



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

PRIORITY MAINTENANCES

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection - Contract

COUNTY ASHE

BRIDGE NUMBER 040371

INSPECTION CYCLE 0 YRS

ROUTE SR1100

ACROSS CREEK

M.P. 0

LOCATION 2.1 MI.N.JCT.SR1224

SUPERSTRUCTURE STEEL PLANK FLOOR ON I-BEAMS

SUBSTRUCTURE ABUTS: REINFORCED CONCRETE (WIDENED)

SPANS 1 @ 27'

LONGITUDE 81° 35' 27.86"

LATITUDE 36° 21' 41.23"

PRESENT CONDITION FAIR

INVENTORY RATING

INSPECTION DATE 07/10/2012

OPERATING RATING

PRESENT POSTING SV 24 TTST 37 SV 24 TTST 37

PROPOSED POSTING

COMPUTER UPDATE

ANALYSIS DATE

POSTING LETTER DATE

SUFFICIENCY RATING

OTHER SIGNS PRESENT (4) DELINEATORS



NORTH APPROACH LOOKING SOUTH

SIGN NOTICE
ISSUED FOR

NUMBERED
REQUIRED

No

WEIGHT LIMIT

No

DELINEATORS

No

NARROW BRIDGE

No

ONE LANE BRIDGE

No

LOW CLEARANCE

NATIONAL BRIDGE INVENTORY----- STRUCTURE INVENTORY AND APPRAISAL

Run Date: 08/03/2012

IDENTIFICATION

(1) STATE NAME -NORTH CAROLINA	BRIDGE	040371	SUFFICIENCY RATING =	62.74
(8) STRUCTURE NUMBER(FEDERAL)	000000000090371		STATUS =	Not Deficient
(5) INVENTORY ROUTE (ON/UNDER) - ON	31011000			
(2) STATE HIGHWAY DEPARTMENT DISTRICT	3			
(3) COUNTY CODE	9	(4) PLACE CODE	0	
(6) FEATURE INTERSECTED - CREEK				
(7) FACILITY CARRIED SR1100				
(9) LOCATION 2.1 MI.N.JCT.SR1224				
(11)MILEPOINT	0			
(16)LAT 36° 21' 41.23"	(17)LONG 81° 35' 27.86"			
(98)BORDER BRIDGE STATE CODE	PCT SHARE			
(99)BORDER BRIDGE STRUCTURE NO				

CLASSIFICATION

(112)NBIS BRIDGE SYSTEM -	YES
(104)HIGHWAY SYSTEM Is not on NHS	0
(26) FUNCTIONAL CLASS - Local	09
(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

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE MAIN: Steel	
TYPE - Stringer Multibeam or Girder	CODE 302
(44) STRUCTURE TYPE APPR :	
TYPE -	CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT	1
(46) NUMBER OF APPROACH SPANS	
(107)DECK STRUCTURE TYPE - 6	CODE
(108)WEARING SURFACE / PROTECTIVE SYSTEM :	
(A) TYPE OF WEARING SURFACE -	CODE
(B) TYPE OF MEMBRANE -	CODE
(C) TYPE OF DECK PROTECTION -	CODE

CONDITION

(58) DECK	5
(59) SUPERSTRUCTURE	5
(60) SUBSTRUCTURE	5
(61) CHANNEL & CHANNEL PROTECTION	5
(62) CULVERTS	N

LOAD RATING AND POSTING

(31) DESIGN LOAD Unknown	0
(63) OPERATING RATING METHOD - Load Factor	
(64) OPERATING RATING - HS-16	128
(65) INVENTORY RATING METHOD - Load Factor	
(66) INVENTORY RATING - HS-9	116
(70) BRIDGE POSTING - Posting Required	0
(41) STRUCTURE OPEN, POSTED ,OR CLOSED	P
DESCRIPTION - Posted for Load	

AGE AND SERVICE

(27) YEAR BUILT	1973
(106)YEAR RECONSTRUCTED	
(42) TYPE OF SERVICE : ON - Highway	
UNDER - Waterway	CODE 15
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE	
(29) AVERAGE DAILY TRAFFIC	450
(30) YEAR OF ADT 2011	(109) TRUCK ADT PCT 6%
(19) BYPASS OR DETOUR LENGTH	22 MI

