



NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 BRIDGE MANAGEMENT UNIT

ATTENTION

IMPACT DAMAGE REPORT. GRADES FOR BEAMS AND DIAPHRAGMS IN SPAN 2 ONLY.

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Damage Inspection Report

COUNTY SCOTLAND BRIDGE NUMBER 820026 INSPECTION CYCLE 0 YRS
 ROUTE NC79 ACROSS US74 M.P. 0

LOCATION 0.5 MI. S. JCT. US74BUS.

SUPERSTRUCTURE REINFORCED CONCRETE DECK ON I-BEAMS

SUBSTRUCTURE E.BNTS:RC CAPS ON PPC PILES, INT.BNTS:RCP&B ON PILE FOOTINGS

SPANS _____

LONGITUDE 79° 29' 53.66" LATITUDE 34° 46' 35.64"

INSPECTION DATE 06/09/2014 PRESENT CONDITION POOR

PRESENT POSTING N PROPOSED POSTING _____

OTHER SIGNS PRESENT _____



LOOKING EAST

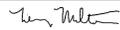
Fracture Critical	<u>No</u>
Temporary Shoring	<u>No</u>
Scour Critical	<u>No</u>
Scour POA	<u>No</u>

SIGN NOTICE ISSUED FOR	NUMBERED REQUIRED
<u>No</u> WEIGHT LIMIT	_____
<u>No</u> DELINEATORS	_____
<u>No</u> NARROW BRIDGE	_____
<u>No</u> ONE LANE BRIDGE	_____
<u>No</u> LOW CLEARANCE	_____

BRIDGE INSPECTION RECORD AND SUMMARY

INSPECTION TYPE Damage Inspection Report
 BRIDGE NO. 820026 COUNTY SCOTLAND ROUTE NC79 OVER US74
 STRUCTURE TYPE REINFORCED CONCRETE DECK ON I-BEAMS
 ROUTE ORIENTATION S - N SPANS

EVALUATION CODES: CRITICAL (C, 0 - 3); POOR (P, 4); FAIR (F, 5, 6); GOOD (G, 7 - 9)

INSPECTION ITEM		ITEM 61		
DECK ITEMS				
1. WEARING SURFACE		45. CHANNEL & CHANNEL PROT.	a. WATERWAY	
			b. ALIGNMENT	
			c. SCOUR	
			d. SLOPE PROT., RIP-RAP, DIKES, ETC.	
2. DECK NO. OF EA TYPE SPN GRADE RATES SI & A ITEM 58			50. APPROACH ROADWAY CONDITION	
	a. CONCRETE			
	b. TIMBER			
	c. STEEL PLANK	51. APPROACH SLABS		
	d. OPEN GRID			
3. RAILING		52. PAINT SYSTEM CODE		
	a. CONCRETE			
	b. TIMBER	53. UTILITIES		
	c. ALUMINUM	54. RESPONSE TO LIVE LOAD		
	d. STEEL	55. ESTIMATED REMAINING LIFE		
4. CURBS, WHEELGUARDS, PARAPETS, MEDIANS				
5. WALKWAYS (ON OR ATTACHED TO STRUCTURE)		60. REGULATORY SIGN NOTICE ISSUED		
6. DECK EXP JTS. OR DEVICES. NO. OF EACH		61. PROMPT-ACTION NOTICE ISSUED		
	a. STEEL PL OR FINGER	YES		
	b. MISC PREFAB	62. PRESENTLY POSTED		
	c. COMPRESSION SEAL	NO		
	d. STANDARD JOINTS	63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR)		
	e. OPEN JOINTS	64. TOTAL SNOOPER INSP. TIME (HRS)		
7. DECK DEBRIS (INCLUDES EXCESS SAND/GRAVEL)		65. TOTAL TRAFFIC CONTROL TIME (MAN HRS)		
		4		
SUPER STR. (FM. 1 (90)B TRUSS) ITEM 59		70. SI&A GENERAL CONDITION RATINGS		
10. LONGITUDINAL BEAMS OR GIRDERS		a. DECK ITEM 58		
	P	b. SUPERSTRUCTURE ITEM 59		
11. LONGITUDINAL JOIST OR STRINGERS		c. SUBSTRUCTURE ITEM 60		
12. INT. DIAP'S, X-FRAMES, BRACING & CONN'S		d. CHANNEL & CHANNEL PROT. ITEM 61		
	P			
13. END DIAP'S, CURTAIN WALLS, & CONN'S				
14. FLOOR BEAMS AND CONNECTIONS		71. SI&A FIELD APPRAISAL RATINGS		
15. BEARING ASSEMBLIES (INCLUDING MISALIGN)		a. WATERWAY ADAQUACY		
16. DRAINAGE SYSTEM (ON STRUCTURE)		b. APPR. RDWY. ALIGNMENT		
17. MOVABLE SPAN MACHINERY				
SUB STR. ITEMS. ITEM 60 (INCLUDE SCOUR)		72. FIELD SCOUR EVALUATION		
35. TIM SUB STR.		USE OF INSP. ACCESSIBILITY EQUIPMENT		
	a. ABUT. & INT. BENT CAPS & RISERS			
	b. PILES, POST, SILLS, & BRACING	SNOOPER (CODE S, 4, OR N)		HRS NO
	c. BULKHEADS, WING'S, & TIE BACKS	LADDER		NO
36. CONC SUB STR.		BUCKET TRUCK		
	a. ABUT. & INT. BENT CAPS	BOAT		
	b. ABUT. & BENT COL'S BREASTWALLS	OTHER		
	c. ABUT. & INT. BENT PILES	YES		
	d. BACKWALLS, WING'S, RETAIN. WALLS			
	e. ABUT. & BENT FOOTINGS & SILLS			
37. STEEL SUB STR.		SPECIAL INSPECTION REQUESTED FOR		
	a. ABUT. & INT. BENT CAPS & RISERS			
	b. PILES, BRACING, AND BULKHEADS			
38. FOUNDATION PILES TYPE MATERIAL		NOTE		
39. SLOPE PROT., RIP-RAP (INCLUDE DRAINAGE)				
40. FENDER SYSTEMS		80. INSPECTED BY: 		
41. DRIFT		81. REVIEWED BY:		

