NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION VERTICAL CLR. CHECKED

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY GASTON BRIDGE NUMBER 350137 INSPECTION CYCLE 2 YRS

ROUTE SR2329 ACROSS I85 M.P. 0

LOCATION 0.4 MI. E. JCT. SR2339

SUPERSTRUCTURE RC DECK ON PLATE GIRDERS (CONT.), SIP FORMS, APPROACH SLABS

SUBSTRUCTURE END BTS:RC CAP ON STL.PILES, INT.BT:RC POST & BEAM,PILE FTG.

SPANS 1@128'8, 1@129'7 CONTINUOUS, COMPOSITE

LONGITUDE 81° 6' 18.22" LATITUDE 35° 15' 36.67"

INSPECTION DATE 08/26/2014 PRESENT CONDITION GOOD

PRESENT POSTING Not Posted NOT POSTED PROPOSED POSTING

OTHER SIGNS PRESENT NONE

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

WEST APPROACH

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 350137
(8) STRUCTURE NUMBER(FEDERAL) 000000000710137
(5) INVENTORY ROUTE (ON/UNDER) - ON 31023290
(2) STATE HIGHWAY DEPARTMENT DISTRICT 1
(3) COUNTY CODE 71 (4) PLACE CODE 39480
(6) FEATURE INTERSECTED - I85
(7) FACILITY CARRIED SR2329
(9) LOCATION 0.4 MI. E. JCT. SR2339
(11)MILEPOINT 0
(16)LAT 35° 15' 36.67" (17)LONG 81° 6' 18.22"
(98)BORDER BRIDGE STATE CODE PCT SHARE
(99)BORDER BRIDGE STRUCTURE NO

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE MAIN: Steel Continuous
TYPE - Stringer Mutlibeam or Girder CODE 402
(44) STRUCTURE TYPE APPR :
TYPE - CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 2
(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 1995
(106)YEAR RECONSTRUCTED
(42) TYPE OF SERVICE : ON - Highway - Pedestrian
UNDER - Highway CODE 51
(28) LANES: ON STRUCTURE 5 UNDER STRUCTURE 8
(29) AVERAGE DAILY TRAFFIC 22000
(30) YEAR OF ADT 2012 (109) TRUCK ADT PCT 6%
(19) BYPASS OR DETOUR LENGTH 1 MI

GEOMETRIC DATA

(48) LENGTH OF MAXIMUM SPAN 127 FT
(49) STRUCTURE LENGTH 258 FT
(50)CURB OR SIDEWALK: LEFT 0 FT RIGHT 0 FT
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 64 FT
(52) DECK WIDTH OUT TO OUT 67.17 FT
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 64 FT
(33) BRIDGE MEDIAN - No Median CODE 0
(34) SKEW 2° (35) STRUCTURE FLARED 0
(10) INVENTORY ROUTE MIN VERT CLEAR 999.9 FT
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 64 FT
(53) MIN VERT CLEAR OVER BRIDGE RDWY 999.9 FT
(54) MIN VERT UNDERCLEAR REF Highway 18.167 FT
(55) MIN LAT UNDERCLEAR RT REF Highway 18 FT
(56) MIN LAT UNDERCLEAR LT REF - 8 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 = 80.94
STATUS = Not Deficient

CLASSIFICATION CODE

(112)NBIS BRIDGE SYSTEM - YES
(104)HIGHWAY SYSTEM Is not on NHS 0
(26) FUNCTIONAL CLASS - Minor Arterial 16
(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 7
(60) SUBSTRUCTURE 7
(61) CHANNEL & CHANNEL PROTECTION N
(62) CULVERTS N

LOAD RATING AND POSTING CODE

(31) DESIGN LOAD HS 20 + MOD 6
(63) OPERATING RATING METHOD - Load Factor 1
(64) OPERATING RATING - HS-55 99
(65) INVENTORY RATING METHOD - Load Factor 1
(66) INVENTORY RATING - HS-35 63
(70) BRIDGE POSTING - No Posting Required 5
(41) STRUCTURE OPEN, POSTED ,OR CLOSED A
DESCRIPTION - Open, No Restriction