APPRAISAL

(67) STRUCTURAL EVALUATION	5
(68) DECK GEOMETRY	4
(69) UNDERCLEARANCES,VERTI & HORIZ	N
(71) WATERWAY ADEQUACY	7
(72) APPROACH ROADWAY ALIGNMENT	5
(36) TRAFFIC SAFETY FEATURES	0000
(113)SCOUR CRITICAL BRIDGES	U

GEOMETRIC DATA

(48) LENGTH OF MAXIMUM SPAN	24 FT
(49) STRUCTURE LENGTH	27 FT
(50)CURB OR SIDEWALK: LEFT 0 FT RIGHT	0 FT
(51) BRIDGE ROADWAY WIDTH CURB TO CURB	23.9 FT
(52) DECK WIDTH OUT TO OUT	24 FT
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)	19 FT
(33) BRIDGE MEDIAN - No Median	CODE 0
(34) SKEW 15° (35) STRUCTURE FLARED	0
(10) INVENTORY ROUTE MIN VERT CLEAR	999.9 FT
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR	23.9 FT
(53) MIN VERT CLEAR OVER BRIDGE RDWY	999.9 FT
(54) MIN VERT UNDERCLEAR REF Not a Highway or Railroad	0 FT
(55) MIN LAT UNDERCLEAR RT REF Not a Highway or Railroad	000 FT
(56) MIN LAT UNDERCLEAR LT REF -	000 FT

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 900	(115) YEAR FUTURE ADT 2025

INSPECTIONS

(90) INSPECTION DATE	07/10/2012
(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	

NAVIGATION DATA

(38) NAVIGATION CONTROL - No Navigational Control	CODE 0
(111)PIER PROTECTION -	CODE
(39) NAVIGATION VERTICAL CLEARANCE	0
(116)VERT - LIFT BRIDGE NAV MIN VERT CLEAR	FT
(40) NAVIGATION HORIZONTAL CLEARANCE	0 FT

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 08/03/2012

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
ASHE	11	3	040371	27	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1100	CREEK

LOCATED :	BRIDGE NAME :	CITY :
2.1 MI.N.JCT.SR1224		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	450 2011	LT 233 RT 233

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1973	BMU			Unknown

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
			TAN	75	ON 2 UNDER

NAVIGATION :	VC	0	FT	HC	0	FT	HT. CRN. TO BED :	6	FT	WATER DEPTH :	1	FT
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SUPERSTRUCTURE : STEEL PLANK FLOOR ON I-BEAMS

SUBSTRUCTURE : ABUTS: REINFORCED CONCRETE (WIDENED)

SPANS : 1 @ 27'

BEAMS OR GIRDERS : 13 LNS.12 I-BEAMS @ 1'-11 CENTERS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
STL.PL/5 AWS		24 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
23.9 FT	23.9 FT	LT 0 FT RT 0 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	21	DATE	08/02/2012
HS-9	HS-16	IntBeam (#8Ignored)	SV 15				

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

UNDER ROUTES AND CLEARANCES

REMARKS :