Bridge I&A Form 1(82)H State of North Carolina Dept. of Transportation Division of Highways		<h2 style="margin: 0;">FIELD INSPECTION REPORT</h2> <p style="margin: 0;"><u>Bridge Inspection & Analysis</u></p>	
Team Leader TERRY MELTON			
Assisted By W.C., M.M.			
Item No.	Grade		
10	P	<p>GRADES FOR BEAMS AND DIAPHRAGMS ONLY AT IMPACT AREAS.</p> <p>BEAM 1, IMPACT AREA AT 17'- 10" OUT FROM BENT 1 FACE. BOTTOM FLANGE AND WEB AREA BENT ALONG A 16'-4" LENGTH OF BEAM. BEAM IS BENT OUT OF PLUMB 7-1/2". BOTTOM FLANGE IS BENT UPWARD WITH COVER PLATE TEAR TO WELD AT IMPACT AREA, BOTTOM FLANGE IS BENT UPWARD 3", WITH CRACK IN WELD 14- 1/2" LONG X 1/2"WIDE. PM ISSUED.</p> <p>BEAMS 2 AND 3 HAVE SCAPES MARKS ALONG BOTTOM FLANGES.</p> <p>BEAM 4, IMPACT AREA IS AT 19'- 10" OUT FROM BENT 1 FACE, BOTTOM FLANGE AND WEB AREA BENT ALONG A 31' LENGTH OF BEAM. BOTTOM FLANGE IS BENT UPWARD 1" AT IMPACT AND OUT OF PLUMB 6". WEB AREA AT INTERIOR DIAPHRAGM HAS BOLTS SHEARED OFF, NO TEARS IN WEB.</p>	
12	P	<p>BAY 1, INTERIOR DIAPHRAGM AT FIRST 1/4 POINT, CONNECTION BENT AND DIAPHRAGM BUCKLED AT BEAM 1, PAINT CHIPPING AROUND CONNECTION AT BEAM 2.</p> <p>BAY 3 AT BEAM 4 CONNECTION TO WEB AREA HAS BOLTS SHEARED OFF, 8 BOLTS OUT OF 12 BOLTS MISSING. CONNECTION BRACKET BENT. PM'S ISSUED FOR BOTH DIAPHRAGMS.</p>	
73f	YES	LIFT BUCKET.	

