



NC DEPARTMENT OF TRANSPORTATION ATTENTION
 DIVISION OF HIGHWAYS
 BRIDGE MANAGEMENT UNIT

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY MECKLENBURG BRIDGE NUMBER 590028 INSPECTION CYCLE 2 YRS
 ROUTE SR1601 ACROSS I85 M.P. 0

LOCATION 0.2 MI. S. JCT. SR1602

RC. DECK ON PPC. GIRDERS, SIP FORMS, APPROACH SLABS

SUPERSTRUCTURE [REDACTED]

EBTS. RC. CAP & STEEL PILES, INT. BTS.RC. POST AND BEAM W/PILE FOOTINGS

SUBSTRUCTURE [REDACTED]

1@27' 0", 2@82' 9", 1@29' 6" COMPOSITE

SPANS [REDACTED]

LONGITUDE 81° 0' 1.40" LATITUDE 35° 15' 28.60"

INSPECTION DATE 06/24/2014 PRESENT CONDITION GOOD

PRESENT POSTING N **NOT POSTED** PROPOSED POSTING

OTHER SIGNS PRESENT NONE



LOOKING NORTH

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> </u>
<u>No</u> DELINEATORS	<u> </u>
<u>No</u> NARROW BRIDGE	<u> </u>
<u>No</u> ONE LANE BRIDGE	<u> </u>
<u>No</u> LOW CLEARANCE	<u> </u>