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 Robert Pruett			
Assisted By KS			
Item No.	Grade		
2c	F	THE PLANK DECKING IS EXPOSED UP TO 2-6" WIDE ALONG THE EDGE WITH SURFACE RUST THROUGHOUT [SEE PHOTO].	
3d	G	THERE IS RUST STAINING ON THE BRIDGE RAILS [SEE PHOTO].	
4	G	THERE IS SURFACE AND FRECKLE RUST ON BOTH CURBS [SEE PHOTO].	
10	F	THERE IS A 5/8" DIAMETER HOLE IN THE WEB OF BEAM 8, 3 1/2" ABOVE THE BOTTOM FLANGE AND 1'-9" FROM THE SOUTH END OF THE BEAM (PRIORITY MAINTENANCE) [SEE PHOTO]. THERE IS A 7" LONG X 1 1/2" WIDE AREA OF COMPLETE SECTION LOSS IN THE TOP FLANGE OF BEAM 8 AT 4" FROM THE NORTH END OF THE BEAM (PRIORITY MAINTENANCE) [SEE PHOTO]. THERE IS DELAMINATED STEEL WITH 0.194" THICKNESS REMAINING IN THE BOTTOM FLANGE OF BEAMS 7 - 10 AT THE ABUTMENT [SEE PHOTOS].	
10A	NO	THERE ARE NO CURVED GIRDERS	
15	F	THERE IS SURFACE RUST THROUGHOUT THE BEARINGS WITH NO SECTION LOSS NOTED.	
52	F	THERE IS PEELING PAINT AT THE BEAM ENDS.	
36a	F	THERE ARE RANDOM FULL HEIGHT VERTICAL CRACKS UP TO 1/16" WIDE WITH EFFLORESCENCE THROUGHOUT BOTH ABUTMENT CAPS [SEE PHOTO]. THERE IS A 4" LONG X 4 1/2" HIGH X 1" DEEP SPALL IN THE ABUTMENT 1 CAP BELOW BEAM 11 [SEE PHOTO].	
36b	F	THERE ARE RANDOM FULL HEIGHT VERTICAL CRACKS UP TO 1/16" WIDE WITH EFFLORESCENCE THROUGHOUT BOTH ABUTMENT BREASTWALLS [SEE PHOTO]. THERE IS AN UP TO 1" WIDE DIAGONAL CRACK UNDER BEAM 13 IN THE ABUTMENT 2 BREASTWALL [SEE PHOTO]. HORIZONTAL CRACKING UP TO 1/16" WIDE WITH EFFLORESCENCE IN ABUTMENT 2 BREASTWALL UNDER BEAMS 1 TO 10 [SEE PHOTO].	
36d	F	HAIRLINE WRAP-AROUND CRACKS WITH EFFLORESCENCE ALONG THE SOUTHEAST, SOUTHWEST AND NORTHWEST WINGWALLS [SEE PHOTO]. FULL HEIGHT VERTICAL AND 4'-0" LONG HORIZONTAL CRACKS UP TO 1/16" WIDE WITH EFFLORESCENCE IN THE SOUTHWEST WINGWALL [SEE PHOTO].	
41	G	THERE IS DRIFT ALONG THE ABUTMENT 1 CAP [SEE PHOTO].	

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 Robert Pruett			
Assisted By KS			
Item No.	Grade		
45c	F	THERE ARE UNDERMINED AREAS UP TO 1'-2" DEEP ALONG ABUTMENT 1 FROM WEST OVERHANG TO BEAM 10 AND UP TO 2" ALONG ABUTMENT 2 [SEE PHOTO].	
50	G	THERE IS MAP CRACKING UP TO 1/8" WIDE IN THE WEST SHOULDER OF THE EAST APPROACH [SEE PHOTO].	
62	YES	SV 24; TTST 37	
73f	YES	WADERS	

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 040371

County ASHE

Date: 07/10/2012

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	~~X TSC~~ 11/13/12	5/8" DIAMETER HOLE IN THE WEB OF BEAM 8 AT 3 1/2" ABOVE THE BOTTOM FLANGE AND 1'-9" FROM THE SOUTH END OF THE BEAM [PRIORITY MAINTENANCE]	
 3314	Maintain Steel Superstructure Components	LF	~~X TSC~~	7" LONG X 1 1/2" WIDE AREA OF 100% SECTION LOSS IN THE TOP FLANGE OF BEAM 8 AT 4" FROM THE NORTH END OF THE BEAM [PRIORITY MAINTENANCE]	
3366	Drift and Debris Removal	HR	16	REMOVE DRIFT FROM THE CAP OF ABUTMENT 1	
5603	Partial Cleaning and Painting of Structural Steel	SF	60	CLEAN AND PAINT BEAM ENDS	

