1 APPLICATIONS

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ASSOCIATED PROJECT AGREEMENT NUMBERS	
P.E.	NHPB 7-1(168)18

BRIDGE IDENTIFICATION	
MDT STR ID	NBI NUMBER
05287	P00007018+00921

MONTANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS AND QUANTITIES

FEDERAL AID PROJECT NHPB 7-1(169)18

E FORK BITTERROOT - 5M SE CONNER

RAVALLI COUNTY

BY _____

DATE _____

SCALES SHOWN ON BRIDGE PLANS SHEETS
ARE FOR HALF SIZE (11X17) PRINTS
FULL SIZE PRINTS ARE APPROXIMATELY TWICE
ORIGINAL SCALE

LIST OF DRAWINGS

SHEET	DWG. NO.	TITLE
B1	24662	LIST OF DRAWINGS AND ESTIMATED BRIDGE PLAN QUANTITIES
B2	24663	STRUCTURAL NOTES AND SPECIFICATIONS
B3	24664	PHASE CONSTRUCTION DETAILS
B4	24665	REHAB DETAILS

ESTIMATED BRIDGE PLAN QUANTITIES

	REINFORCING STEEL (LB)	CLASS A BRIDGE DECK REPAIR (SQYD)	CLASS B BRIDGE DECK REPAIR (SQYD)	PREPARE DECK (SQYD)	REMOVE ASPHALT FROM DECK (SQYD)	WATERPROOF MEMBRANE (SQYD)
SUPERSTRUCTURE	100	110	70	352.0	352.0	352.0
TOTAL	100	110	70	352.0	352.0	352.0

SHEET NO.
B1

LIST OF DRAWINGS AND ESTIMATED BRIDGE PLAN QUANTITIES

REVISED
REVISED
REVISED
REVISED
A.D.C. 8-19-21
T.J.B. 7-12-21
T.J.B. 7-12-21
DESIGNED
DRAWN
CHECKED

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STATE OF MONTANA DEPARTMENT OF TRANSPORTATION MDT
BRIDGE BUREAU

9/3/2021 7:06:14 AM

UPN NUMBER
9995000

DRAWING NO.
24662

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AWARD COPY

GENERAL NOTES

SPECIFICATIONS:
Plans were prepared from original drawings and as-built drawings. No additional survey information was procured for this project. Existing structure dimensions may vary from those shown on the drawings. Verify all dimensions necessary to complete the work.

The current version of the Standard and Supplemental Specifications for Road and Bridge Construction, adopted by the Montana Department of Transportation, applies.

See Standard Specifications and Special Provisions for Traffic Control and Sequence of Operations. See Sheet B3 for proposed phase construction sequence. Submit for approval any alternative to the proposed phase construction sequence.

All dimensions are in feet and inches except as noted. Verify all necessary dimensions of the existing structures in the field before ordering materials. Obtain approval of shop plans from the State of Montana, Department of Transportation before beginning fabrication. If the dimensions and details of the existing structure are not as shown on the plans, vary construction as necessary to best suit existing conditions and the nature of the intended work.

REINFORCING STEEL:
Unless specified otherwise on the drawings, provide 2" minimum concrete cover measured from the face of the concrete to the face of any reinforcing steel, except as noted below:

Bottom of Slab	1"
Top of Slab	2 ½"
Bottom of Abutment Caps	3"
Concrete Barriers and Curbs	1 ½"

Concrete cover to any tie bar is ½" less than what is listed above.

Use new deformed type reinforcing steel meeting the requirements of AASHTO M 31 Grade 60. Include all costs associated with furnishing and placing new reinforcing steel in the unit price bid for Reinforcing Steel.

Replace existing reinforcing steel damage during construction that is called out to remain in place at no additional cost to the State.

Include cleaning exposed existing reinforcing steel in other items of work.

Replace existing reinforcing steel with section loss greater than 25%.

If any longitudinal slab reinforcing does not extend to within 2" of the new slab end at the joint, lap splice new reinforcing of the same bar size and long enough to meet the minimum lap indicated on this sheet, and provide 1" clear to the new slab end. Include all costs associated with furnishing and installing the required additional reinforcing in the unit price bid for Reinforcing Steel.