IDENTIFICATION				CLASSIFICATION			
(1) STATE NAME -NORTH CAROLINA	BRIDGE	590028		SUFFICIENCY RATING =			88.88
(8) STRUCTURE NUMBER(FEDERAL)		000000001190028		STATUS =	Not Deficient		
(5) INVENTORY ROUTE (ON/UNDER) - ON		31016010					
(2) STATE HIGHWAY DEPARTMENT DISTRICT		2					
(3) COUNTY CODE	119	(4) PLACE CODE	12000	(112)NBIS BRIDGE SYSTEM -			YES
(6) FEATURE INTERSECTED - I85				(104)HIGHWAY SYSTEM	Is not on NHS		0
(7) FACILITY CARRIED SR1601				(26) FUNCTIONAL CLASS -	Local		19
(9) LOCATION 0.2 MI. S. JCT. SR1602				(100)STRAHNET HIGHWAY -	Not a STRAHNET Route		0
(11)MILEPOINT			0	(101)PARALLEL STRUCTURE -	No Parallel Structure		N
(16)LAT 35° 15' 28.60"	(17)LONG	81° 0' 1.40"		(102)DIRECTION OF TRAFFIC -	2-way Traffic		2
(98)BORDER BRIDGE STATE CODE		PCT SHARE		(103)TEMPORARY STRUCTURE -			
(99)BORDER BRIDGE STRUCTURE NO				(110)DESIGNATED NATIONAL NETWORK -	Not on the National Network		0
				(20) TOLL	On Free Road		3
				(31) MAINTAIN -	State Highway Agency		01
				(22) OWNER -	State Highway Agency		01
				(37) HISTORICAL SIGNIFICANCE -	Not Eligible		5
STRUCTURE TYPE AND MATERIAL				CONDITION			
(43) STRUCTURE TYPE MAIN: Prestressed Concrete				(58) DECK			7
TYPE - Stringer Mutlibeam or Girder		CODE	502	(59) SUPERSTRUCTURE			7
(44) STRUCTURE TYPE APPR :				(60) SUBSTRUCTURE			6
TYPE -		CODE	000	(61) CHANNEL & CHANNEL PROTECTION			N
(45) NUMBER OF SPANS IN MAIN UNIT			4	(62) CULVERTS			N
(46) NUMBER OF APPROACH SPANS							
(107)DECK STRUCTURE TYPE - 1		CODE		LOAD RATING AND POSTING			
(108)WEARING SURFACE / PROTECTIVE SYSTEM :				(31) DESIGN LOAD	HS 20 + MOD		6
(A) TYPE OF WEARING SURFACE -		CODE		(63) OPERATING RATING METHOD -	Load Factor		1
(B) TYPE OF MEMBRANE -		CODE		(64) OPERATING RATING -	HS-55		99
(C) TYPE OF DECK PROTECTION -		CODE		(65) INVENTORY RATING METHOD -	Load Factor		1
				(66) INVENTORY RATING -	HS-23		42
				(70) BRIDGE POSTING -	No Posting Required		5
				(41) STRUCTURE OPEN, POSTED ,OR CLOSED			A
				DESCRIPTION -	Open, No Restriction		
AGE AND SERVICE				APPRAISAL			
(27) YEAR BUILT			1992	(67) STRUCTURAL EVALUATION			6
(106)YEAR RECONSTRUCTED				(68) DECK GEOMETRY			4
(42) TYPE OF SERVICE : ON - Highway				(69) UNDERCLEARANCES,VERTI & HORIZ			5
UNDER - Highway		CODE	11	(71) WATERWAY ADEQUACY			N
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE			0	(72) APPROACH ROADWAY ALIGNMENT			8
(29) AVERAGE DAILY TRAFFIC			1800	(36) TRAFFIC SAFETY FEATURES			1111
(30) YEAR OF ADT 2012	(109) TRUCK ADT PCT		7%	(113)SCOUR CRITICAL BRIDGES			N
(19) BYPASS OR DETOUR LENGTH			2 MI	PROPOSED IMPROVEMENTS			
GEOMETRIC DATA				(75) TYPE OF WORK -			CODE
(48) LENGTH OF MAXIMUM SPAN			81 FT	(76) LENGTH OF STRUCTURE IMPROVEMENT			
(49) STRUCTURE LENGTH			222 FT	(94) BRIDGE IMPROVEMENT COST			
(50)CURB OR SIDEWALK: LEFT 0 FT RIGHT 0 FT				(95) ROADWAY IMPROVEMENT COST			
(51) BRIDGE ROADWAY WIDTH CURB TO CURB			27.833 FT	(96) TOTAL PROJECT COST			
(52) DECK WIDTH OUT TO OUT			31.083 FT	(97) YEAR OF IMPROVEMENT COST ESTIMATE			
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)			24 FT	(114)FUTURE ADT 3600	(115) YEAR FUTURE ADT	2025	
(33) BRIDGE MEDIAN - No Median		CODE	0	INSPECTIONS			
(34) SKEW 3°	(35) STRUCTURE FLARED		0	(90) INSPECTION DATE			06/24/2014
(10) INVENTORY ROUTE MIN VERT CLEAR			999.9 FT	(92) CRITICAL FEATURE INSPECTION :			(93) CFI DATE
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR			27.833 FT	A) FRACTURE CRIT DETAIL -	NO		A)
(53) MIN VERT CLEAR OVER BRIDGE RDWY			999.9 FT	B) UNDERWATER INSP -	NO		B)
(54) MIN VERT UNDERCLEAR REF Highway			16.417 FT	C) OTHER SPECIAL INSP	NO		C)
(55) MIN LAT UNDERCLEAR RT REF Highway			20.667 FT	SCOUR			
(56) MIN LAT UNDERCLEAR LT REF -			8.667 FT				
NAVIGATION DATA							
(38) NAVIGATION CONTROL - Not Applicable		CODE	N				
(111)PIER PROTECTION -		CODE					
(39) NAVIGATION VERTICAL CLEARANCE			0				
(116)VERT - LIFT BRIDGE NAV MIN VERT CLEAR			FT				
(40) NAVIGATION HORIZONTAL CLEARANCE			0 FT				

Structure No: 590028

County: MECKLENBURG

Run Date:

Span Number	Feature Intersected	Inventory Route	Minimum Maximum Vertical Clearance	Milepoint	Base Highway Network	LRS Inventory Route	Toll	Functional Classification	Numer of Lanes	Average Daily Traffic	Year of Average Daily Traffic	Total Horizontal Clearance	See Note 1							
													Reference Feature	Minimum Vertical Underclearance	Right Lateral Underclearance	Left Lateral Underclearance	Underclearance Appraisal Grade	STRAHNET Highway Designator	Direction of Traffic	Highway System of Route
	6	5	10	11	12	13	20	26	28	29	30	47	54A	54	55	56	69	100	102	104
2	I85N	11000850	16.88	01		10085		11	5	63000	2012	77.33	H	16.42	20.67	8.67	9	1	1	1
3	I85S	11000850	19.00	01		10085		11	4	63000	2012	77.00	H	18.00	20.33	8.67	9	1	1	1

Note 1: Items 54, 55, and 56 are not reported FHWA under route data points but are collected for each under route to determine the minimum value for Underclearance Appraisal Item 69. The under route that generates the lowest Underclearance Appraisal value will be reported on the Facility Carried record.