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 820026

County SCOTLAND

Date: 06/09/2014

These Repairs Should Be Made Within Twelve Months From Date Of This Inspection

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
 3314	Maintain Steel Superstructure Components	LF	17	BEAM 1 IN SPAN 2, AT POINT OF IMPACT, BOTTOM FLANGE BENT UPWARD 3" WITH TEAR IN WELD TO COVER PLATE, CRACK IS 14- 1/2"LONG X 1/2"WIDE. BEAM IS BENT ALONG A 16'- 4" LENGHT OF BEAM. CENTER OF IMPACT AREA IS 17'- 10" OUT FROM BENT 1.	
 3314	Maintain Steel Superstructure Components	LF	3	INTERIOR DIAPHRAGM AT FIRST 1/4 POINT NEAR IMPACT. DIAPHRAGM BENT WITH CONNECTION BRACKET BENT	
 3314	Maintain Steel Superstructure Components	LF	32	BEAM 4 POINT OF IMPACT, 19'-10"FROM BENT 1, BEAM IS BENT OUT OF PLUMB 6", BOTTOM FLANGE IS BENT ALONG 32' OF BEAM LENGTH. BOTTOM FLANGE IS BENT UPWARD 1" AT IMPACT AREA. INTERIOR DIAPHRAGM IN BAY 3 AT BEAM 4, MISSING 8 BOLTS	
 3314	Maintain Steel Superstructure Components	LF	3	OUTSIDE FACE OF BEAM 4 AT INTERIOR DIAPHRAGM, 8 BOLTS SHEARED OFF.	
3314	Maintain Steel Superstructure Components	LF	6	UTILITY HANGERS BROKEN AT IMPACT AREA, BRACKETS HANGING IN BAY 1, OTHER BENT.	

Key

 Priority Maintenance Item

 Critical Finding Item

 Priority Maintenance Level Not Determined

BRIDGE INSPECTOR'S RECOMMENDATION FOR PRIORITY MAINTENANCE REPAIRS

Bridge: 820026

County SCOTLAND

THE FOLLOWING MAINTENANCE ITEMS HAVE BEEN SUBMITTED IN CONJUNCTION WITH A PRIORITY MAINTENANCE REQUEST

MMS Code	MMS Description	Quantity
3314	Maintain Steel Superstructure Components	17 LF
Location:		
Beams and Girders		Bent/Span No. 2 BEAM 1
Priority Level		Status
		Request Awaiting Assignment
Submitted Date:	Submitted By:	Assisted By:
06/09/2014	T.MELTON	W.C., M.M.
Details		
<p>BEAM 1 IN SPAN 2, AT POINT OF IMPACT, BOTTOM FLANGE BENT UPWARD 3" WITH TEAR IN WELD TO COVER PLATE, CRACK IS 14- 1/2"LONG X 1/2"WIDE. BEAM IS BENT ALONG A 16'- 4" LENGHT OF BEAM. CENTER OF IMPACT AREA IS 17'- 10" OUT FROM BENT 1.</p>		

MMS Code	MMS Description	Quantity
3314	Maintain Steel Superstructure Components	3 LF
Location:		
Beams and Girders		Bent/Span No. 2 BAY 1 AT BEAM 1
Priority Level		Status
		Request Awaiting Assignment
Submitted Date:	Submitted By:	Assisted By:
06/09/2014	T.MELTON	W.C., M.M.
Details		
<p>INTERIOR DIAPHRAGM AT FIRST 1/4 POINT NEAR IMPACT. DIAPHRAGM BENT WITH CONNECTION BRACKET BENT</p>		

BRIDGE INSPECTOR'S RECOMMENDATION FOR PRIORITY MAINTENANCE REPAIRS

Bridge: 820026

County SCOTLAND

THE FOLLOWING MAINTENANCE ITEMS HAVE BEEN SUBMITTED IN CONJUNCTION WITH A PRIORITY MAINTENANCE REQUEST

MMS Code	MMS Description	Quantity
3314	Maintain Steel Superstructure Components	32 LF
Location:		
Beams and Girders		Bent/Span No. 2 BEAM 4
Priority Level	Status	
	Request Awaiting Assignment	
Submitted Date:	Submitted By:	Assisted By:
06/09/2014	T.MELTON	W.C., M.M.
Details		
BEAM 4 POINT OF IMPACT, 19'-10" FROM BENT 1, BEAM IS BENT OUT OF PLUMB 6", BOTTOM FLANGE IS BENT ALONG 32' OF BEAM LENGTH. BOTTOM FLANGE IS BENT UPWARD 1" AT IMPACT AREA. INTERIOR DIAPHRAGM IN BAY 3 AT BEAM 4, MISSING 8 BOLTS		

