NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION VERT CLR VERIFIED

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY GASTON BRIDGE NUMBER 350136 INSPECTION CYCLE 2 YRS

ROUTE SR2339 ACROSS I85 M.P. 0

LOCATION 0.6 MI. E. JCT. SR2339

SUPERSTRUCTURE RC DECK ON PRECAST PRESTRESSED CONCRETE GIRDERS

SUBSTRUCTURE END BENTS: RC CAP ON STEEL PILES, INT. BENTS: RC POST & BEAM

SPANS 1@59'3, 2@59'0, 1@59'3, COMPOSITE

LONGITUDE 81° 6' 32.91" LATITUDE 35° 15' 39.04"

INSPECTION DATE 08/26/2014 PRESENT CONDITION GOOD

PRESENT POSTING N NOT POSTED PROPOSED POSTING

OTHER SIGNS PRESENT (4) DELINEATORS

WEST APPROACH

Fracture Critical	No
Temporary Shoring	No
Scour Critical	No
Scour POA	No

SIGN NOTICE ISSUED FOR		NUMBERED REQUIRED
No	WEIGHT LIMIT	
No	DELINEATORS	
No	NARROW BRIDGE	
No	ONE LANE BRIDGE	
No	LOW CLEARANCE	

IDENTIFICATION

(1) STATE NAME -NORTH CAROLINA BRIDGE 350136
(8) STRUCTURE NUMBER(FEDERAL) 000000000710136
(5) INVENTORY ROUTE (ON/UNDER) - ON 31023390
(2) STATE HIGHWAY DEPARTMENT DISTRICT 1
(3) COUNTY CODE 71 (4) PLACE CODE 39480
(6) FEATURE INTERSECTED - I85
(7) FACILITY CARRIED SR2339
(9) LOCATION 0.6 MI. E. JCT. SR2339
(11)MILEPOINT 0
(16)LAT 35° 15' 39.04" (17)LONG 81° 6' 32.91"
(98)BORDER BRIDGE STATE CODE PCT SHARE
(99)BORDER BRIDGE STRUCTURE NO

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE MAIN: Prestressed Concrete
TYPE - Stringer Mutlibeam or Girder CODE 502
(44) STRUCTURE TYPE APPR :
TYPE - CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 4
(46) NUMBER OF APPROACH SPANS
(107)DECK STRUCTURE TYPE - 1 CODE
(108)WEARING SURFACE / PROTECTIVE SYSTEM :
(A) TYPE OF WEARING SURFACE - CODE
(B) TYPE OF MEMBRANE - CODE
(C) TYPE OF DECK PROTECTION - CODE

AGE AND SERVICE

(27) YEAR BUILT 1960
(106)YEAR RECONSTRUCTED
(42) TYPE OF SERVICE : ON - Highway
UNDER - Highway CODE 11
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE 6
(29) AVERAGE DAILY TRAFFIC 4900
(30) YEAR OF ADT 2012 (109) TRUCK ADT PCT 7%
(19) BYPASS OR DETOUR LENGTH 0 MI

GEOMETRIC DATA

(48) LENGTH OF MAXIMUM SPAN 58 FT
(49) STRUCTURE LENGTH 237 FT
(50)CURB OR SIDEWALK: LEFT 1.6 FT RIGHT 1.6 FT
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 28.08 FT
(52) DECK WIDTH OUT TO OUT 31.33 FT
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 23 FT
(33) BRIDGE MEDIAN - No Median CODE 0
(34) SKEW 0° (35) STRUCTURE FLARED 0
(10) INVENTORY ROUTE MIN VERT CLEAR 999.9 FT
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 28.08 FT
(53) MIN VERT CLEAR OVER BRIDGE RDWY 999.9 FT
(54) MIN VERT UNDERCLEAR REF Highway 18 FT
(55) MIN LAT UNDERCLEAR RT REF Highway 8.67 FT
(56) MIN LAT UNDERCLEAR LT REF - 7.25 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

SUFFICIENCY RATING = 76
STATUS = Functionally Obsolete

CLASSIFICATION CODE

(112)NBIS BRIDGE SYSTEM - YES
(104)HIGHWAY SYSTEM Is not on NHS 0
(26) FUNCTIONAL CLASS - Collector 17
(100)STRAHNET HIGHWAY - Not a STRAHNET Route 0
(101)PARALLEL STRUCTURE - No Parallel Structure N
(102)DIRECTION OF TRAFFIC - 2-way Traffic 2
(103)TEMPORARY STRUCTURE -
(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