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 07/15/2014

COUNTY : MECKLENBURG DIVISION : 10 DISTRICT : 2 STRUCTURE NUMBER : 590028 LENGTH : 222 FEET

ROUTE CARRIED : SR1601 FEATURE INTERSECTED : I85

LOCATED : 0.2 MI. S. JCT. SR1602 BRIDGE NAME : CITY : *CHARLOTTE

FUNC. CLASS : 19 SYST.ON : NFA SYST.UNDER : NFA ADT & YR : 1800 2012 RAIL TYPE : LT 41 RT 41

BUILT : 1992 BY : DOH PROJ : 8.T672502 FED.AID PROJ : I-IR-85-1(76) DESIGN LOAD : HS 20 + MOD

REHAB : BY : PROJ : ALIGNMENT : TAN SKEW : 87 LANES : ON 2 UNDER 0

NAVIGATION : VC 0 FT HC 0 FT HT. CRN. TO BED : 0 FT WATER DEPTH : 0 FT

SUPERSTRUCTURE : RC DECK ON PRECAST PRESTRESSED CONCRETE GIRDERS, SIP FORMS, APPROACH SLABS

SUBSTRUCTURE : END BENTS:RC CAPS ON STEEL PILES, INTERIOR BENTS:2 COLUMN, RC POST & BEAM, PILE FOOTINGS

SPANS : 1@27'0", 2@82'9", 1@29'6" SIMPLE, COMPOSITE

BEAMS OR GIRDERS : 4 LINES OF PPC GIRDERS @ 8'0" CENTERS, SPAN#1&4:36" GIRDERS, SPAN#2&3:54" GIRDERS

FLOOR : 8 1/2" RC SLAB ENCROACHMENT : DECK (OUT TO OUT) : 31.083 FT

CLEAR ROADWAY : 27.833 FT BETWEEN RAILS : 27.833 FT SIDEWALK OR CURB : LT 0 FT RT 0 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-23 OPE.RTG. : HS-55 CONTR.MEMBER : intgd(B)LR POSTED : SV TTST DATE

SYSTEM : Primary S.R. Route GREEN LINE ROUTE : N

UNDER ROUTES AND CLEARANCES

Span	Route Description	Vertical Clearances		Horizontal Clearances		
		MMVC	MVC	Total	Left	Right
2	I85N	16.8830	16.4170	77.3340	8.6670	20.6670
3	I85S	19	18	77	8.6670	20.3330

Note: All measurements are in feet.

REMARKS :

BRIDGE INSPECTION RECORD AND SUMMARY

INSPECTION TYPE Routine Inspection
 BRIDGE NO. 590028 COUNTY MECKLENBURG ROUTE SR1601 OVER I85
 STRUCTURE TYPE
 ROUTE ORIENTATION N - S SPANS