MMS Code	MMS Description	Quantity
3314	Maintain Steel Superstructure Components	3 LF
Location:		
Beams and Girders		Bent/Span No. 2 INTERIOR DIAPHRAGM
Priority Level	Status	
	Request Awaiting Assignment	
Submitted Date:	Submitted By:	Assisted By:
06/09/2014	T.MELTON	W.C., M.M.
Details		
OUTSIDE FACE OF BEAM 4 AT INTERIOR DIAPHRAGM, 8 BOLTS SHEARED OFF.		



IMPACT DAMAGE ON BEAM 1 IN SPAN 2, IMPACT POINT AT 17'-10" FROM BENT 1.



BEAM BENT OUT OF PLUMB 7-1/2" AT POINT OF IMPACT



BOTTOM COVER PLATE CRACKED ALONG BOTTOM FLANGE AT POINT OF IMPACT, 14-1/2"LONG X 1/2"WIDE



BOTTOM FLANGE CRACK IS 1/2" WIDE AT IMPACT AND BENT UPWARD 3"



DISTRESS ALONG OUTSIDE FACE AT DIAPHRAGM, WEB IS BENT.



INTERIOR DIAPHRAGM HAS BUCKLED AND BENT AT FIRST DIAPHRAGM. AT 1/4 POINT.



DIAPHRAGM CONNECTION TO INSIDE FACE OF WEB BENT.



ANOTHER PHOTO OF OUTSIDE FACE AT FIRST DIAPHRAGM



LOOKING TOWARDS BENT 2 ALONG BOTTOM FLANGE.



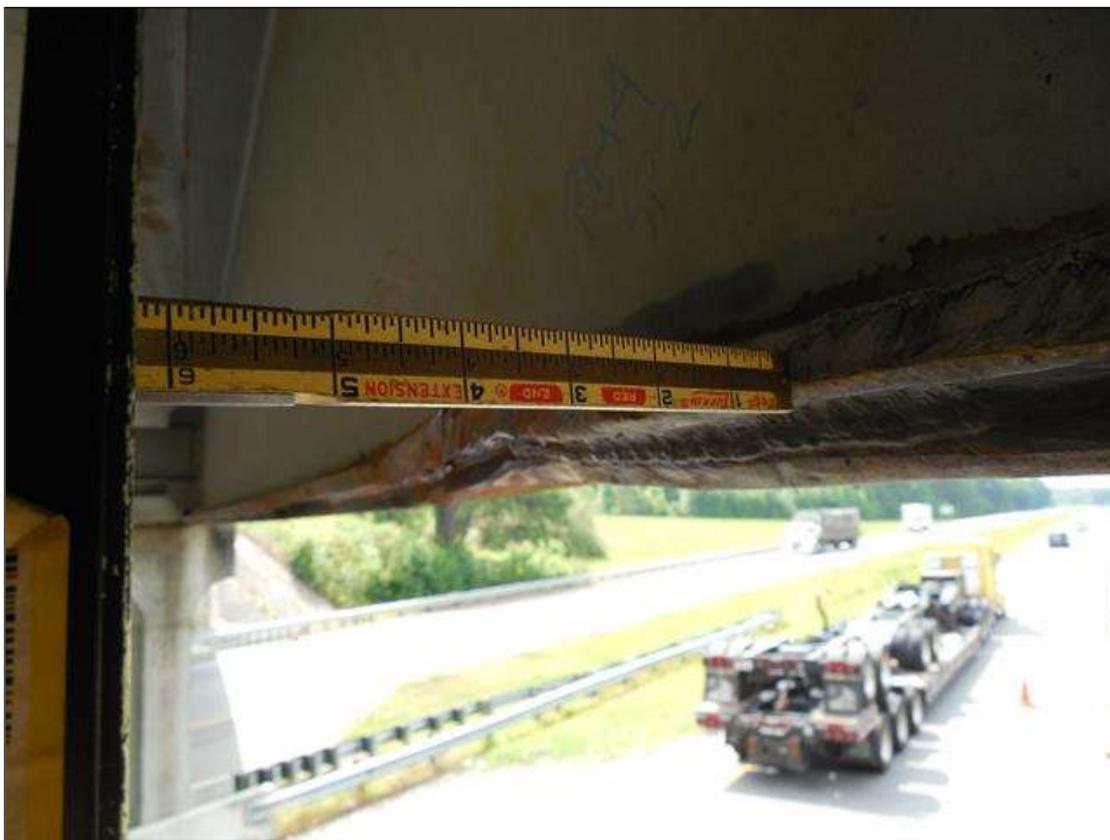
UTILITY HANGERS BROKEN AT IMPACT AREA, BRACKETS HANGING IN BAY 1, OTHER BENT.