Key



Priority Maintenance Item



Critical Finding Item



Priority Maintenance Level Not Determined

BRIDGE INSPECTOR'S RECOMMENDATION FOR PRIORITY MAINTENANCE REPAIRS

Bridge: 040371

County ASHE

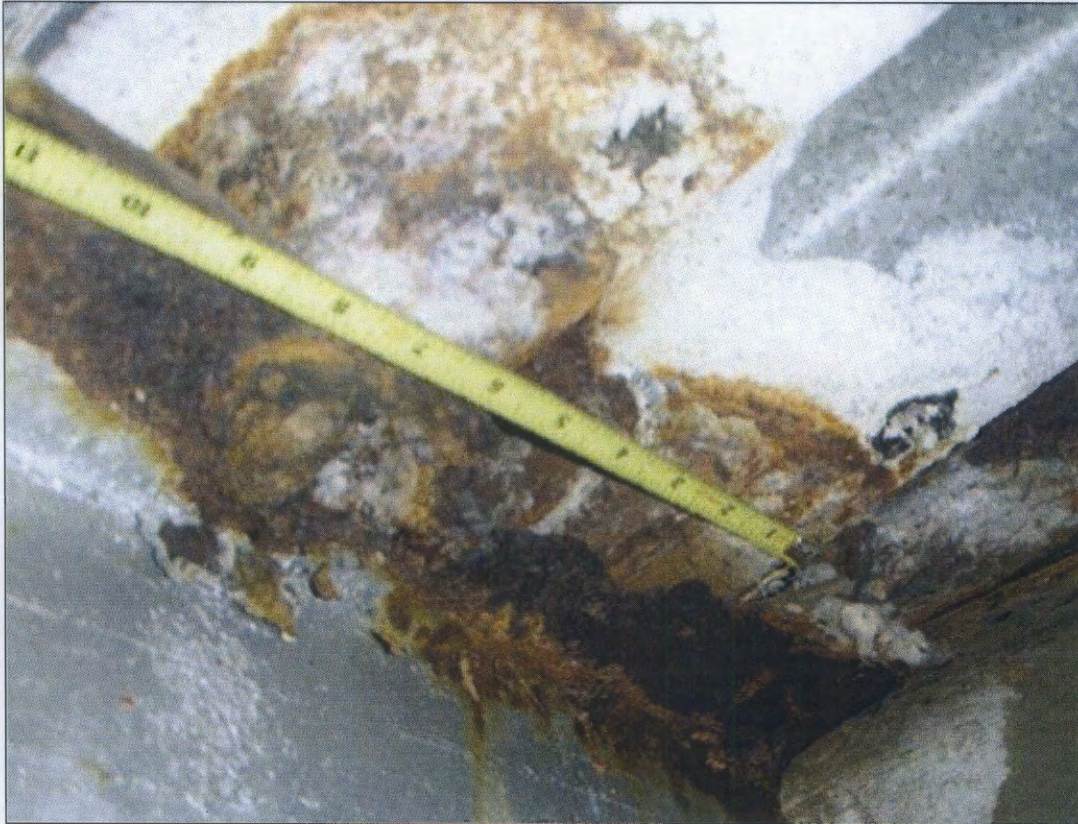
THE FOLLOWING MAINTENANCE ITEMS HAVE BEEN SUBMITTED IN CONJUNCTION WITH A PRIORITY MAINTENANCE REQUEST

MMS Code	MMS Description	Quantity
3314	Maintain Steel Superstructure Components	1 LF
Location:		
Beams and Girders Bent/Span No. 1 BEAM 8		
Priority Level	Status	
Priority Maintenance	Division Maintenance Work In Process	
Submitted Date:	Submitted By:	Assisted By:
07/11/2012	R. PRUETT	K. SU
Details		
7" LONG X 1 1/2" WIDE AREA OF 100% SECTION LOSS IN THE TOP FLANGE OF BEAM 8 AT 4" FROM THE NORTH END OF THE BEAM [PRIORITY MAINTENANCE]		

MMS Code	MMS Description	Quantity
3314	Maintain Steel Superstructure Components	1 LF
Location:		
Beams and Girders Bent/Span No. 1 BEAM 8		
Priority Level	Status	
Priority Maintenance	Division Maintenance Work In Process	
Submitted Date:	Submitted By:	Assisted By:
07/11/2012	R. PRUETT	K. SU
Details		
5/8" DIAMETER HOLE IN THE WEB OF BEAM 8 AT 3 1/2" ABOVE THE BOTTOM FLANGE AND 1'-9" FROM THE SOUTH END OF THE BEAM [PRIORITY MAINTENANCE]		



5/8" DIAMETER HOLE IN THE WEB OF BEAM 8 AT 3 1/2" ABOVE THE BOTTOM FLANGE AND 1'-9" FROM THE SOUTH END OF THE BEAM [PRIORITY MAINTENANCE]



7" LONG X 1 1/2" WIDE SECTION LOSS IN THE TOP FLANGE OF BEAM 8 AT 4" FROM THE NORTH END OF THE BEAM [PRIORITY MAINTENANCE]



MAP CRACKING UP TO 1/8" WIDE IN THE WEST SHOULDER OF THE EAST APPROACH



RUST STAINING ON BRIDGE RAIL WITH SURFACE AND FRECKLE RUST ON CURBS



PLANK DECKING ALONG EAST SIDE IS EXPOSED UP TO 2-6" WIDE WITH SURFACE RUST (WEST SIMILAR)