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

INSPECTION ITEM				ITEM 61					
DECK ITEMS		GRADES							
1. WEARING SURFACE				45. CHANNEL & CHANNEL PROT.	a. WATERWAY				
					b. ALIGNMENT				
2. DECK NO. OF EA TYPE SPN GRADE RATES SI & A ITEM 58					c. SCOUR				
a. CONCRETE		4	G		d. SLOPE PROT., RIP-RAP, DIKES, ETC.				
b. TIMBER									
c. STEEL PLANK				50. APPROACH ROADWAY CONDITION			G		
d. OPEN GRID				51. APPROACH SLABS			G		
3. RAILING				52. PAINT SYSTEM			CODE		
a. CONCRETE			G	53. UTILITIES			G		
b. TIMBER				54. RESPONSE TO LIVE LOAD			G		
c. ALUMINUM				55. ESTIMATED REMAINING LIFE			34		
d. STEEL			F						
4. CURBS, WHEELGUARDS, PARAPETS, MEDIANS									
5. WALKWAYS (ON OR ATTACHED TO STRUCTURE)				60. REGULATORY SIGN NOTICE ISSUED			NO		
6. DECK EXP JTS. OR DEVICES. NO. OF EACH				61. PROMPT-ACTION NOTICE ISSUED			NO		
a. STEEL PL OR FINGER				62. PRESENTLY POSTED			NO		
b. MISC PREFAB				63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR)			6		
c. COMPRESSION SEAL		5	F	64. TOTAL SNOOPER INSP. TIME (HRS)			0		
d. STANDARD JOINTS				65. TOTAL TRAFFIC CONTROL TIME (MAN HRS)			0		
e. OPEN JOINTS									
7. DECK DEBRIS (INCLUDES EXCESS SAND/GRAVEL)				G	70. SI&A GENERAL CONDITION RATINGS				
SUPER STR. (FM. 1 (90)B TRUSS) ITEM 59				a. DECK			ITEM 58	7	
10. LONGITUDINAL BEAMS OR GIRDERS				G	b. SUPERSTRUCTURE			ITEM 59	7
11. LONGITUDINAL JOIST OR STRINGERS					c. SUBSTRUCTURE			ITEM 60	6
12. INT. DIAP'S, X-FRAMES, BRACING & CONN'S				G	d. CHANNEL & CHANNEL PROT.			ITEM 61	
13. END DIAP'S, CURTAIN WALLS, & CONN'S				G					
14. FLOOR BEAMS AND CONNECTIONS					71. SI&A FIELD APPRAISAL RATINGS				
15. BEARING ASSEMBLIES (INCLUDING MISALIGN)				G	a. WATERWAY ADAQUACY				
16. DRAINAGE SYSTEM (ON STRUCTURE)				G	b. APPR. RDWY. ALIGNMENT			8	
17. MOVABLE SPAN MACHINERY					72. FIELD SCOUR EVALUATION				
SUB STR. ITEMS. ITEM 60 (INCLUDE SCOUR)					USE OF INSP. ACCESSIBILITY EQUIPMENT				
35. TIM SUB STR.				a. ABUT. & INT. BENT CAPS & RISERS		SNOOPER (CODE S, 4, OR N)		HRS	NO
				b. PILES, POST, SILLS, & BRACING		LADDER		NO	
				c. BULKHEADS, WING'S, & TIE BACKS		BUCKET TRUCK		NO	
36. CONC SUB STR.				a. ABUT. & INT. BENT CAPS		BOAT		NO	
		b. ABUT. & BENT COL'S BREASTWALLS		OTHER		NO			
		c. ABUT. & INT. BENT PILES							
		d. BACKWALLS, WING'S, RETAIN. WALLS							
		e. ABUT. & BENT FOOTINGS & SILLS							
37. STEEL SUB STR.				a. ABUT. & INT. BENT CAPS & RISERS		SPECIAL INSPECTION REQUESTED FOR			
		b. PILES, BRACING, AND BULKHEADS							
38. FOUNDATION PILES TYPE MATERIAL				NOTE					
39. SLOPE PROT., RIP-RAP (INCLUDE DRAINAGE)				G					
40. FENDER SYSTEMS				80. INSPECTED BY:		<i>Kellen Kahan</i>			
41. DRIFT				81. REVIEWED BY:					

Bridge I&A Form 1(82)H State of North Carolina Dept. of Transportation Division of Highways		FIELD INSPECTION REPORT <u>Bridge Inspeccion & Analysis</u>	
Team Leader GLEN KIKER			
Assisted By ROBBIE JAMES			
Item No.	Grade		
2a	G	HL. CRACKS IN THE SPAN ENDS	
3a	G	HL. VERTICAL CRACKS IN BOTH RAILS WITH EFFLO.	
3d	F	A 30 FT. SECTION OF THE SE GUARD RAIL IS DAMAGED A 20 FT. SECTION OF GUARD RAIL IS DAMAGED AT THE SE CORNER	
6c	F	THE EXPANSION JOINT AT PIER 1 IS SETTLED UP TO 6" AND LEAKING, THE REMAINING JOINTS HAVE AREAS THAT ARE SETTLED UP TO 1" AND LEAKING	
10A	NO	NO CURVED GIRDERS	
36a	F	DIAGONAL HL. CRACKS ABOVE COLUMNS 1 AND 2 IN BOTH FACES OF PIER 2 CAP	
51	G	LONGT CRACKS HL. TO 1/16 INCH WIDE IN BOTH APPROACH SLABS	