OTHER BRACKETS BENT



BEAM 4 POINT OF IMPACT, 19'-10" FROM BENT 1.



BEAM 4 IN SPAN 2 BENT OUT OF PLUMB 6", BOTTOM FLANGE IS BENT ALONG 32' OF BEAM LENGTH.



INTERIOR DIAPHRAGM IN BAY 3 AT BEAM 4, MISSING 8 BOLTS



OTHER VIEW OF IMPACT AREA



OUTSIDE FACE OF BEAM 4 AT INTERIOR DIAPHRAGM, BOLTS SHEARED OFF.



LOOKING NORTH DOWN BOTTOM FLANGE TOWARDS BENT 2



LOOKING UPWARD AT BEAM 1 IMPACT AREA



SCRAPES ALONG BOTTOM FLANGES ON BEAM 3



BEAM 4 LOOKING UP AT IMPACT AREA

Bridge Inspection Field Sketch



Roadway	22ft Wide	2 Paved Lanes	Looking North
Left Shoulder	6ft Wide		6ft Unpaved
Right Shoulder	6ft Wide		6ft Unpaved
Left Guardrail			
Right Guardrail			

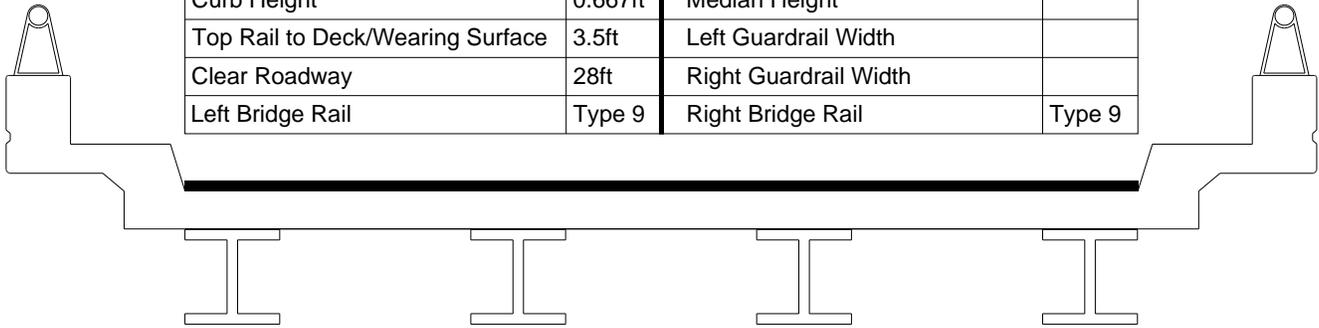
MEASUREMENTS VERIFIED BY RLK 2/4/13

MEASUREMENTS VERIFIED BY RLK 2/7/11

Title APPROACH ROADWAY		Description LOOKING NORTH	
Bridge No: 820026	Drawn By: DLP	Date: 08/16/2005	File Name: S0098000321

Bridge Inspection Field Sketch

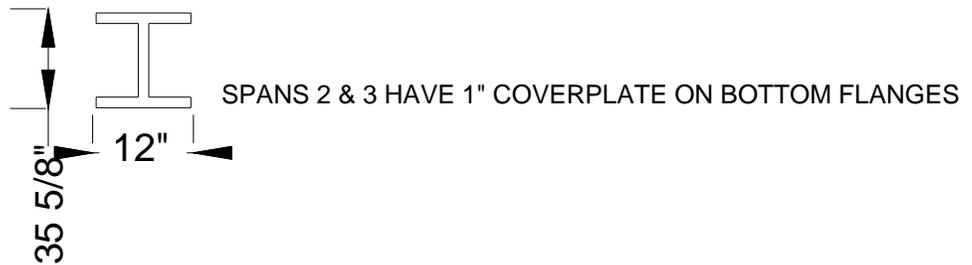
Deck Width/Out to Out	33.333ft	Wearing Surface	0.25ft
Between Rails	32ft	Median Width	
Curb Height	0.667ft	Median Height	
Top Rail to Deck/Wearing Surface	3.5ft	Left Guardrail Width	
Clear Roadway	28ft	Right Guardrail Width	
Left Bridge Rail	Type 9	Right Bridge Rail	Type 9