APPRAISAL CODE

(67) STRUCTURAL EVALUATION 7
(68) DECK GEOMETRY 4
(69) UNDERCLEARANCES,VERTI & HORIZ 6
(71) WATERWAY ADEQUACY N
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 1111
(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 44000 (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: 350137 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
1	I 85 S	11000850	18.75	22.40	1	10085		11	4	56500	2012	68.67	H	18.33	25	7.67	9	1	1	1
2	I 85 N	11000850	18.83	22.40	1	10085		11	4	56500	2012	62	H	18.17	18	8	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: 10/07/2014

COUNTY : GASTON
DIVISION : 12
DISTRICT: 1
STRUCTURE NUMBER : 350137
LENGTH : 258 FEET

ROUTE CARRIED : SR2329
FEATURE INTERSECTED : I85

LOCATED : 0.4 MI. E. JCT. SR2339
BRIDGE NAME :
CITY : LOWELL

FUNC. CLASS : 16
SYST.ON : FA
SYST.UNDER : NFA
ADT & YR : 22000 2012
RAIL TYPE : LT 41 RT 41

BUILT : 1995
BY : DOH
PROJ : 8.T810703
FED.AID PROJ : IM-NHF-85-1(
DESIGN LOAD : HS 20 + MOD

REHAB :
BY :
PROJ :
ALIGNMENT : TAN
SKEW : 88
LANES : ON 5 UNDER 8

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

SUPERSTRUCTURE : RC DECK ON CONT. STEEL PLATE GIRDERS (S.I.P. METAL FORMS)

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

SPANS : 1@128'-8, 1@129'-7 CONTINUOUS

BEAMS OR GIRDERS : 8 LINES CONT. STEEL PLATE GIRDERS @ 8'-6 CENTERS

FLOOR : 8.5 RC/NO AWS
ENCROACHMENT : 4LNS 4 PVC(TEL)
DECK (OUT TO OUT) : 67.17 FT

CLEAR ROADWAY : 64 FT
BETWEEN RAILS : 64 FT
SIDEWALK OR CURB : LT 0 FT RT 0 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-35
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
1	I 85 S	18.75	18.3330	68.6670	7.6670	25
2	I 85 N	18.8330	18.1670	62	8	18

Note: All measurements are in feet.

REMARKS :

BRIDGE I & A FORM1 (90)A

BRIDGE INSPECTION RECORD AND SUMMARY

INSPECTION TYPE Routine Inspection
BRIDGE NO. 350137 COUNTY GASTON ROUTE SR2329 OVER I85
STRUCTURE TYPE RC DECK ON PLATE GIRDERS (CONT.), SIP FORMS, APPROACH SLABS
ROUTE ORIENTATION W - E SPANS 1@128'8, 1@129'7 CONTINUOUS, 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	2	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	2	G
	c. COMPRESSION SEAL		
	d. STANDARD JOINTS		
	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			G
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)			G
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 ELS		F
52. PAINT SYSTEM CODE 10-3-14 W		
53. UTILITIES		G
54. RESPONSE TO LIVE LOAD		G
55. ESTIMATED REMAINING LIFE		46
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)		
65. TOTAL TRAFFIC CONTROL TIME (MAN HRS)		
70. SI&A GENERAL CONDITION RATINGS		
a. DECK	ITEM 58	7
b. SUPERSTRUCTURE	ITEM 59	7
c. SUBSTRUCTURE	ITEM 60	7
d. CHANNEL & CHANNEL PROT.	ITEM 61	
71. SI&A FIELD APPRAISAL RATINGS		
a. WATERWAY ADAQUACY		
b. APPR. RDWY. ALIGNMENT		8
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:	JE/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	THERE IS A TRANSVERSE CRACK IN EACH SPAN ALONG THE CONSTRUCTION JOINTS.
3a	G	BOTH RAILINGS HAVE HAIRLINE VERTICAL CRACKS WITH EFFLORESCENCE.
6b	G	SEDIMENT IS PRESENT IN BOTH JOINTS AND THE ARMOR PLATES ARE BEGINNING TO RUST. NO SETTLEMENT OF THE JOINTS IS NOTED.
10A	NO	NO CURVED GIRDERS
37b		NOT VISIBLE
38		NOT VISIBLE
50	F	THE APPROACHES HAVE MAP CRACKING AND ARE SETTLED 1/2" ALONG THE FILLFACES .
51	F	APPROACH SLABS HAVE LONG. CRACKING 1/16" TO 1/8" WIDE FOR FULL LENGTH OF THE SLABS.