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 590028

County MECKLENBURG

Date: 06/24/2014

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

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
3312	Maint/Replace/Repair Modular Bridge Joints	LF	155	ALL EXPANSION JOINTS ARE SETTLED AND LEAKING	
3322	Maint to Steel Handrail	LF	50	THE SE GUARD RAIL HAS 2 AREAS OF DAMAGE	
3348	Maintain Concrete Substructure Components	LF	30	CRACKS IN THE PIER CAPS	

Key



Priority Maintenance Item



Critical Finding Item



Priority Maintenance Level Not Determined



DIAGONAL HL. CRACKS ABOVE COLUMNS 1 AND 2 IN BOTH FACES OF PIER 2 CAP



A 30 FT. SECTION OF THE SE GUARD RAIL IS DAMAGED



A 20 FT. SECTION OF GUARD RAIL IS DAMAGED AT THE SE CORNER



HL. CRACKS IN THE SPAN ENDS



HL. LONGT. CRACKS IN BOTH APPROACH SLABS



HL. VERTICAL CRACKS IN BOTH RAILS

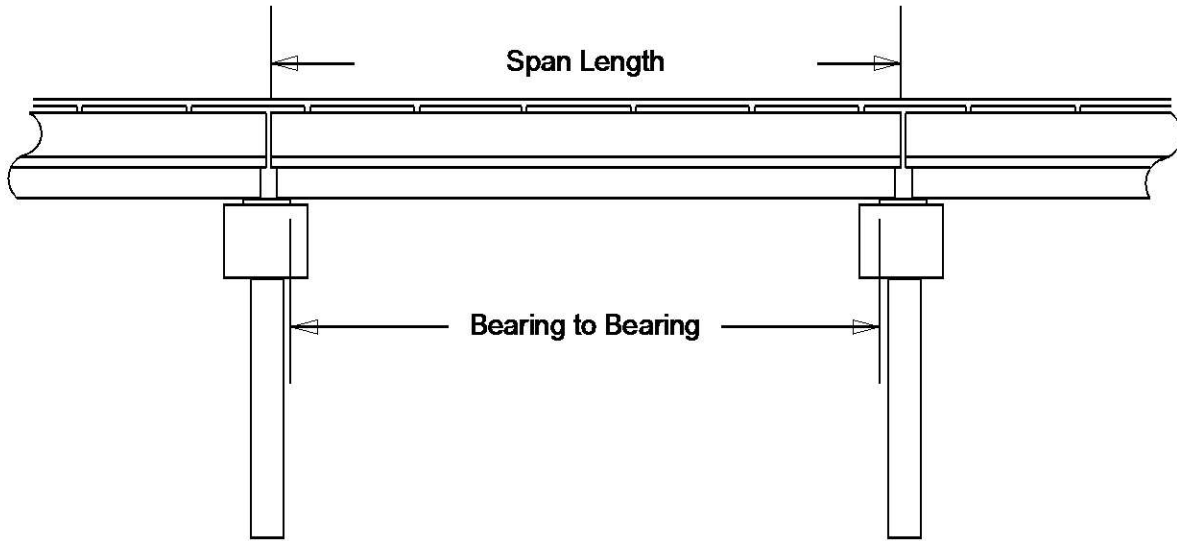


THE EXPANSION JOINT AT PIER 1 IS SETTLED UP TO 6" AND LEAKING

Structure Data Worksheet

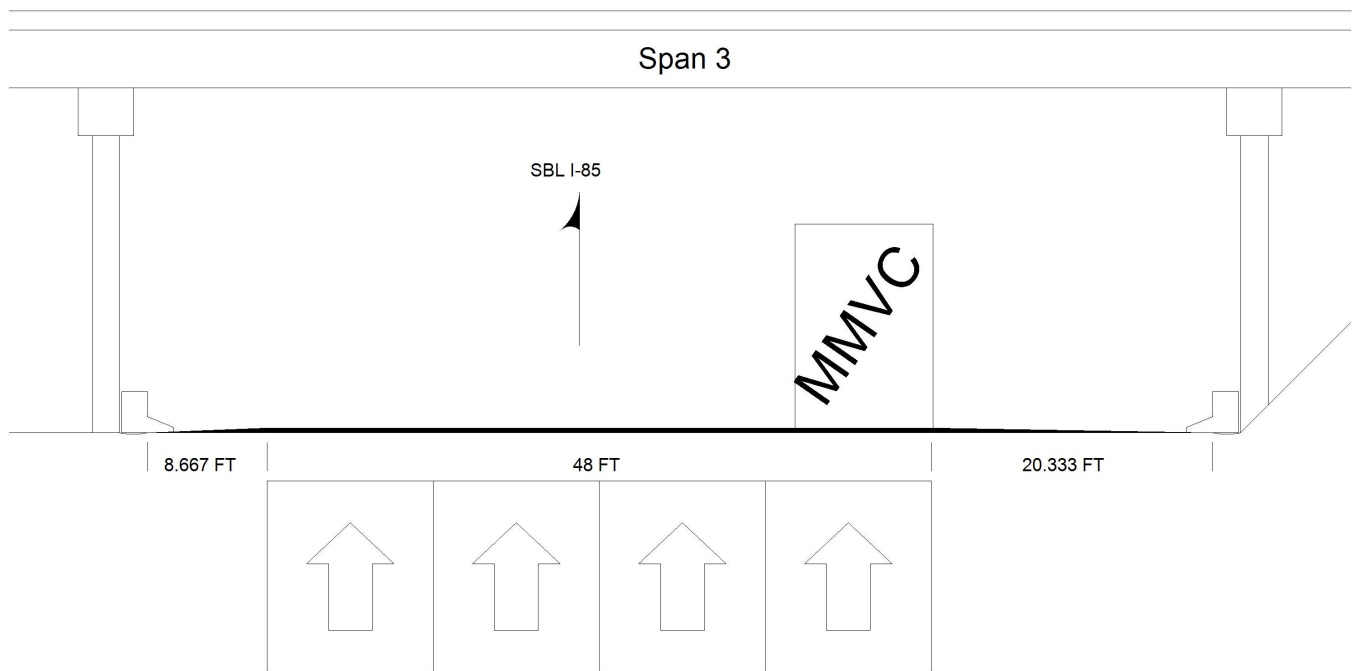
