

# STRUCTURE NO. 04343

NORTH SHORE ROAD  
over  
BANTAM RIVER  
LITCHFIELD

*Indepth Inspection*  
on  
6/23/2009

*Inspected by Collins - 26*  
*for Area 5*

<b>TEAM:</b>	Forwarded to TE3	Sowatei Lomotey	Date	8/14/2009
<b>TE3:</b>	Reviewed by TE3	Leo Cain Jr.	Date	9/14/2009
	BMM Required		No	
	Town Bridge		Yes	
	Rating <= 5 (Items 58,59,60 or 62)		No	
	Forwarded to Supervisor	Ted Lapierre	Date	9/23/09
	Forwarded to "To Be Copied Drawer"	<input type="checkbox"/>	Date	
	Date BRI-19 Entered		8/24/2009	
<b>SUPERVISOR:</b>	Reviewed by Supervisor	TPL	Date	9/28/09
<b>SUPPORT:</b>	Date Copies Made	10/2/09	BMM No	town
	Scanned By:	SP	Date Scanned	10/2/09
			PDF Box No	

**NBI: Yes**

Bridge Number **04343**

Inspected By: **D. CHESTER & T. GOETZ**

Sufficiency Rating **99.13**  
Previous Inspection Date **3/21/2007**

BS&E Received  Data Entry By: **BBB**  
Copies Made  Data Entry Date: **8/24/09**

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BRIDGE SAFETY & EVALUATION  
**STRUCTURE EVALUATION**  
SHEET 1 OF 2 FORM BR1-19 REV 10/00  
SHEET 1 OF 2

**IDENTIFICATION**

Bridge Name **LITCHFIELD** Town Code **43370**

5) Inventory Route: **1** A) Record Type **1** B) Signing Prefix **5** C) Level of Service **0** D) Route Number **00000** E) Directional Suffix **0** NA

6) Feature Intersected **BANTAM RIVER**

7) Facility Carried: **NORTH SHORE ROAD**

9) Location **5 MILE EAST OF RTE.202**

11) Milepoint **0.98** Miles

16) Latitude **41deg 43 min 00 sec**

17) Longitude **73deg 13 min 18.00 sec**

98) Border Bridge: A) State Code  B) Percent Responsibility  %

99) Border Bridge Structure No

43) Structure Type, Main: A) Material **5** Prestressed concrete B) Design Type **5** Box Beam or Girders

44) Structure Type, Approach: A) Material **0** Other B) Design Type **0** Other

45) Number of Spans, Main Unit **1**

46) Number of Approach Spans **0**

107) Deck Structure Type **9** Other

108) Wearing Surface/Protective System: A) Type of Wearing Surface **6** Bituminous B) Type of Membrane **2** Performed Fabric C) Type of Deck Protection **0** None

**STRUCTURE TYPE AND MATERIAL**

**AGE AND SERVICE**

27) Year Built **1980**

42) Type of Service: A) On **5** Highway-pedestrian B) Under **5** WATERWAY

28) Number of Lanes: A) On **2** B) Under **0**

29) Average Daily Traffic **385** 109) Percent Truck **7%**

30) Year of ADT **2007** 19) Bypass, Detour Length **3** miles

**GEOMETRIC DATA**

48) Length of Max Span **58** ft

49) Structure Length **72** ft

50) Curb or Sidewalk Widths: A) Left **1.2** ft B) Right **6.0** ft

51) Brg Rdwy width, curb-curb **32.0** ft

52) Deck Width, Out-Out **42.3** ft

32) Approach Roadway Width **32** ft

33) Bridge Median **0** No Median

Deck Area **3046** sqft

34) Skew Angle **11** deg

35) Structure Flared **0**

10) Inv. Rte. Min. Vert Clearance **99** ft

47) Log Inv. Rte. Total Horiz. Clr.: **32.0** ft

47) RLog Inv. Rte. Total Horiz. Clr.: **99** ft

53) Min Vert Clearance Over Bridge **99** ft

54) Min Vert Under Clearance **0** ft

55) Min Lat Under Clearance on Right **99.9** ft

56) Min Lat Under Clearance on Left **0.0** ft

**BRIDGE COMMENTS**

ADT is revised based upon an assumed 1% annual increase in traffic volume.