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 350137 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
3353	Maintenance or Repair of Concrete Bridge Approach Slabs	EA	2	APPROACH SLABS HAVE LONG. CRACKING 1/16" TO 1/8" WIDE FOR FULL LENGTH OF THE SLABS.	

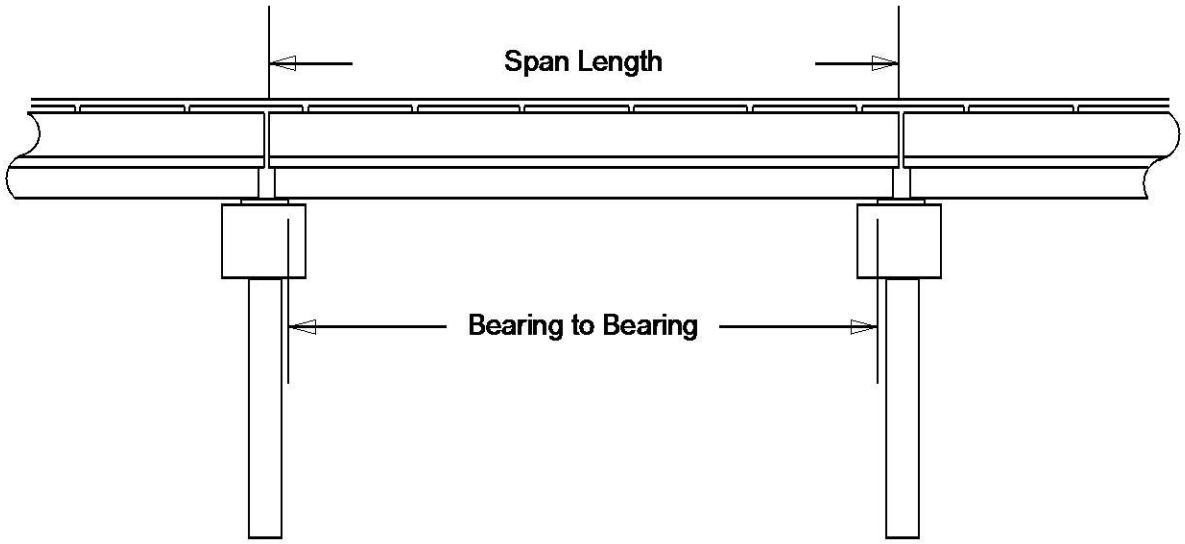
Key

Priority Maintenance Item Critical Finding Item Priority Maintenance Level Not Determined

APPROACH SLABS HAVE LONG. CRACKING 1/16" TO 1/8" WIDE FOR FULL LENGTH OF THE SLABS.

Structure Data Worksheet

County: GASTON Structure No: 350137 Date: 08/26/2014 Inspected By: DCR



Span No	Span Length	Bearing to Bearing	Comments
1	128.667'	126.667'	
2	129.583'	127.292'	NBIS = 252.5'

Bridge Inspection Field Sketch

Roadway	60.00ft Wide	5 Paved Lanes	Looking East
Left Shoulder	2ft Wide	2.00ft Paved	
Right Shoulder	2ft Wide	2.00ft Paved	
Left Guardrail	2.50ft from road		
Right Guardrail	2.50ft from road		