BRIDGE DECK REPAIR:
See the Standard Specifications for Bridge Deck Repair.

Do not allow traffic or shift temporary barrier onto the repaired deck until the repair concrete has reached 3500-psi compressive strength minimum.

Submit for approval any substitution of rapid setting Portland cement concrete for Concrete Class Structure. Traffic will not be permitted on concrete repairs until the specified strength is attained.

Do not place traffic in roadway width less than 11'-0" prior to performing bridge deck repairs.

SHEET NO.
B2

STRUCTURAL NOTES AND SPECIFICATIONS

SCALE: No Scale

PROJECT NAME
E FORK BITTERROOT - 5M SE CONNER

MDT STRUCTURE ID
05287

FEDERAL AID PROJECT
NHPB 7-1(169)18

COUNTY
RAVALLI

REVISED		
REVISED		
REVISED		
REVISED		
CHECKED	A.D.C.	8-19-21
DRAWN	T.J.B.	7-12-21
DESIGNED	T.J.B.	7-12-21

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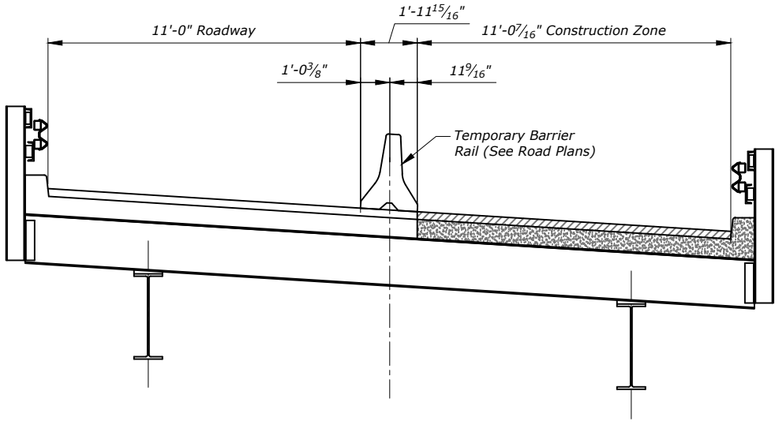
BRIDGE BUREAU