CONDITION CODE

(58) DECK 7
(59) SUPERSTRUCTURE 6
(60) SUBSTRUCTURE 7
(61) CHANNEL & CHANNEL PROTECTION N
(62) CULVERTS N

LOAD RATING AND POSTING CODE

(31) DESIGN LOAD HS 15 3
(63) OPERATING RATING METHOD - Load Factor 1
(64) OPERATING RATING - HS-55 99
(65) INVENTORY RATING METHOD - Load Factor 1
(66) INVENTORY RATING - HS-30 54
(70) BRIDGE POSTING - No Posting Required 5
(41) STRUCTURE OPEN, POSTED ,OR CLOSED A
DESCRIPTION - Open, No Restriction

APPRAISAL CODE

(67) STRUCTURAL EVALUATION 6
(68) DECK GEOMETRY 4
(69) UNDERCLEARANCES,VERTI & HORIZ 3
(71) WATERWAY ADEQUACY N
(72) APPROACH ROADWAY ALIGNMENT 6
(36) TRAFFIC SAFETY FEATURES 0000
(113)SCOUR CRITICAL BRIDGES N

PROPOSED IMPROVEMENTS

(75) TYPE OF WORK - CODE
(76) LENGTH OF STRUCTURE IMPROVEMENT
(94) BRIDGE IMPROVEMENT COST
(95) ROADWAY IMPROVEMENT COST
(96) TOTAL PROJECT COST
(97) YEAR OF IMPROVEMENT COST ESTIMATE
(114)FUTURE ADT 9800 (115) YEAR FUTURE ADT 2025

INSPECTIONS

(90) INSPECTION DATE 08/26/2014
(92) CRITICAL FEATURE INSPECTION : (93) CFI DATE
A) FRACTURE CRIT DETAIL - NO A)
B) UNDERWATER INSP - NO B)
C) OTHER SPECIAL INSP NO C)
SCOUR

Structure No: 350136 County: GASTON 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*					STRAHNET Highway Designator	Direction of Traffic	Highway System of Route
													Reference Feature	Minimum Vertical Underclearance	Right Lateral Underclearance	Left Lateral Underclearance	Underclearance Appraisal Grade			
	6	5	10	11	12	13	20	26	28	29	30	47	54A	54	55	56	69	100	102	104
2	I 85 SBL	11000850	17.92	22.20	1	10085		11	3	56500	2012	51.75	H	17.83	8.5	7.25	9	1	1	1
3	I 85 NBL	11000850	18.25	22.20	1	10085		11	3	56500	2012	51.92	H	18	8.67	7.25	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: 10/01/2014

COUNTY : GASTON
DIVISION : 12
DISTRICT: 1
STRUCTURE NUMBER : 350136
LENGTH : 237 FEET

ROUTE CARRIED : SR2339
FEATURE INTERSECTED : I85

LOCATED : 0.6 MI. E. JCT. SR2339
BRIDGE NAME :
CITY : LOWELL

FUNC. CLASS : 17
SYST.ON : FA
SYST.UNDER : NFA
ADT & YR : 4900 2012
RAIL TYPE : LT 111 RT 111

BUILT : 1960
BY : SHC
PROJ : 8.16315
FED.AID PROJ : I-85-1(6)20
DESIGN LOAD : HS 15

REHAB :
BY :
PROJ :
ALIGNMENT : TAN
SKEW : 90
LANES : ON 2 UNDER 6

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

SUPERSTRUCTURE : RC DECK ON PRESTRESSED CONCRETE GIRDERS

SUBSTRUCTURE : E.BTS: RC CAPS/H-PILES; INT. BTS: RC POST & BEAM

SPANS : 1@59'-3, 2@59', 1@59'-3

BEAMS OR GIRDERS : 4 LINES 45 PRESTRESSED CONCRETE GIRDERS @ 8' CENTERS

FLOOR : 6.25 RC/NO AWS
ENCROACHMENT : WATER MAIN
DECK (OUT TO OUT) : 31.33 FT

CLEAR ROADWAY : 28.08 FT
BETWEEN RAILS : 31.25 FT
SIDEWALK OR CURB : LT 1.6 FT RT 1.6 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-30
OPE.RTG. : HS-55
CONTR.MEMBER : intbm
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	I 85 SBL	17.92	17.83	51.75	7.25	8.50
3	I 85 NBL	18.25	18	51.92	7.25	8.67

Note: All measurements are in feet.