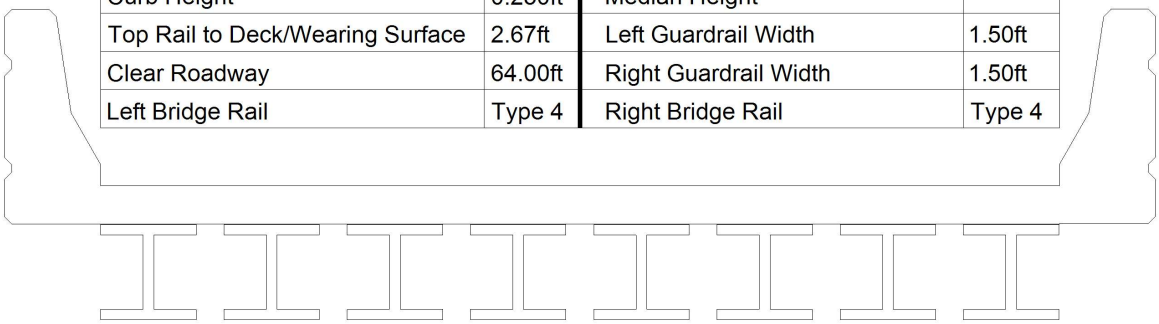
VERIFIED BY ERIC PATTERSON ON 8-26-2014

Title	**Description**
APPROACH ROADWAY	LOOKING EAST

Bridge No:	**Drawn By:**	**Date:**	**File Name:**
350137	DJA	8/21/2008	S0298000770

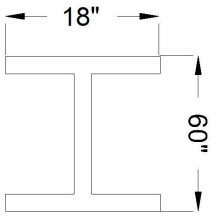
Bridge Inspection Field Sketch

Deck Width/Out to Out	67.17ft	Wearing Surface	
Between Rails	64.00ft	Median Width	
Curb Height	0.250ft	Median Height	
Top Rail to Deck/Wearing Surface	2.67ft	Left Guardrail Width	1.50ft
Clear Roadway	64.00ft	Right Guardrail Width	1.50ft
Left Bridge Rail	Type 4	Right Bridge Rail	Type 4



Measurements for Span #	1	SPAN 2 SIMILAR	
Deck Thickness	0.71	Left Overhang	3.83
Top of Rail to Bottom of Beam		Right Overhang	3.83

Beam No	Beam Type	Spacing	Comments
1	Steel I Beam	8.50ft	
2	Steel I Beam	8.50ft	
3	Steel I Beam	8.50ft	
4	Steel I Beam	8.50ft	
5	Steel I Beam	8.50ft	
6	Steel I Beam	8.50ft	
7	Steel I Beam	8.50ft	
8	Steel I Beam		



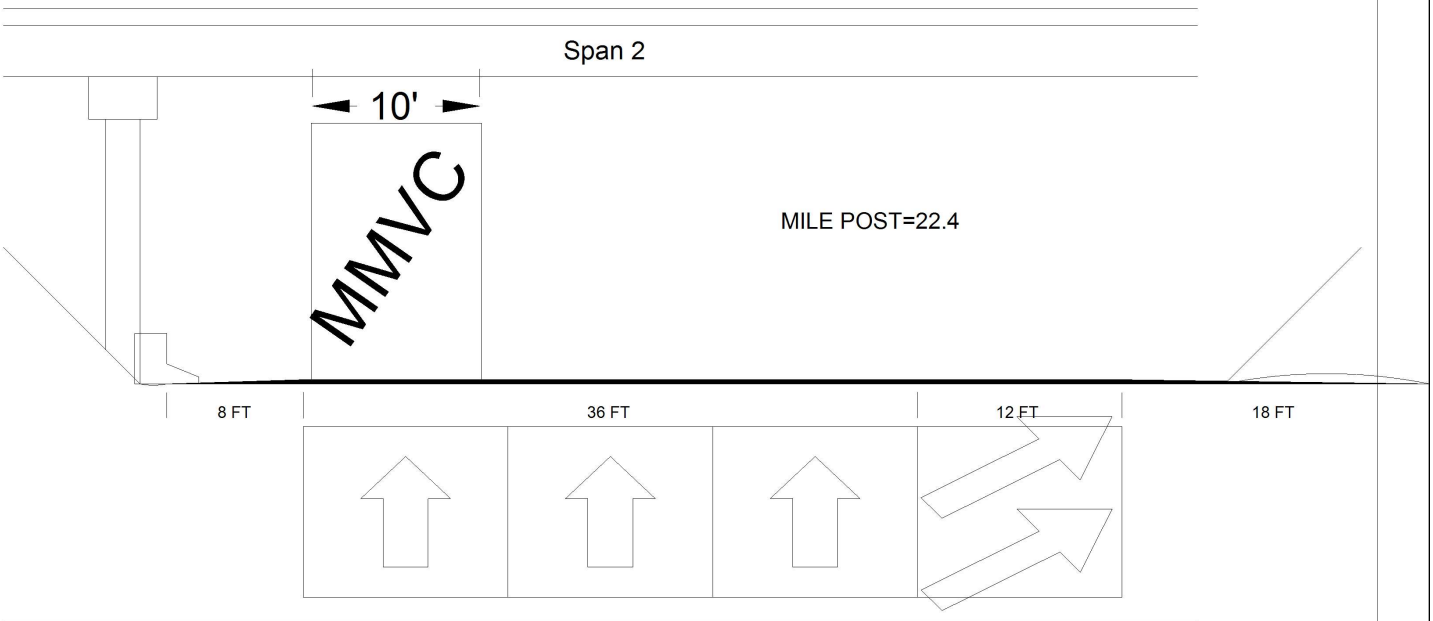
NOTE: 4 LINES OF 4" DIAM. PVC TELEDUCT IN BAY 7