HAIRLINE WRAP-AROUND CRACKS WITH EFFLORESCENCE ALONG THE SOUTHEAST WINGWALL
(NORTHWEST AND SOUTHWEST SIMILAR)



FULL HEIGHT VERTICAL AND 4'-0" LONG HORIZONTAL CRACKS UP TO 1/16" WIDE WITH EFFLORESCENCE IN THE SOUTHWEST WINGWALL



RANDOM FULL HEIGHT VERTICAL CRACKS UP TO 1/16" WIDE WITH EFFLORESCENCE THROUGHOUT BOTH ABUTMENT CAPS AND EXTENDING INTO THE BREASTWALLS



UNDERMINED AREAS UP TO 1'-2" DEEP AT ABUTMENT 1 FROM WEST OVERHANG TO BEAM 10



4" LONG X 4 1/2" HIGH X 1" DEEP SPALL IN THE ABUTMENT 1 CAP BELOW BEAM 11



UP TO 1" WIDE DIAGONAL CRACK UNDER BEAM 13 OF ABUTMENT 2 BREASTWALL



HORIZONTAL CRACKING WITH EFFLORESCENCE IN ABUTMENT 2 BREASTWALL UNDER BEAMS 1 TO 10



DRIFT ALONG THE ABUTMENT 1 CAP (BAY 10 SHOWN)



SECTION LOSS WITH 0.194" THICKNESS REMAINING IN THE BOTTOM FLANGE OF BEAM 8 (BEAMS 7, 9, AND 10 SIMILAR)

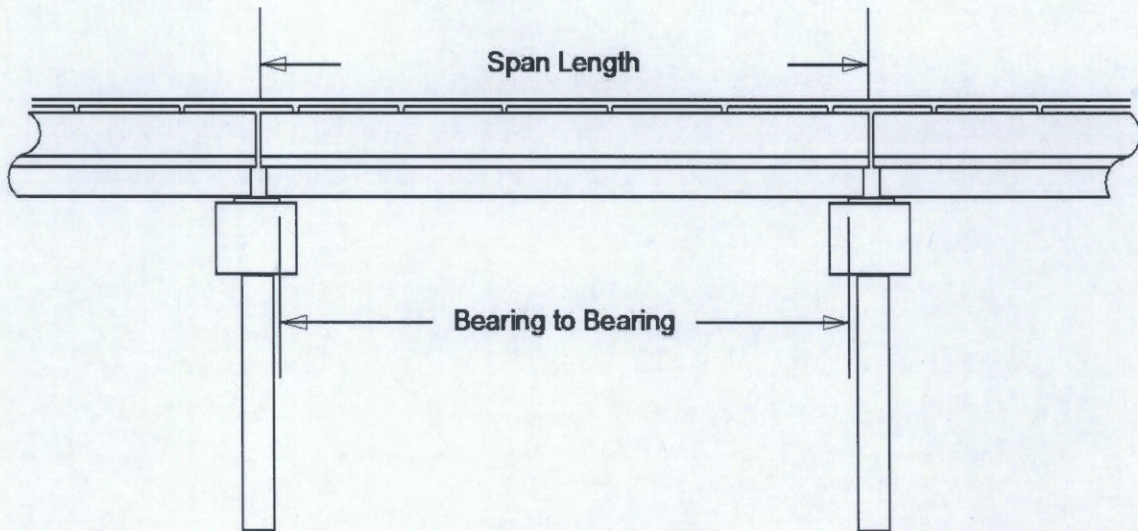


DELAMINATED STEEL IN THE BOTTOM FLANGE OF BEAM 10 AT ABUTMENT 1

Structure Data Worksheet

Spans

County: ASHE Structure No: 040371 Date: 07/10/2012 Inspected By: RAP



Span No	Span Length	Bearing to Bearing	Comments
1	27 FT. 0 IN.	24 ft. 0 in.	NBIS LENGTH = 21.4'

Stream Bed Soundings

(See next sheet for profile sketch)

Bridge No: 040371 County: ASHE Date: 07/10/2012 By: RAP

Record sounding from top of rail. Other location if needed: TOP OF RAIL

Distance from Highwater Mark to top of rail: _____ Location of Highwater Mark: _____