REMARKS :

BRIDGE I & A FORM1 (90)A

BRIDGE INSPECTION RECORD AND SUMMARY

INSPECTION TYPE Routine Inspection
BRIDGE NO. 350136 COUNTY GASTON ROUTE SR2339 OVER I85
STRUCTURE TYPE RC DECK ON PRECAST PRESTRESSED CONCRETE GIRDERS
ROUTE ORIENTATION W - E SPANS 1@59'3, 2@59'0, 1@59'3, COMPOSITE

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

INSPECTION ITEM			
DECK ITEMS			GRADES
1. WEARING SURFACE			
2. DECK NO. OF EA TYPE SPN GRADE RATES SI & A ITEM 58	a. CONCRETE	4	G
	b. TIMBER		
	c. STEEL PLANK		
	d. OPEN GRID		
3. RAILING	a. CONCRETE		G
	b. TIMBER		
	c. ALUMINUM		
	d. STEEL		
4. CURBS, WHEELGUARDS, PARAPETS, MEDIANS			G
5. WALKWAYS (ON OR ATTACHED TO STRUCTURE)			
6. DECK EXP JTS. OR DEVICES. NO. OF EACH	a. STEEL PL OR FINGER		
	b. MISC PREFAB		
	c. COMPRESSION SEAL		
	d. STANDARD JOINTS	3	G
	e. OPEN JOINTS		
7. DECK DEBRIS (INCLUDES EXCESS SAND/GRAVEL)			G
SUPER STR. (FM. 1 (90)B TRUSS) ITEM 59			
10. LONGITUDINAL BEAMS OR GIRDERS			F
11. LONGITUDINAL JOIST OR STRINGERS			
12. INT. DIAP'S, X-FRAMES, BRACING & CONN'S			G
13. END DIAP'S, CURTAIN WALLS, & CONN'S			G
14. FLOOR BEAMS AND CONNECTIONS			
15. BEARING ASSEMBLIES (INCLUDING MISALIGN)			G
16. DRAINAGE SYSTEM (ON STRUCTURE)			G
17. MOVABLE SPAN MACHINERY			
SUB STR. ITEMS. ITEM 60 (INCLUDE SCOUR)			
35. TIM SUB STR.	a. ABUT. & INT. BENT CAPS & RISERS		
	b. PILES, POST, SILLS, & BRACING		
	c. BULKHEADS, WING'S, & TIE BACKS		
36. CONC SUB STR.	a. ABUT. & INT. BENT CAPS		G
	b. ABUT. & BENT COL'S BREASTWALLS		G
	c. ABUT. & INT. BENT PILES		
	d. BACKWALLS, WING'S, RETAIN. WALLS		G
	e. ABUT. & BENT FOOTINGS & SILLS		
37. STEEL SUB STR.	a. ABUT. & INT. BENT CAPS & RISERS		
	b. PILES, BRACING, AND BULKHEADS		
38. FOUNDATION PILES TYPE MATERIAL			
39. SLOPE PROT., RIP-RAP (INCLUDE DRAINAGE)			F
40. FENDER SYSTEMS			
41. DRIFT			