FLANGE THICKNESS = 7/8"
WEB THICKNESS = 7/8"

VERIFIED BY ERIC PATTERSON ON 8-26-2014

Title	**Description**		
DECK DIMENSIONS	TYPICAL SECTION		
Bridge No: 350137	**Drawn By:** DJA	**Date:** 8/21/2008	**File Name:** S0298000771

Bridge Inspection Field Sketch



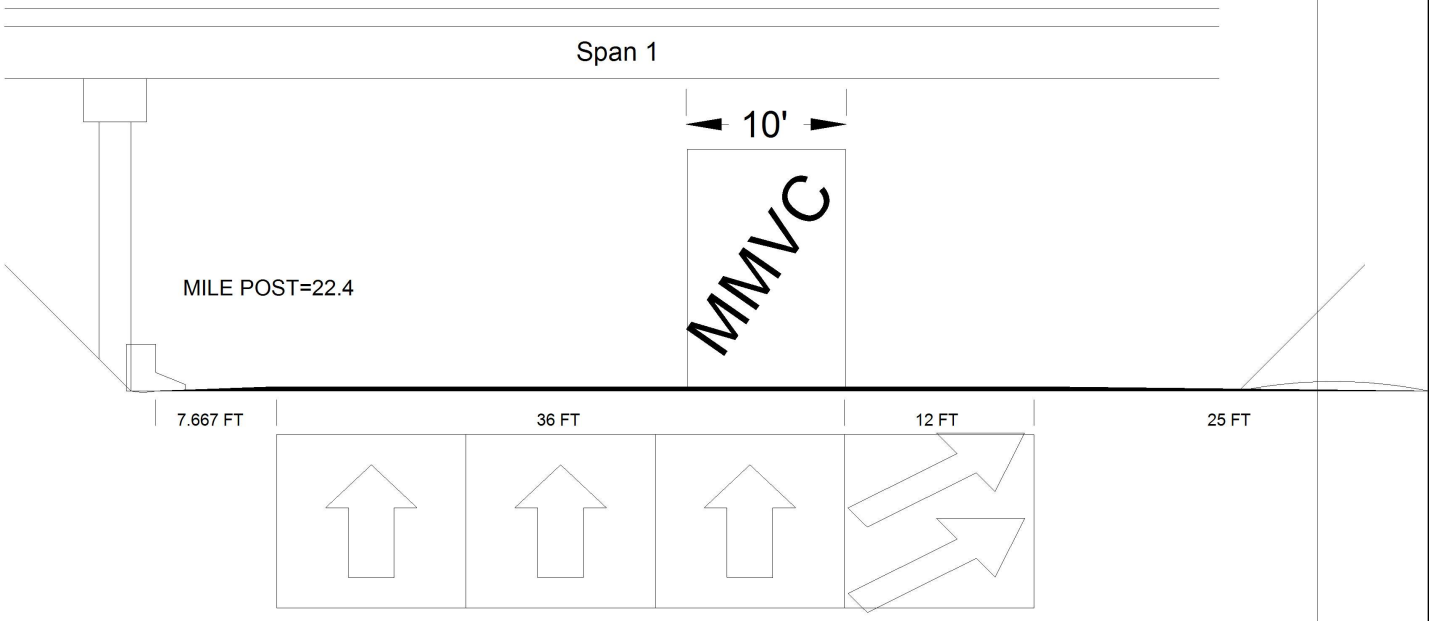
Roadway 1		Direction of Traffic	North
Distance to Left Rail	8FT	Distance to Right Rail	
Distance to Left Toe of Slope		Distance to Left Bent	9.583FT
Distance to Right Toe of Slope	18FT	Distance to Right Bent	
MMVC	18.833 Ft at Beam 1, 0 FT from LEFT EDGE OF ROADWAY		
MVC	18.167 Ft at Beam 1, 0 FT from RIGHT EDGE OF RIGHT THRU LANE		