Spans

County: MECKLENBURG Structure No: 590028 Date: 06/24/2014 Inspected By: RGK



Span No	Span Length	Bearing to Bearing	Comments
1	27 ft.	24.667	NBIS BL = 222
2	82.75 ft.	81.417	MEASUREMENTS VERIFIED 6/24/14 ROBBIE JAMES
3	82.75 ft.	81.417	
4	29.5 ft.	27.167	

Bridge Inspection Field Sketch



Roadway 1		Direction of Traffic	South
Distance to Left Rail	8.667FT	Distance to Right Rail	20.333FT
Distance to Left Toe of Slope		Distance to Left Bent	10.667FT
Distance to Right Toe of Slope	22.333FT	Distance to Right Bent	22.333FT
MMVC	19 Ft at Beam 4, 10 FT from RIGHT edge of Roadway		
MVC	18 Ft at Beam 4, 0 FT from Left edge of Roadway		

MEASUREMENTS VERIFIED 6/24/14 ROBBIE JAMES

Title

Sheet 3

Description

Clearance

Bridge No: 590028

Drawn By: STEVE AUSTIN

Date: 07/09/2010

File Name: S0078000256

Bridge Inspection Field Sketch



Roadway	24ft Wide	2 Paved Lanes	Looking North
Left Shoulder	5ft Wide		5ft Unpaved
Right Shoulder	5ft Wide		5ft Unpaved
Left Guardrail			
Right Guardrail			