ITEM 61		
45. CHANNEL & CHANNEL PROT.	a. WATERWAY	
	b. ALIGNMENT	
	c. SCOUR	
	d. SLOPE PROT., RIP-RAP, DIKES, ETC.	
50. APPROACH ROADWAY CONDITION		F
51. APPROACH SLABS		
52. PAINT SYSTEM CODE		
53. UTILITIES		G
54. RESPONSE TO LIVE LOAD		G
55. ESTIMATED REMAINING LIFE		21
60. REGULATORY SIGN NOTICE ISSUED		NO
61. PROMPT-ACTION NOTICE ISSUED		NO
62. PRESENTLY POSTED		NO
63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR)		5
64. TOTAL SNOOPER INSP. TIME (HRS)		0
65. TOTAL TRAFFIC CONTROL TIME (MAN HRS)		0
70. SI&A GENERAL CONDITION RATINGS		
a. DECK	ITEM 58	7
b. SUPERSTRUCTURE	ITEM 59	6
c. SUBSTRUCTURE	ITEM 60	7
d. CHANNEL & CHANNEL PROT.	ITEM 61	
71. SI&A FIELD APPRAISAL RATINGS		
a. WATERWAY ADAQUACY		
b. APPR. RDWY. ALIGNMENT		6
72. FIELD SCOUR EVALUATION		
USE OF INSP. ACCESSIBILITY EQUIPMENT		
SNOOPER (CODE S, 4, OR N)	HRS	NO
LADDER		NO
BUCKET TRUCK		NO
BOAT		NO
OTHER		NO
SPECIAL INSPECTION REQUESTED FOR		
NOTE		
80. INSPECTED BY:	JAL RL	
81. REVIEWED BY:		

Bridge I&A Form 1(82)H

State of North Carolina
Dept. of Transportation
Division of Highways

FIELD INSPECTION REPORT

Bridge Inspecion & Analysis

Team Leader DEREK RICKUS

Assisted By EAP

Item No.	Grade	
2a	G	SCATTERED COARSE AGGREGATE EXPOSURE IN TOP OF RC DECK
10	F	CRACKING IN BEAM 1 END OVER BENT 2, SPAN 3. APPROX 2SF SPALLING IN BEAM ENDS WITH RESTEEL EXPOSED, OVER BENT 1, BEAM1 IN SPANS 1 AND 2.
10A	NO	NO CURVED GIRDERS
15	G	SCATTERED SURFACE CORROSION ON BEARINGS THROUGHOUT SUPERSTRUCTURE, CONCENTRATED AT BENTS.
36a	G	SPALLING WITH RESTEEL EXPOSED ON SOUTH END OF BENT 2 CAP, APPROX 2SF.
38		NOT VISIBLE
39	F	SCATTERED CRACKING IN POURED CONCRETE SLOPE PROTECTION
50	F	WEST APPROACH HEAVED, CRACKED, AND POTHOLING.

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 350136 County GASTON Date: 08/26/2014

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

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
2816	Asphalt Surface Repair or Replacement	SY	24	WEST APPROACH HEAVED, CRACKED, AND POTHOLING.	
3306	Maintain Concrete Superstructure Components	SF	2	CRACKING IN BEAM 1 END OVER BENT 2, SPAN 3. APPROX 2SF	
3306	Maintain Concrete Superstructure Components	SF	4	SPALLING IN BEAM ENDS WITH RESTEEL EXPOSED, OVER BENT 1, BEAM1 IN SPANS 1 AND 2.	
3334	Bridge Bearings	EA	28	SCATTERED SURFACE CORROSION ON BEARINGS THROUGHOUT SUPERSTRUCTURE, CONCENTRATED AT BENTS.	
3348	Maintain Concrete Substructure Components	LF	2	SPALLING WITH RESTEEL EXPOSED ON SOUTH END OF BENT 2 CAP, APPROX 2SF.	

Key

Priority Maintenance Item Critical Finding Item Priority Maintenance Level Not Determined

SCATTERED CRACKING IN POURED CONCRETE SLOPE PROTECTION

SCATTERED COARSE AGGREGATE EXPOSURE IN TOP OF RC DECK

WEST APPROACH HEAVED, CRACKED, AND POTHOLING.

SCATTERED SURFACE CORROSION ON BEARINGS THROUGHOUT SUPERSTRUCTURE, CONCENTRATED AT BENTS.