UPN NUMBER
9995000

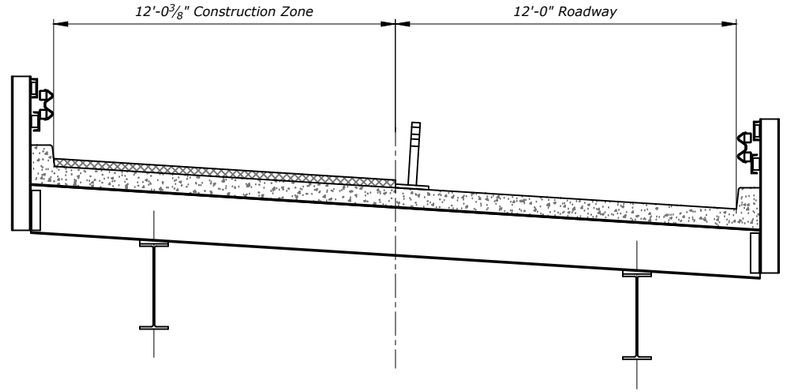
DRAWING NO.
24663

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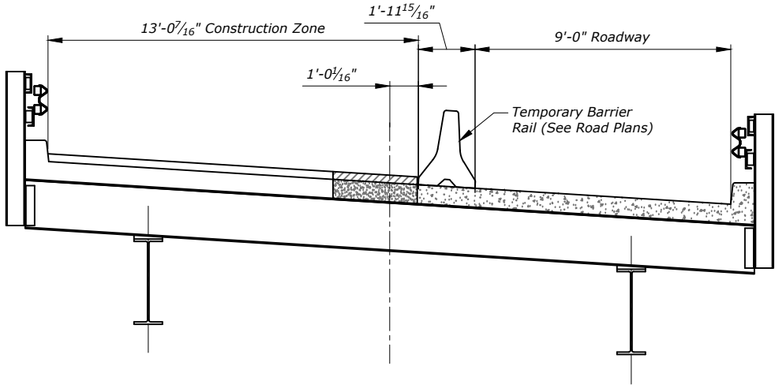
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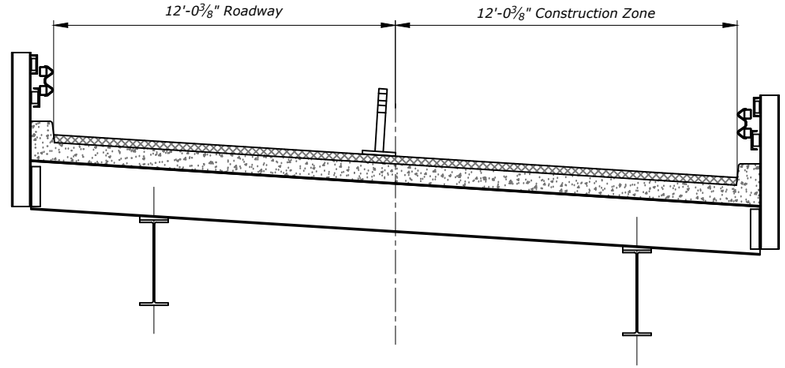
PHASE I



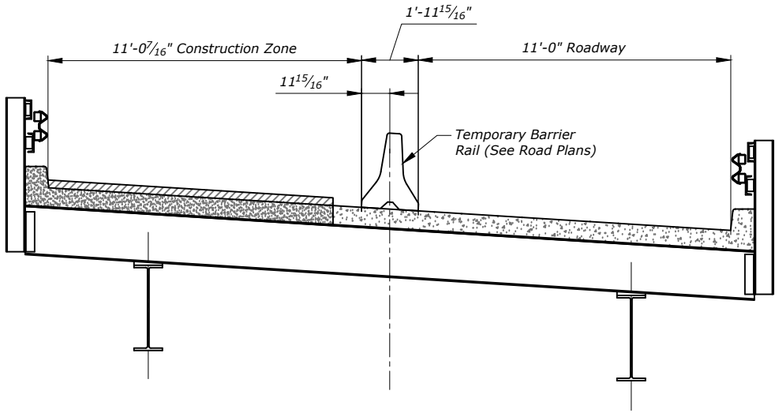
PHASE IV



PHASE II



PHASE V



PHASE III

Remove existing asphalt

Repair existing concrete

Newly repaired concrete

New asphalt overlay

PHASE CONSTRUCTION SEQUENCE

PHASE I:
Remove asphalt and repair concrete deck, curb, and rail anchorage in northbound lane.

PHASE II:
Move traffic to northbound lane.
Remove asphalt and repair concrete deck on southbound lane.
Repair center of bridge deck first to minimize the amount of time the roadway is restricted to 9'-0"

PHASE III:
Continue to repair concrete deck in southbound lane with roadway set to 11'-0"
Repair concrete curb and rail anchorage.
Prepare the concrete deck and place waterproofing membrane in southbound lane.

Phase IV:
Finish preparing concrete deck and placing waterproofing membrane.
Pave and overlay southbound lane.

PHASE V:
Prepare Deck and place Waterproof Membrane
Pave and Overlay northbound lane.

SHEET NO. B3

PHASE CONSTRUCTION DETAILS

SCALE: 3/16" = 1'-0"

PROJECT NAME
E FORK BITTERROOT - 5M SE CONNER

MDT STRUCTURE ID
05287

FEDERAL AID PROJECT
NHPB 7-1(169)18

COUNTY
RAVALLI

REVISED			A.D.C.	8-19-21
REVISED			T.J.B.	6-21-21
REVISED			T.J.B.	5-21-21
CHECKED				
DRAWN				
DESIGNED				

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MONTANA DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