MEASUREMENTS VERIFIED 6/24/14 ROBBIE JAMES

Title

APPROACH ROADWAY

Description

SHEET 1

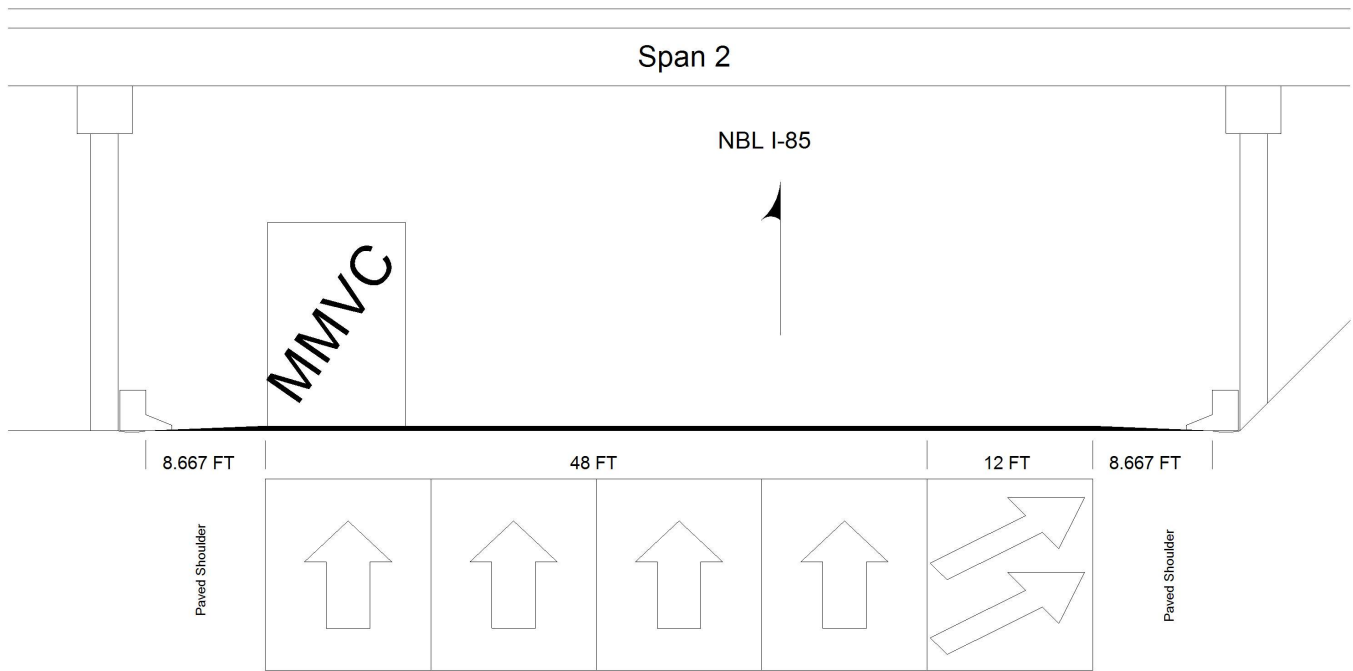
Bridge No: 590028

Drawn By: STEVE AUSTIN

Date: 07/09/2010

File Name: S0082001227

Bridge Inspection Field Sketch



Roadway 1		Direction of Traffic	North
Distance to Left Rail	8.667FT	Distance to Right Rail	20.667FT
Distance to Left Toe of Slope		Distance to Left Bent	10.667FT
Distance to Right Toe of Slope	22.667FT	Distance to Right Bent	22.667FT
MMVC	16.833 Ft at Beam 4, 10 FT from LEFT edge of Roadway		
MVC	16.417 Ft at Beam 4, 0 FT from Right edge of Roadway		