90) Inspection Date **06/23/09** Inspection Team **5/14** 91) Frequency **24** Ass: **0**  
Depth Insp **4/27/1999** Deck Survey **6/23/09** Access **0** Flagman **0**  
Fracture:  Type Frequency Team Date  
Uwater:   
Special:

**RED FLAG**

**STRUCTURE EVALUATION**

SHEET 2 OF 2 FORM BR-19 REV 10/00

SHEET 2 OF 2

Bridge Number	04343	NBIS Length	
Town Name	LITCHFIELD	Yes	72
Facility Carried	NORTH SHORE ROAD		
Feature Crossed	BANTAM RIVER		

Inspected By: D. CHESTER

& T. GOETZ

CLASSIFICATION		Yes	No	Other
112) NBIS Bridge Length	0			
104) Highway System	0			
26) Functional Class	9			
100) Defense Highway	0			
101) Parallel Structure	N			
102) Direction of Traffic	2			
103) Temporary Structure	0			
110) Designated National Network	0			
20) Toll	3			
21) Maintain	3			
22) Owner	3			
Report Class	L			
37) Historical Significance	5			

**WATERWAY**

DrainageBasinCode	6705	Rating	By
38) Navigation Control	0		
39) Navigation Vert Clr.	0		
116) Vert-Lift Brg Nav Min	0		
111) Pier Abutment Protection			

**PROPOSED IMPROVEMENTS**

75A) Type of Work Proposed	75B) Work Done By	Rating	By
76) Length of Struct. Improvement			
94) Bridge Improvement Cost	\$		
95) Roadway Improvement Cost	\$		
96) Total Project Cost	\$		
97) Year of Improvement			
114) Future ADT			
115) Year Future ADT			

**POSTED SIGNS & UTILITIES**

Other Posted Signs 1	Other Posted Signs 2	Actual P.L. Single Unit Truck	Rec. P.L. Single Unit Truck	Actual P.L. Semi-Trailer Truck	Rec. P.L. Semi-Trailer Truck	Actual P.L. All Vehicles	Rec. P.L. All Vehicles	Posted Vert Clearance On Bridge	Posted Vert Under Clearance	Posted Speed Limit	Utility
		tons	tons	tons	tons	tons	tons	ft	ft	mph	
		ft	ft	ft	ft	ft	ft	in	in		

**LOAD RATING AND POSTING**

31) Design Load	5	Rating	By
63) Operating Rating Type	5		
64) Operating Rating	58.0		
65) Inventory Rating Type	5		
66) Inventory Rating	34.0		

**CONDITION**

58) Deck	6	Rating	By
59) Superstructure	7		
60) Substructure	7		
61) Channel & Chan. Protection	8		
62) Culverts	N		

**APPRAISALS**

67) Structure Evaluation	7	Rating	By
68) Deck Geometry	7		
69) Under Clear Vert & Horiz	N		
71) Waterway Adequacy	6		
72) Approach Rdwy Alignment	8		
113) Scour Critical	3		

Items 58 Thru 72 Checked By:

- 36) Traffic Safety Features:
  - A) Bridge Railings 1
  - B) Transitions 0
  - C) Approach Guardrail 1
  - D) Approach Guardrail End 1

**OTHER FEATURES**

Fence Required	No	Rating	By
Fence Present	No		
Fence Height	0.0 ft		
Fence Type			
Fence Material			
Fence Top Type			

**INSPECTION COMMENTS**

Proposed Next Indepth Insp Year	2009	Rating	By
Senior			
Supervisor			

REVIEWED BY: [Signature] Date 8/10/09

#19023

# Structure Inventory and Appraisal Sheet (English Units)

Bridge Key: 04343 Agency ID: 04343 Sufficiency Rating: 99.9

## IDENTIFICATION

State 1:	09 Connecticut	Struc Num 8:	04343
Facility Carried 7:	NORTH SHORE ROAD	Location 9:	OVER BANTAM RIVER
Route (On/Under) 5A:	Route On Structure	Route Signing Prefix 5B:	5 City Street
Level of Service 5C:	0 None of the below	Rte. Number 5D:	00000
Directional Suffix 5E:	0 N/A (NBI)	% Responsibility:	0
SHD District 2:	04	County Code 3:	Litchfield
Place Code 4:	LITCHFIELD	Mile Post 11:	0.980 mi
Feature Intersected 6:	BANTAM RIVER	Longitude 17:	Missing
Latitude 16:	Missing	Direction of Traffic 102:	2-way traffic
Border Bridge Code 98:	Unknown (P)	Highway System 104:	0 Not on NHS
Border Bridge Number 99:	NA	Toll Facility 20:	3 On free road
Historical Significance 37:	5 Not eligible for NRHP	Owner 22:	3 Town/Township Hwy Agency
Custodian 21:	3 Town/Township Hwy Agency	Element Frequency:	24 months