DOWNSTREAM			UPSTREAM		
Distance (Station) (ft)	Sounding (ft)	Description	Distance (Station) (ft)	Sounding (ft)	Description
0	0				
0	2.6	TOP OF FF			
0.999	2.6	TOP OF FF			
1	3.8	Top of Cap			
2.499	3.8				
2.5	8.2	Water Surface/Water Edge (WSWE)			
2.501	8.3	FACE OF ABUTMENT 1	2.501	7.9	FACE OF ABUTMENT 1
16	8.5				
24.499	8.2	Water Surface/Water Edge (WSWE)			
24.5	8.5	FACE OF ABUTMENT 2	24.5	7.7	FACE OF ABUTMENT 2
24.51	3.8	Top of Cap			
26	3.8	Top of Cap			
26.01	2.6	TOP OF FF			
27	2.6	TOP OF FF			
27.01	0				

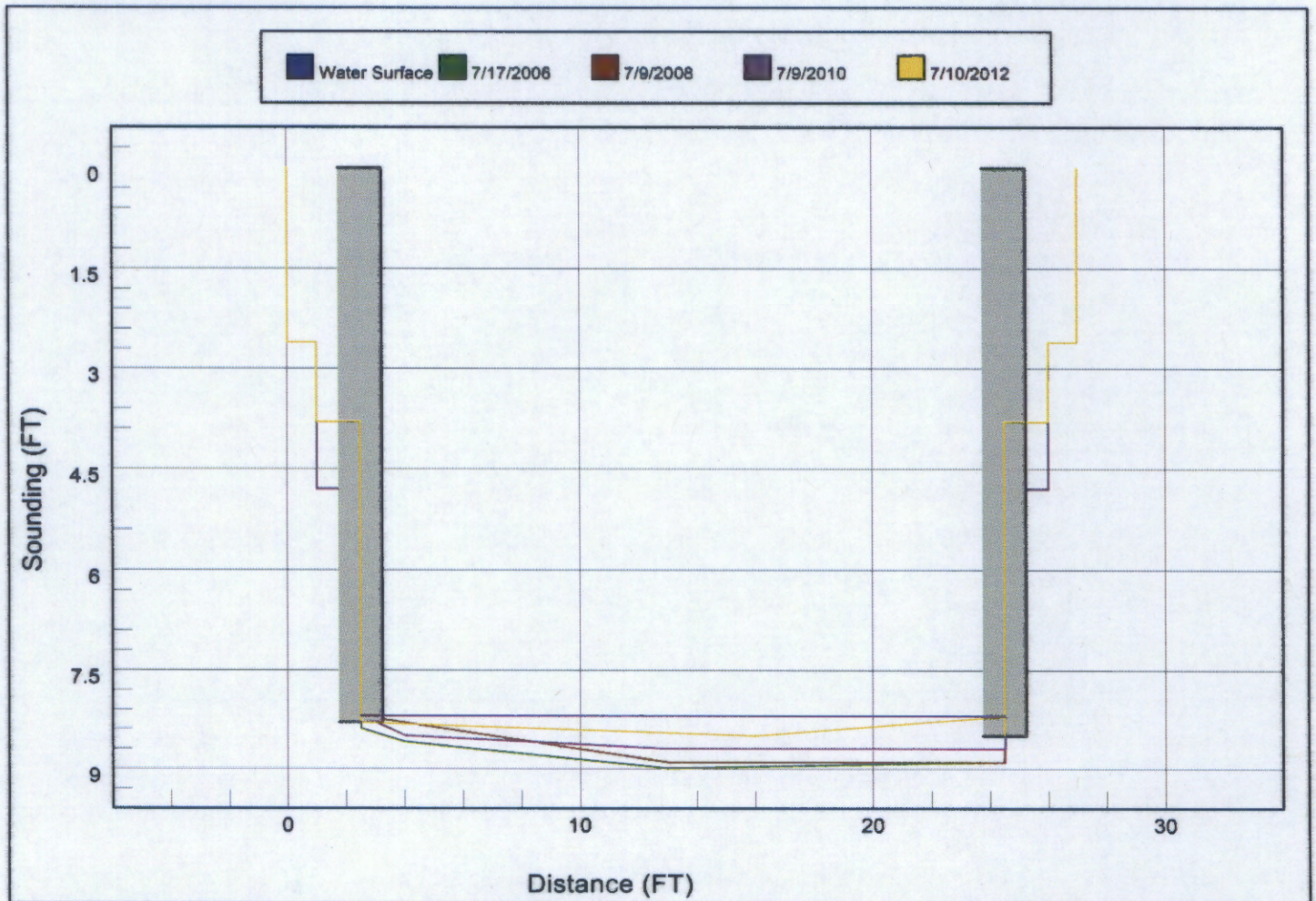
Bridge: 040371

County ASHE

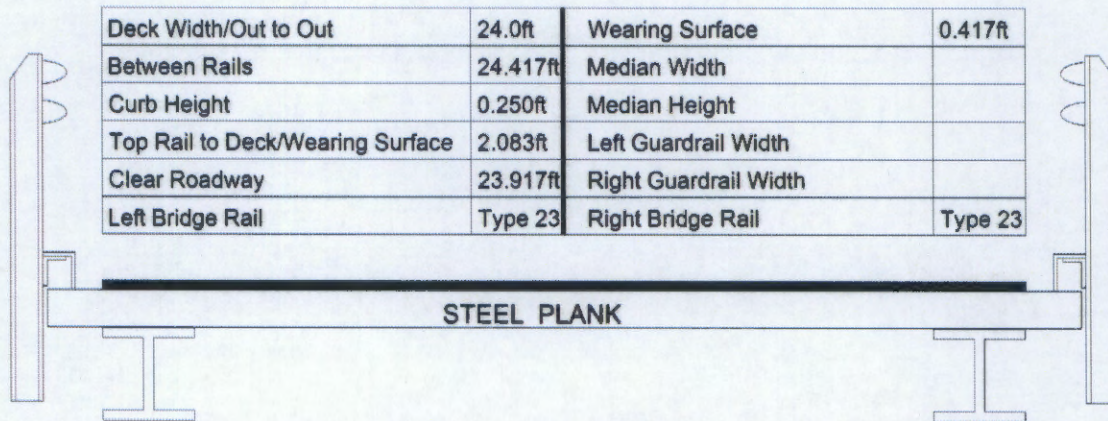
Date: 07/10/2012

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)

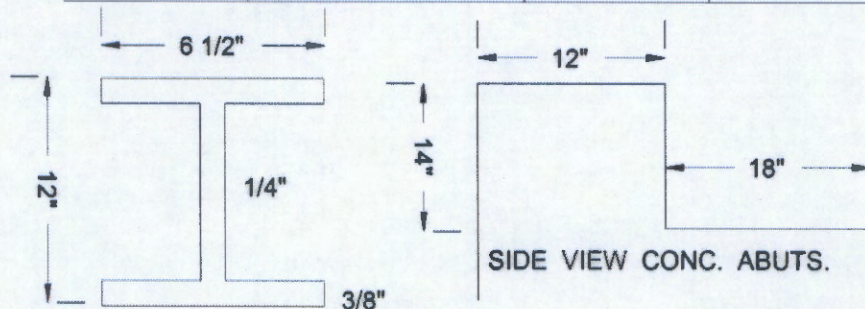


Bridge Inspection Field Sketch



Measurements for Span #	1		