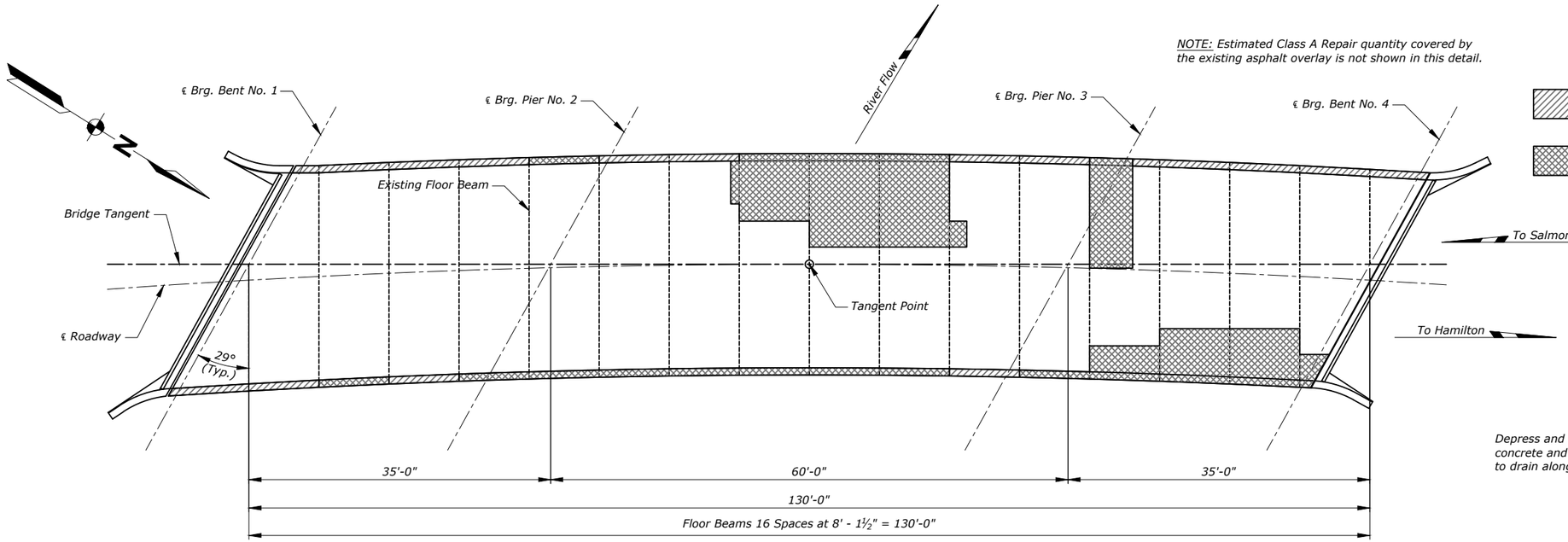
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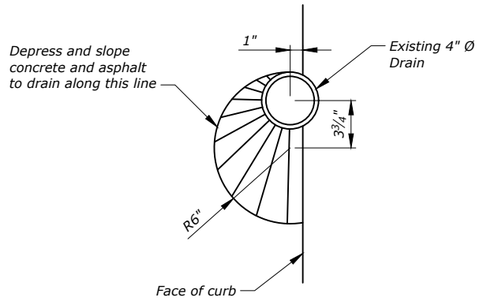
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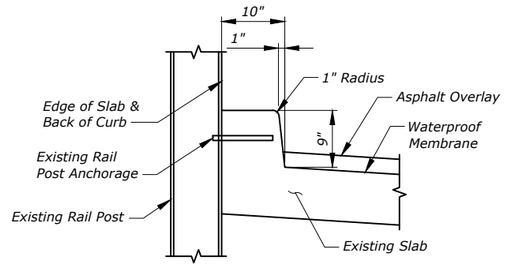


NOTE: Estimated Class A Repair quantity covered by the existing asphalt overlay is not shown in this detail.