## STRUCTURE TYPE AND MATERIALS

Year Built 27:	1980	Year Reconstructed 106:	Unknown
Type of Service under 42A:	5 Highway-pedestrian	Type of Service under 42B:	5 Waterway
Lanes on 28A:	2	Lanes Under 28B:	0
Detour Length 19:	3.0 mi	Year of ADT 109:	7%
ADT 29:	400	Truck ADT 109:	7%
Deck Type 107:	9 Other	Deck Protection 108C:	None
Wearing Surface 108A:	6 Bituminous	Membrane 108B:	2 Formed Fabric
5 Prestressed Concrete			
05 Multiple Box Beam			
Main Span Material/Design 43A/B:			
Number of Approach Spans 46:	0	Number of Spans Main Unit 45:	1

## AGE AND SERVICE

Year Built 27:	1980	Year Reconstructed 106:	Unknown
Type of Service under 42A:	5 Highway-pedestrian	Type of Service under 42B:	5 Waterway
Lanes on 28A:	2	Lanes Under 28B:	0
Detour Length 19:	3.0 mi	Year of ADT 109:	7%
ADT 29:	400	Truck ADT 109:	7%
Deck Type 107:	9 Other	Deck Protection 108C:	None
Wearing Surface 108A:	6 Bituminous	Membrane 108B:	2 Formed Fabric
5 Prestressed Concrete			
05 Multiple Box Beam			
Main Span Material/Design 43A/B:			
Number of Approach Spans 46:	0	Number of Spans Main Unit 45:	1

## GEOMETRIC DATA

Length Max Span 48:	58.0 ft	Structure Length 49:	72.0 ft
Curb/Sidewalk Width L 50A:	0.0 ft	Curb/Sidewalk Width R 50B:	6.0 ft
Width Curb to Curb 51:	32.0 ft	Width Out to Out 52:	42.3 ft
Approach Roadway Width 32:	32.0 ft	Median 33:	0 No median
Deck Area:	3,046.2 sq. ft	Skew 34:	11.00°
Minimum Vertical Clearance Over Bridge 53:	328.1 ft	Minimum Vertical Clearance Reference 54A:	N Feature not hwy or RR
Minimum Vertical Clearance 54B:	0.0 ft	Minimum Lateral Underclearance 54C:	N Feature not hwy or RR
Minimum Lateral Underclearance Reference R 55A:	N Feature not hwy or RR	Minimum Lateral Underclearance 55:	99.9 ft
Minimum Lateral Underclearance L 56:	0.0 ft		

## ELEMENT CONDITION STATE DATA

Str Unit	Elem/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
UNIT0	56/3	Concrete sidewalk	sq. ft.	431	0%	0	100%	431	0%	0	0%	0	0%	0
UNIT0	104/3	P/S Conc Box Girder	(LF)	591	100%	591	0%	0	0%	0	0%	0	0%	0
UNIT0	215/3	R/Conc Abutment	(LF)	92	98%	89	2%	3	0%	0	0%	0	0%	0
UNIT0	310/3	Elastomeric Bearing	(EA)	20	0%	0	100%	20	0%	0	0%	0	0%	0
UNIT0	330/3	Metal Rail Uncoated	(LF)	144	88%	127	12%	17	0%	0	0%	0	0%	0

## INSPECTION

Frequency 91:	24 months	Inspection Date 90:	6/23/2009	Next Inspection:	06/23/2011
FC Frequency 92A:	NA	FC Inspection Date 93A:	NA	Next FC Inspection:	NA
UW Frequency 92B:	NA	UW Inspection Date 93B:	NA	Next UW Inspection:	NA
SI Frequency 92C:	NA	SI Date 93C:	NA	Next SI:	NA
Element Frequency:	24 months	Element Inspection Date:	06/23/2009	Next Elem. Insp. Due:	06/23/2011
Defense Highway 100:	0 Not a STRAHNET hwy	Parallel Structure 101:	No    bridge exists		
Direction of Traffic 102:	2-way traffic	Temporary Structure 103:	Unknown (NBI)		
Highway System 104:	0 Not on NHS	NBS Length 112:	Long Enough		
Toll Facility 20:	3 On free road	Functional Class 26:	09 Rural Local		
Historical Significance 37:	5 Not eligible for NRHP				
Owner 22:	3 Town/Township Hwy Agency				
Custodian 21:	3 Town/Township Hwy Agency				

## CONDITION

Deck 58:	6 Satisfactory	Super 59:	7 Good	Sub 60:	7 Good
Culvert 62:	N N/A (NBI)	Channel/Channel Protection 61:	6 Bank Slumping		
Inventory Rating Method 65:	2 AS Allowable Stress Operating Rating Method 63:	2 AS Allowable Stress			
Inventory Rating 66:	HS20.0	Operating Rating 64:	HS27.3		
Design Load 31:	5 MS 18 (HS 20)	Posting 70:	5 A/Above Legal Loads		
Posting status 41:	A Open, no restriction				