Deck Thickness	0.167	Left Overhang	0.500
Top of Rail to Bottom of Beam	3.833	Right Overhang	0.500

Beam No	Beam Type	Spacing	Comments
1	Steel I Beam	1.917ft	
2	Steel I Beam	1.917ft	
3	Steel I Beam	1.917ft	
4	Steel I Beam	1.917ft	
5	Steel I Beam	1.917ft	
6	Steel I Beam	1.917ft	
7	Steel I Beam	1.917ft	
8	Steel I Beam	1.917ft	
9	Steel I Beam	1.917ft	
10	Steel I Beam	1.917ft	
11	Steel I Beam	1.917ft	
12	Steel I Beam	1.917ft	
13	Steel I Beam		



VERIFIED 7/9/10 DWELBORN
VERIFIED 7/10/12 BY KCI

Title

TS

Description

SUPER

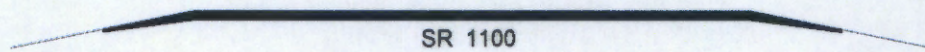
Bridge No: 040371

Drawn By: DCW

Date: 07/09/2008

File Name: S0126000935

Bridge Inspection Field Sketch



Roadway	19ft Wide	2 Paved Lanes	Looking North
Left Shoulder	6ft Wide		6ft Unpaved
Right Shoulder	6ft Wide		6ft Unpaved
Left Guardrail			
Right Guardrail			