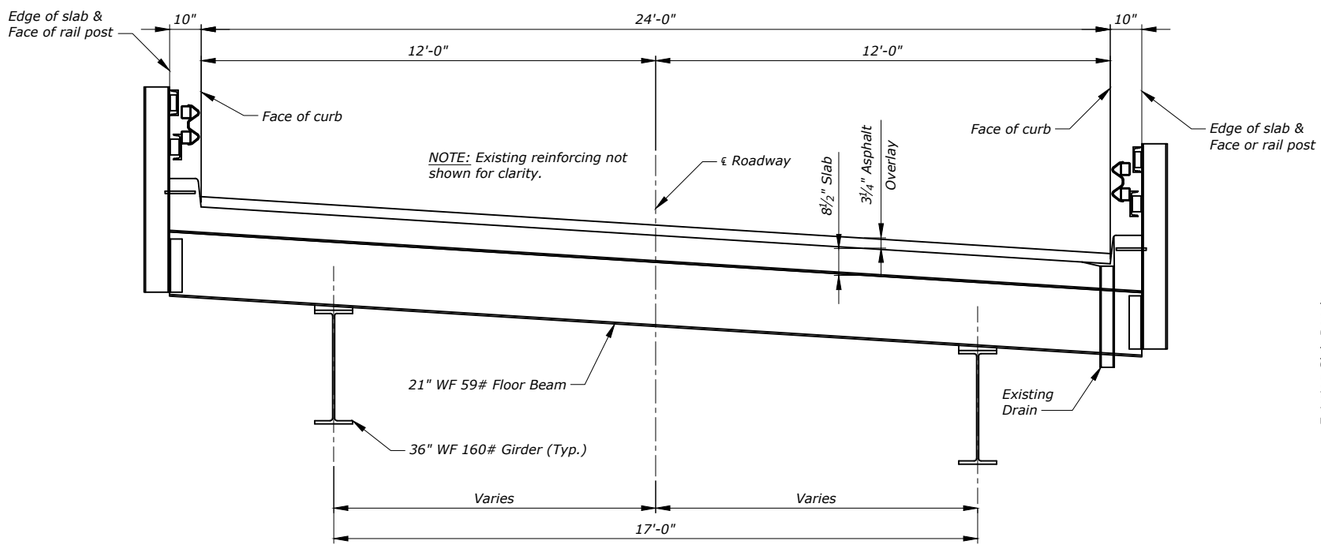
BRIDGE DECK DIAGRAM CLASS A & B REPAIR
Scale ~ 1" = 15'-0"



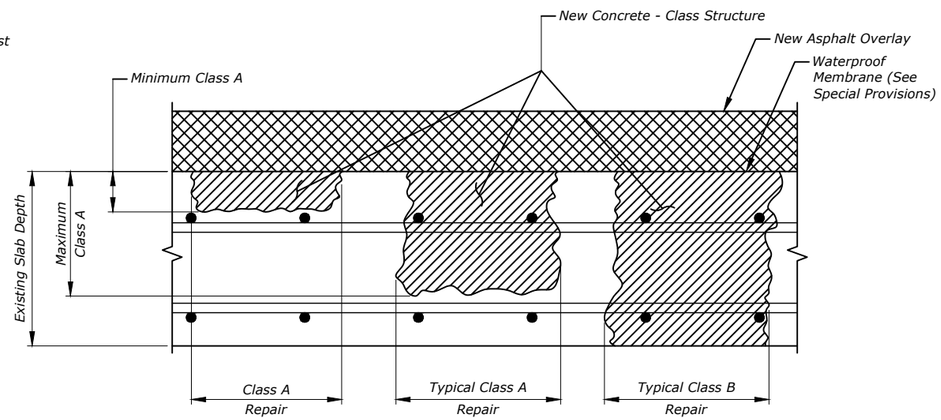
DECK DRAIN TREATMENT DETAIL
Scale ~ 1" = 1'-0"



CURB DETAIL
Scale ~ ½" = 1'-0"



TYPICAL SECTION
Scale ~ ¼" = 1'-0"



BRIDGE DECK REPAIR AND ASPHALT OVERLAY DEFINITION
No Scale

SHEET NO. B4

REHAB DETAILS

SCALE: As Noted

PROJECT NAME
E FORK BITTERROOT - 5M SE CONNER

MDT STRUCTURE ID
05287

FEDERAL AID PROJECT
NHPB 7-1(169)18

COUNTY
RAVALLI

REVISED				A.D.C.	8-19-21	
REVISED				T.J.B.	9-3-21	
REVISED				T.J.B.	9-3-21	
REVISED				CHECKED	DRAWN	DESIGNED

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