Measurements for Span #	1	Spans 2, 3 & 4 similar	
Deck Thickness	0.646	Left Overhang	4.667
Top of Rail to Bottom of Beam	7.312	Right Overhang	4.667

Beam No	Beam Type	Spacing	Comments
1	Steel I Beam	8 ft.	
2	Steel I Beam	8 ft.	
3	Steel I Beam	8 ft.	
4	Steel I Beam		

BEAM SIZES FLANGE = 5/8" WEB = 1/2"



MEASUREMENTS VERIFIED BY RLK 2/4/13

MEASUREMENTS VERIFIED BY RLK 2/7/11

Title
SUPERSTRUCTURE

Description
SIMILAR SECTION

Bridge No: 820026

Drawn By: DLP

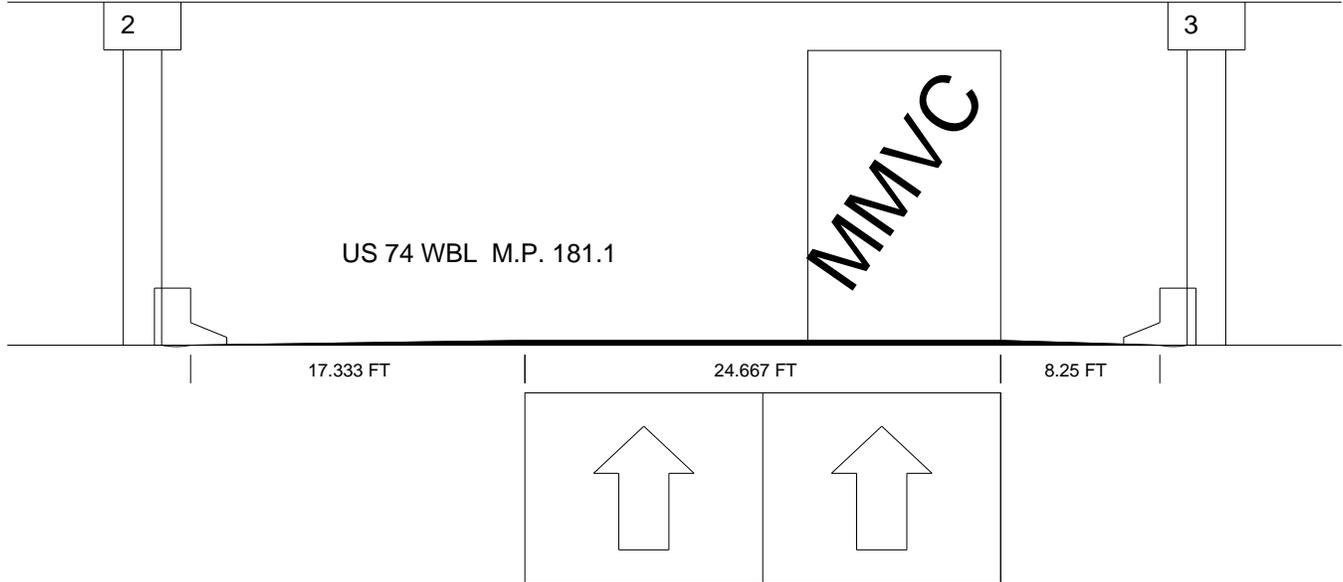
Date: 08/16/2005

File Name: S0098000322

Bridge Inspection Field Sketch

NC 79

BEAM 4 Span 3



WEST BOUND LANES		Direction of Traffic	West
Distance to Left Rail	17.333FT	Distance to Right Rail	8.25FT
Distance to Left Toe of Slope		Distance to Left Bent	18.833FT
Distance to Right Toe of Slope		Distance to Right Bent	9.67FT
MMVC	14.833 Ft at Beam 4, 10 FT from 10' FROM Right E.P.		
MVC	14.75 Ft at Beam 4, 0 FT from Centerline		