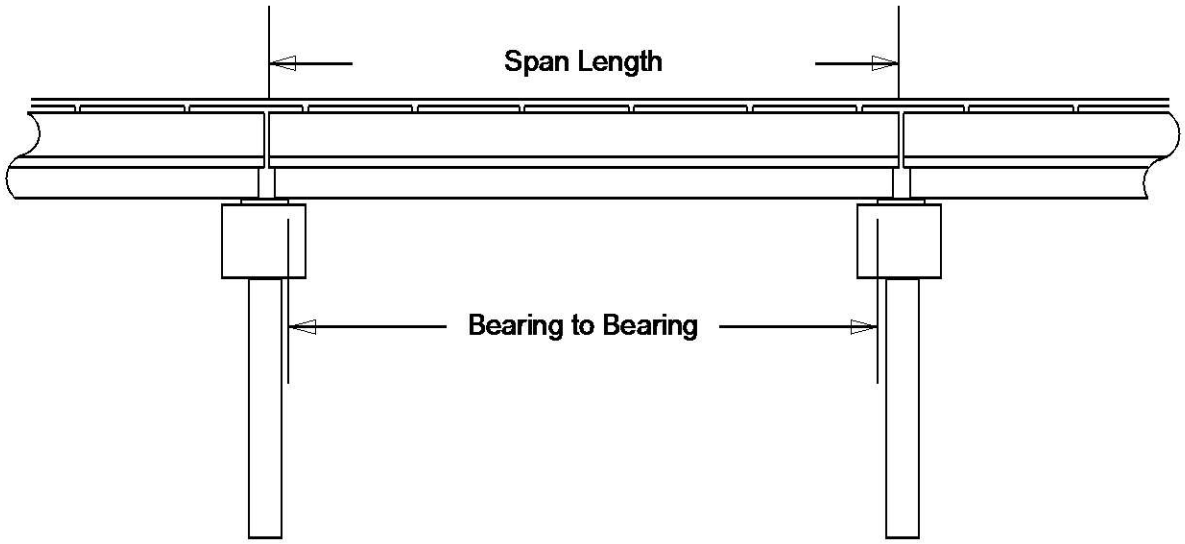
SPALLING WITH RESTEEL EXPOSED ON SOUTH END OF BENT 2 CAP, APPROX 2SF.

CRACKING IN BEAM 1 END OVER BENT 2, SPAN 3. APPROX 2SF

SPALLING IN BEAM ENDS WITH RESTEEL EXPOSED, OVER BENT 1, BEAM1 IN SPANS 1 AND 2.

Structure Data Worksheet

County: GASTON Structure No: 350136 Date: 08/26/2014 Inspected By: DCR



Span No	Span Length	Bearing to Bearing	Comments
1	59.250'	57.292'	
2	59.000'	57.625'	
3	59.000'	57.625'	
4	59.250'	57.292'	NBIS = 230.5'

Bridge Inspection Field Sketch

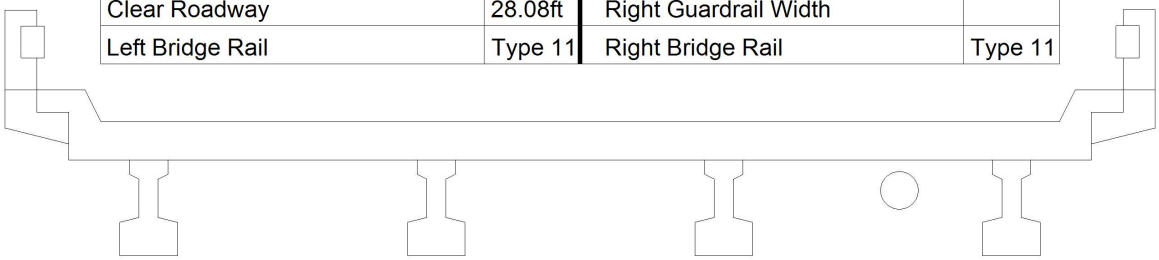
Roadway	23.33ft Wide	2 Paved Lanes	Looking East
Left Shoulder	8ft Wide		8.00ft Unpaved
Right Shoulder	7.67ft Wide		7.67ft Unpaved
Left Guardrail			
Right Guardrail	7.67ft from road		

VERIFIED BY DEREK RICKUS ON 8/26/2014

Title	**Description**		
EAST APPROACH ROADWAY	LOOKING WEST		
Bridge No: 350136	**Drawn By:** DJA	**Date:** 8/21/2008	**File Name:** S0298000766

Bridge Inspection Field Sketch

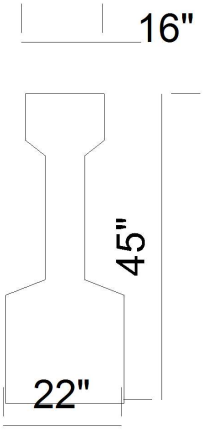
Deck Width/Out to Out	31.33ft	Wearing Surface	
Between Rails	31.25ft	Median Width	
Curb Height	0.83ft	Median Height	
Top Rail to Deck/Wearing Surface	2.67ft	Left Guardrail Width	
Clear Roadway	28.08ft	Right Guardrail Width	
Left Bridge Rail	Type 11	Right Bridge Rail	Type 11