VERIFIED BY ERIC PATTERSON ON 8-26-2014

Title	**Description**
SPAN #2 OVER I-85 NORTHBOUND	SPAN #2 UNDERCLEARANCE

Bridge No:	**Drawn By:**	**Date:**	**File Name:**
350137	DJA	8/21/2008	S0298000772

Bridge Inspection Field Sketch



Roadway 1		Direction of Traffic	South
Distance to Left Rail	7.667FT	Distance to Right Rail	
Distance to Left Toe of Slope		Distance to Left Bent	9.25FT
Distance to Right Toe of Slope	25FT	Distance to Right Bent	
MMVC	18.75 Ft at Beam 1, 0 FT from RIGHT EDGE OF RIGHT THRU LANE		
MVC	18.333 Ft at Beam 1, 0 FT from LEFT EDGE OF ROADWAY		

VERIFIED BY ERIC PATTERSON ON 8-26-2014

Title	**Description**
SPAN #1 OVER I-85 SOUTHBOUND	SPAN #1 UNDERCLEARANCE

Bridge No:	**Drawn By:**	**Date:**	**File Name:**
350137	DJA	8/21/2008	S0298000773

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.
64.400 ft.	4.000 ft.	4.000 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	13.5 ft.	3.5 ft.			Vertical	No	No	No	No
2	Concrete	13.5 ft.	3.5 ft.			Vertical	No	No	No	No
3	Concrete	13.5 ft.	3.5 ft.			Vertical	No	No	No	No
4	Concrete	13.5 ft.	3.5 ft.			Vertical	No	No	No	No
5	Concrete		3.5 ft.			Vertical	No	No	No	No