## LOAD RATING AND POSTING

Bridge Rail 36A:	1 Meets Standards	Approach Rail 36C:	1 Meets Standards
Transition 36B:	0 Substandard	Approach Rail Ends 36D:	1 Meets Standards
Str. Evaluation 67:	7	Deck Geometry 68:	7 Above Min Criteria
Underclearance, Vertical and Horizontal 69:	N Not applicable (NBI)		
Waterway Adequacy 71:	6 Equal Minimum	Approach Alignment 72:	8 Equal Desirable Crt
Scour Critical 113:	6 Cases not made		

## PROPOSED IMPROVEMENTS

Bridge Cost 84:	\$ 1,000	Type of Work 75:	38 Other Structural
Roadway Cost 95:	\$ 1,000	Length of Improvement 76:	20.0 ft
Total Cost 96:	\$ 2,000	Future ADT 114:	420
Year of Cost Estimate 97:	1999	Year of Future ADT 115:	2020

## NAVIGATION DATA

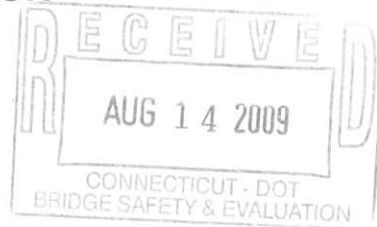
Navigation Control 38:	0 Permit Not Required	Vertical Clearance 39:	0.0 ft	Horizontal Clearance 40:	0.0 ft
Pier Protection 111:	Unknown (NBI)	Lift Bridge Vertical Clearance 116:			



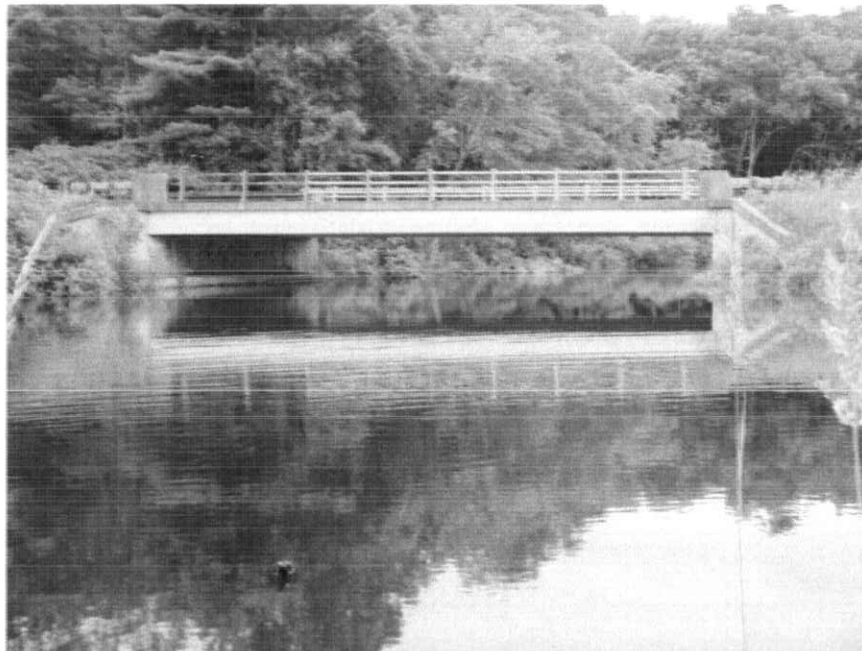
**CONNECTICUT  
DEPARTMENT OF TRANSPORTATION**

**STATE PROJECT NO. 170-2729  
BRIDGE SAFETY INSPECTION**

**BRIDGE NO. 04343  
NORTH SHORE ROAD  
OVER  
BANTAM RIVER  
LITCHFIELD, CONNECTICUT**



**IN-DEPTH INSPECTION  
JUNE 23, 2009**



*Prepared By:*  
**COLLINS  
ENGINEERS INC**  
101 HAMMER MILL ROAD  
ROCKY HILL, CT 06067



*Preparer/Date: P. Bracket / 08-7-09*

*P.E. Reviewer Date: J. Messier / 8/10/09*

2/25

Structure No.	04343	Town	LITCHFIELD
Inspection Date	6/23/2009	Inspectors	Collins Engineers