NOTE: A 12" DIAM. C.I. UTILITY IS ATTACHED IN BAY 3

Measurements for Span #	1	SPANS 2 TO 4 SIMILAR	
Deck Thickness	0.52	Left Overhang	3.50
Top of Rail to Bottom of Beam		Right Overhang	3.67

Beam No	Beam Type	Spacing	Comments
1	PPC Girder	8.00ft	SEE PLANS FOR GIRDER SIZE
2	PPC Girder	8.00ft	SEE PLANS FOR GIRDER SIZE
3	PPC Girder	8.00ft	SEE PLANS FOR GIRDER SIZE
4	PPC Girder		SEE PLANS FOR GIRDER SIZE



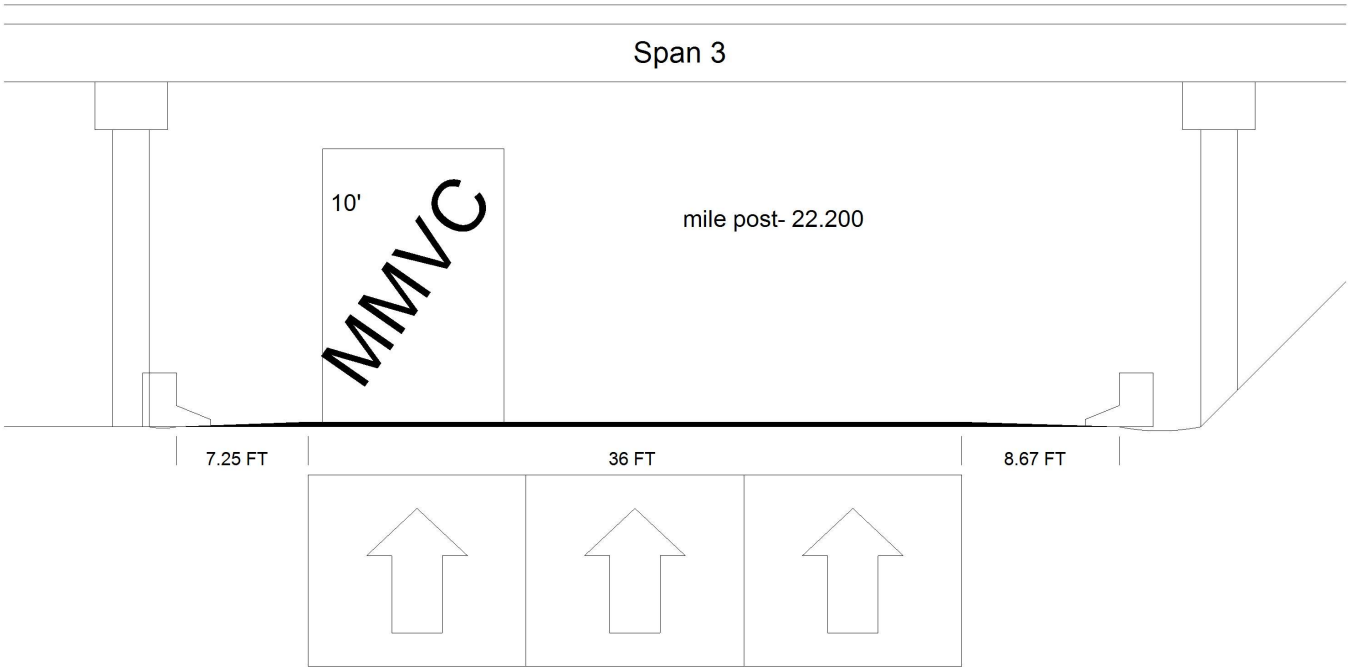
29" HIGH X 8 1/2" WIDE

VERIFIED BY DEREK RICKUS ON 8/26/2014

Title	Description
DECK DIMENSIONS	TYPICAL SECTION

Bridge No:	Drawn By:	Date:	File Name:
350136	DJA	8/21/2008	S0298000767