VERIFIED 7/09/10 G.ROBBINS
VERIFIED 7/10/12 BY KCI

Title APRW		Description APPROACH ROADWAY	
Bridge No: 040371	Drawn By: G.R.R.	Date: 07/09/2008	File Name: S0130000998



NORTH APPROACH LOOKING SOUTH



LOOKING UPSTREAM EAST



LOOKING DOWNSTREAM WEST



SOUTH APPROACH LOOKING NORTH



ASPHALT WEARING SURFACE



WEST BRIDGE RAIL (EAST SIMILAR)



NORTHWEST WEIGHT LIMIT SIGN (SOUTHEAST SIMILAR)



LOOKING UPSTREAM FROM BELOW



EAST ELEVATION



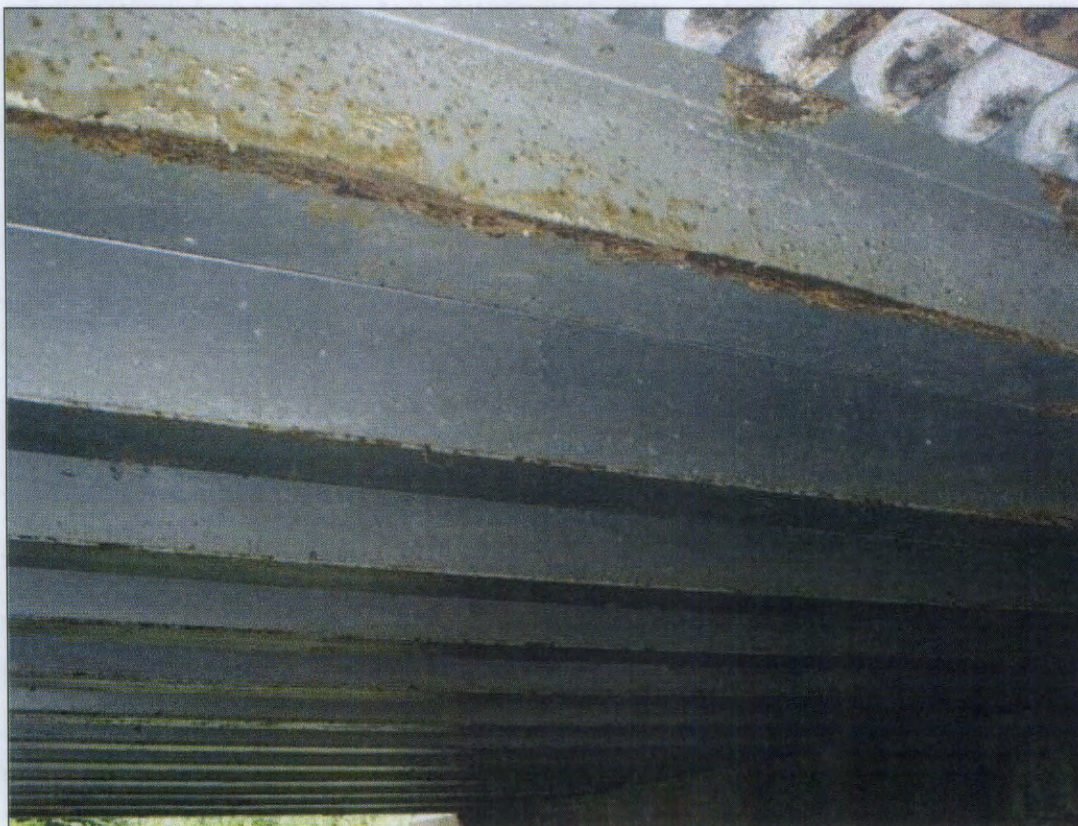
EAST BRIDGE RAIL CONNECTION (WEST SIMILAR)



ABUTMENT 2 ELEVATION



ABUTMENT 1 ELEVATION



SUPERSTRUCTURE



LOOKING DOWNSTREAM FROM BELOW



WEST ELEVATION



BEAM 12 BEARING AT ABUTMENT 1 (OTHERS SIMILAR)