ADT- 2300 (2007)

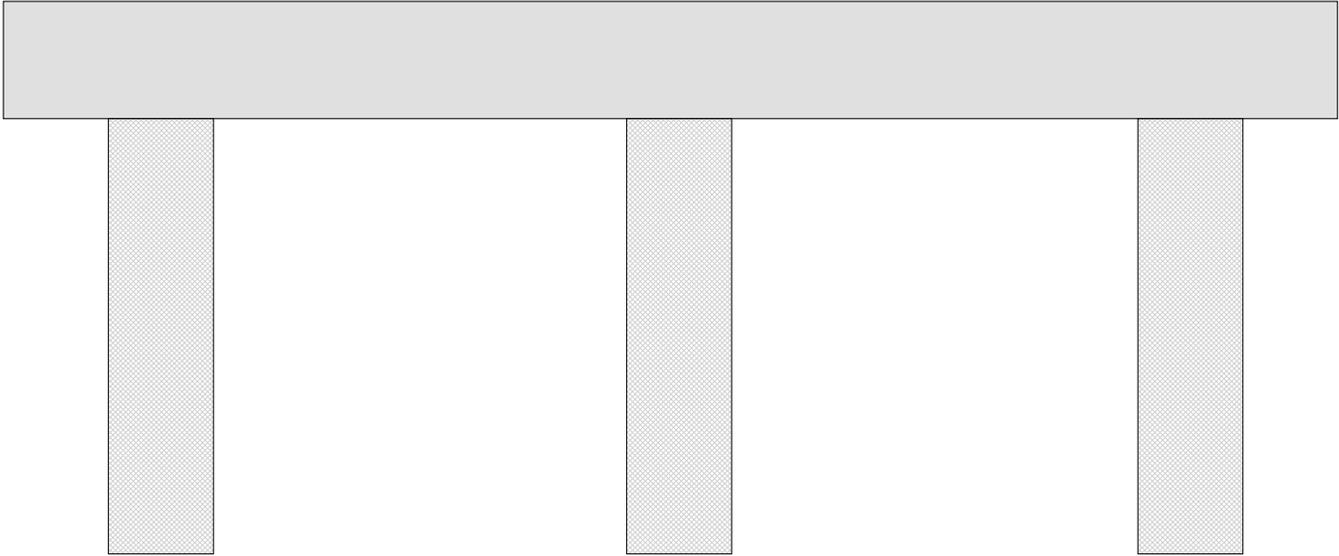
MEASUREMENTS VERIFIED BY RLK 2/4/13

MEASUREMENTS VERIFIED BY RLK 2/7/11

Title UNDERCLEARANCE (W.B.L.)	Description Span 3
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Bridge No: 820026	Drawn By: RLK	Date: 02/07/2011	File Name: S0098000324
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Bridge Inspection Field Sketch



Cap Information			Material Cast-in-Place Concrete							
Length	Width	Height	Left Overhang	Right Overhang	Left Beam to End of Cap.	Right Beam to End of Cap.				
31.750 ft.	2.500 ft.	2.792 ft.	3.750 ft.	3.750 ft.	2.417 ft.	1.667 ft.				
Subcap Information			Material							
Length	Width	Height	Left Overhang	Right Overhang	Left Pile to Splice.					
Sill Information			Material							
Length	Width	Height								
Pile #	Material	Spacing	Width/Dia.	Height	Length	Orientation	Driven?	Replacement?	Removed?	Collar?
1	Concrete		2.5 ft.			Vertical	No	No	No	No
2	Concrete	12.333 ft.	2.5 ft.			Vertical	No	No	No	No
3	Concrete	12.167 ft.	2.5 ft.			Vertical	No	No	No	No
<p>END BENTS: RC CAPS ON PPC PILES NOT VISIBLE DUE TO SLOPE PROTECTION</p> <p>MEASUREMENTS VERIFIED BY RLK 2/4/13</p> <p>MEASUREMENTS VERIFIED BY RLK 2/7/11</p>										
Bent/Abutment #: 1			Similar Bents: BENTS 2 & 3							

Title SUBSTRUCTURE		Description BENT 1			
Bridge No: 820026	Drawn By: RLK	Date: 3/17/2009	File Name: S0098000760		



LOOKING EAST