VERIFIED BY ERIC PATTERSON ON 8-26-2014

Bent/Abutment #: 1 Similar Bents: NONE

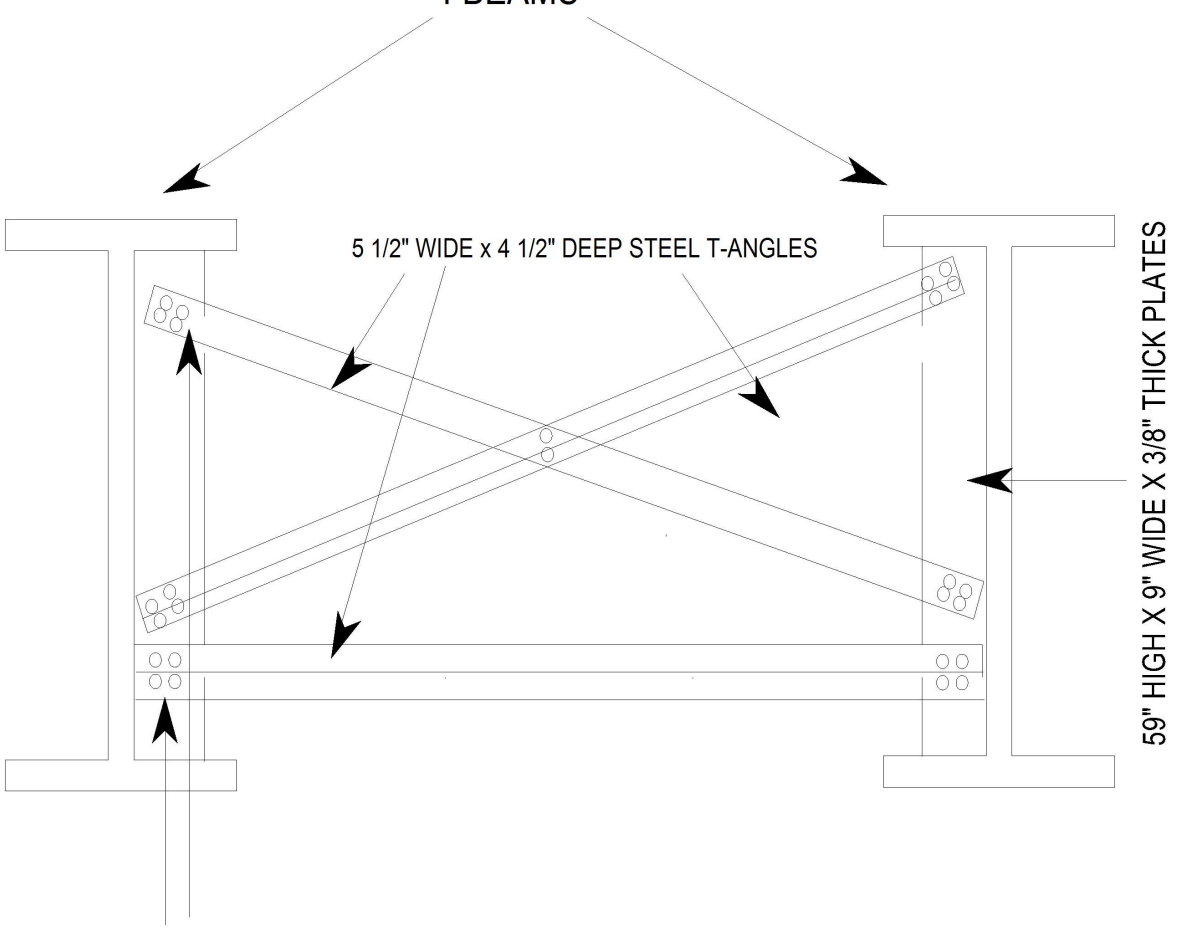
Title	**Description**
BENT 1	SUBSTRUCTURE DETAILS

Bridge No: 350137	**Drawn By:** DEREK RICKUS	**Date:** 8/15/2012	**File Name:** S0142001848

Bridge Inspection Field Sketch

INTERMEDIATE DIAPHRAGMS
(WEATHERING STEEL)

LOCATIONS : 1/5 POINTS OF SPANS



3/4" BOLTS (5" FROM BOTTOM BOLTS TO BOTTOM FLANGE,
14" MIDDLE BOLTS TO BOTTOM FLANGE,
41" TOP BOLTS TO BOTTOM FLANGE,

VERIFIED BY ERIC PATTERSON ON 8-26-2014

Title	Description
DIAPH	DETAILS

Bridge No:	Drawn By:	Date:	File Name:
350137	DEREK RICKUS	8/15/2012	S0142001849

BENT 1

ABUT. 2

UTILITY IN BAY 7

GUARDRAIL ATTACHED TO THE BRIDGE RAIL FOR ALL FOUR CORNERS

GUARDRAIL END FOR ALL FOUR CORNERS

EAST APPROACH

GUARDRAIL LOOKING EAST

SIGN ATTACHED TO THE RT. RAIL IN SPAN 2 OVER THE ROADWAY.

GUARDRAIL LOOKING WEST

WEST APPROACH

ABUT. 1

LOOKING SOUTH

SIGN ATTACHED TIO THE RT, RAIL IN SPAN 2

LOOKING NORTH