Bridge Inspection Field Sketch

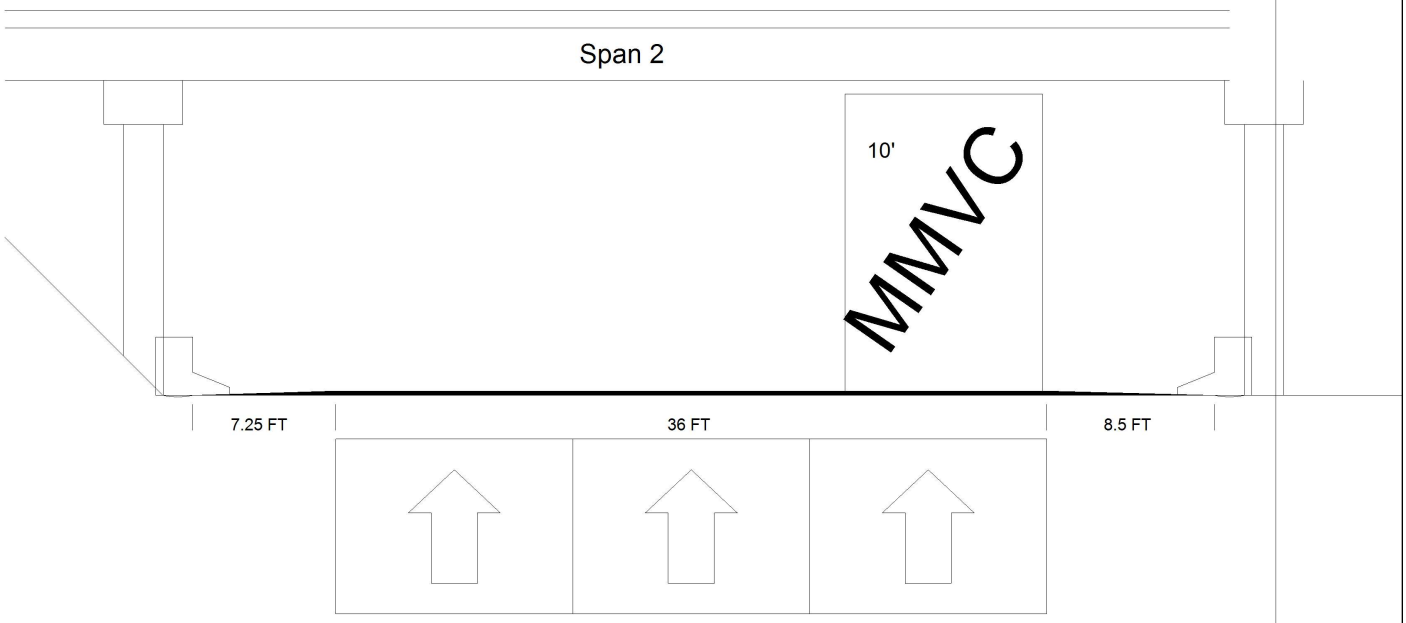


Roadway 1		Direction of Traffic	North
Distance to Left Rail	7.25FT	Distance to Right Rail	8.67FT
Distance to Left Toe of Slope		Distance to Left Bent	8.75FT
Distance to Right Toe of Slope	13.17FT	Distance to Right Bent	10.17FT
MMVC	18.25 Ft at Beam 1, 10 FT from LEFT EDGE OF PAVEMENT		
MVC	18 Ft at Beam 1, 0 FT from RIGHT EDGE OF PAVEMENT		

VERIFIED BY DEREK RICKUS ON 8/26/2014

Title	**Description**		
NORTHBOUND UNDERCLEARANCE	NORTHBOUND UNDERCLEARANCE		
Bridge No: 350136	**Drawn By:** DJA	**Date:** 8/21/2008	**File Name:** S0298000768