Title

sheet 4

Description

under clear

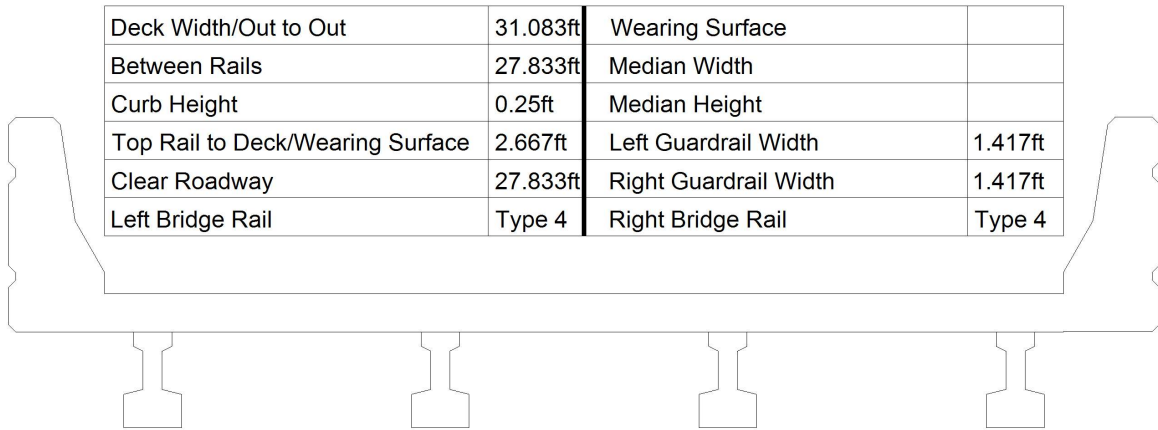
Bridge No: 590028

Drawn By: STEVE AUSTIN

Date: 07/09/2010

File Name: S0078000257

Bridge Inspection Field Sketch



Measurements for Span #	1	SPAN 4 SIMILAR	
Deck Thickness	0.708	Left Overhang	3.5
Top of Rail to Bottom of Beam	6.375	Right Overhang	3.5

Beam No	Beam Type	Spacing	Comments
1	PPC Girder	8FT.	ALL SPANS SIMILAR
2	PPC Girder	8FT.	
3	PPC Girder	8FT.	
4	PPC Girder		

GIRDER DETAIL=
SPANS # 1 & 4 = 3FT. P.P.C GIRDERS
SPANS # 2 & 3 = 4.5FT. P.P.C GIRDERS

EBTS:RC CAP & STEEL PILES

DIAPHRAGMS LOCATED @ 1/2 PTS IN SPANS 2 & 3

MEASUREMENTS VERIFIED 6/24/14 ROBBIE JAMES

Title TYPICAL SECTION		Description SHEET 2	
Bridge No: 590028	Drawn By: STEVE AUSTIN	Date: 07/09/2010	File Name: S0082001228

Bridge Inspection Field Sketch

MEASUREMENTS VERIFIED 6/24/14 ROBBIE JAMES



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.				
28.334 ft.	3.333 ft.	3.250 ft.	6.083 ft.	6.083 ft.	1.000 ft.	1.000 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	16.167 ft.	3 ft.			Vertical	No	No	No	No
2	Concrete		3 ft.			Vertical	No	No	No	No
Bent/Abutment #: 1			Similar Bents: 2 & 3							

Title PIERS				Description SHEET 5			
Bridge No: 590028	Drawn By: STEVE AUSTIN			Date: 07/09/2010		File Name: S0082002251	



LOOKING EAST



EAST OPENING, SPAN 2



PIER 2 LOOKING NORTH



SUPERSTRUCTURE



4 - 4" UTILITIES IN BAY 2



ABUTMENT 1 ABUTMENT 2 SIMILAR



BEARINGS



LOOKING NORTH



GUARD RAIL LOOKING NORTH



GUARD RAIL POST SPACING IN THE MIDDLE



GUARD RAIL TERMINAL END AT THE SW END ALL SIMLAR



GUARD RAIL POST SPACING AT THE SW CORNER ALL SIMLAR



GUARD RAIL CONNECTION SW CORNER ALL SIMILAR



EXPANSION JOINTS AT THE ABUTMENTS AND PIERS



GUARD RAIL LOOKING SOUTH



LOOKING SOUTH



LOOKING WEST



WEST OPENING, SPAN 3