Bridge Inspection Field Sketch

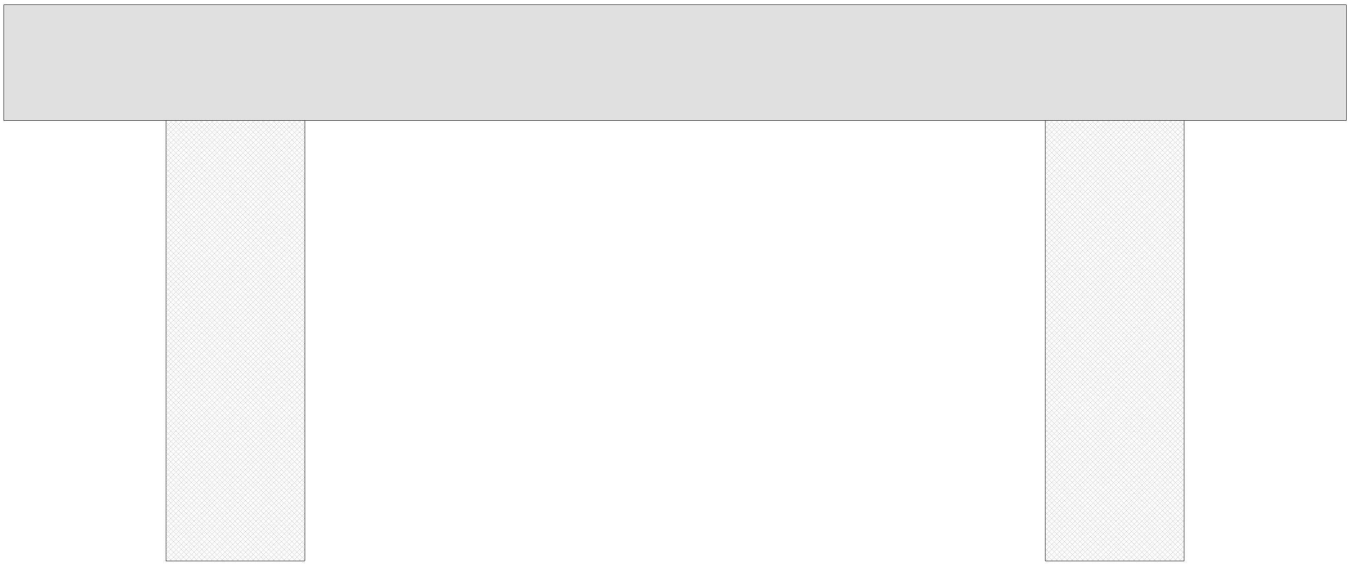


Roadway 1		Direction of Traffic	South
Distance to Left Rail	7.25FT	Distance to Right Rail	8.5FT
Distance to Left Toe of Slope		Distance to Left Bent	8.75FT
Distance to Right Toe of Slope		Distance to Right Bent	10FT
MMVC	17.92 Ft at Beam 1, 10 FT from RIGHT EDGE OF PAVEMENT		
MVC	17.83 Ft at Beam 1, 24 FT from RIGHT EDGE OF PAVEMENT		

VERIFIED BY DEREK RICKUS ON 8/26/2014

Title	**Description**		
SOUTHBOUND UNDERCLEARANCE	SOUTHBOUND UNDERCLEARANCE		
Bridge No: 350136	**Drawn By:** DJA	**Date:** 8/21/2008	**File Name:** S0298000769

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.
29.000 ft.	3.000 ft.	2.500 ft.	5.000 ft.	5.000 ft.	2.000 ft.	2.000 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	19.0 ft.	3.0 ft.	3.0 ft.		Vertical	No	No	No	No
2	Concrete		3.0 ft.	3.0 ft.		Vertical	No	No	No	No
3							No	No	No	No

VERIFIED BY DEREK RICKUS ON 8/26/2014

Bent/Abutment #: 1 Similar Bents: 2 AND 3

Title	Description
SUBSTRUCTURE	DETAILS

Bridge No:	Drawn By:	Date:	File Name:
350136	DEREK RICKUS	8/15/2012	S0142001847

BENT 3

12" DIP HANGING FROM STEEL SUPPORTS IN BAY 3

ABUTMENT 2

GR END, NORTHEAST CORNER

EAST APPROACH

NO GR, EAST APPROACH NORTHEAST CORNER. NO GR AT WEST APPROACH.

GR NOT ATTACHED, NORTHEAST CORNER

DATA PLATE, NORTHEAST CORNER

GUARDRAIL LOOKING EAST

WEST APPROACH

ABUTMENT 1

BENT 1

LOOKING SOUTH

BENT 2

LOOKING NORTH