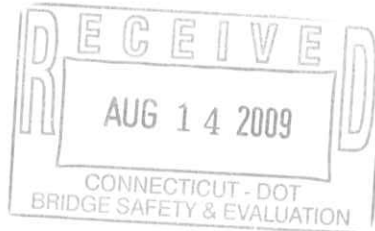
# TABLE OF CONTENTS

## Loose Forms (not bound in report)

	Number of Sheets Enclosed
Maintenance Memo	0
Flagging Memos	0
PONTIS Element Data Collection Form	1 ✓
Plan Sheets <span style="float: right;">Already on file <input type="checkbox"/></span>	0

## Bound Report Pages

Title Cover Sheet	1 ✓
Table of Contents	1 ✓
Executive Summary	2 ✓
Field Notes	6 ✓
Calculations:	
Load Rating Evaluation	0
Quantities & Cost Estimate	0
Photo Sheets	9 ✓
Photo Images	2 ✓



## Forms

BRI-13, Photo Log	1
BRI-18, Bridge Inspection Form	4
BRI-19, Highway Bridge inventory Form	2 ✓

Comments:

## EXECUTIVE SUMMARY

6/23/09

Bridge No. 04343 is a single span structure which carries North Shore Road over the Bantam River in Litchfield, Connecticut. The superstructure consists of ten prestressed concrete box beams and a deck with bituminous concrete wearing surface that is supported by reinforced concrete abutments. The overall length of the bridge is 72 feet with a 32-foot curb-to-curb width. It was constructed in 1980. According to information on file with Connecticut Department of Transportation, the Inventory Rating for an AASHTO HS20 loading is 34 tons.

An in-depth inspection completed in June of 2009 found the structure to be in good condition (Overall Rating = 7). The deficiencies found and the recommendations for repairs are as follows:

### Deck

1. The bituminous concrete overlay shows random isolated transverse and longitudinal cracks, wheel path rutting that are up to 4" deep and several potholes up to 7' long x 3' wide x 3" deep. Repair/patch the potholes (1 Ton).
2. Concrete sidewalk and safety walk both show random isolated transverse hairline cracks throughout. No repair at this time.
3. Three rail painted steel bridge rails. The rails show light rust, minor pitting and peeling paint. In addition, two sections of the north railing at the east end are not painted (or were not repainted) and show medium rust stains, pitting, and peeling paint. Scrape and repaint bridge railings.
4. Sawed and sealed joints at each abutment. Both the east and west end show two transverse cracks at the joints that have been crack-sealed. Several other transverse cracks and minor potholes have propagated near these cracks. Reseal cracks and patch potholes as part of routine maintenance.

### Superstructure

1. The premolded joint material from bridge bearing is bulging out between the top of the abutment and bottom of the box beams at both ends of the bridge. No repair at this time.
2. Prestressed concrete box beams (10 total) show evidence of leakage located between beams 1 & 2 for the full length and between beams 6 & 7, 7 & 8, and 8 & 9 at the east end. Underside of beams show minor scaling, map cracking and random exposed steel reinforcement supports throughout. No repair at this time.
3. There is a 1-7/8" wide gap along the underside of the shear key located between beams 7 & 8 at the west abutment. No repair at this time.

**Substructure**

1. The west abutment shows a 3/8" horizontal misalignment at the top of the construction joint. No repair at this time.

**Channel**

1. The vertical face of the west abutment footing is exposed up to 18" and the east abutment footing is exposed up to 2' from channel scour. No undermining of the footings was observed. Continue to monitor channel protection during the next inspection.

**Approaches**

1. The weathering steel Metal Beam Rail at all four approaches shows random dents and scrapes with some connection hardware missing at random locations. No repair at this time.
2. The bituminous concrete pavement shows isolated transverse, longitudinal and diagonal cracks, some of which have been sealed and there is minor settlement at the deck ends. In addition, the east pavement shows potholes up to 2' x 1' x 2" deep. Reseal cracks and patch potholes as part of routine maintenance.



**Connecticut Department of Transportation**  
**Bridge Inspection Report BRI-18**

5/25

**BRIDGE #:** 04343

**INSPECTION DATE:** 6/23/2009

**INSPECTION TYPE:** Indepth    **PREVIOUS INSPECTION DATE:** 3/21/2007    **SNOOPER REQUIRED:** No  
**INSPECTION PERFORMED BY:** Collins Engineers    **SNOOPER USED:** No

**TOWN:** LITCHFIELD    **FEATURE CARRIED:** NORTH SHORE ROAD    **YEAR BUILT:** 1980  
**LOCATION:** .5 MILE EAST OF RTE.202    **FEATURE INTERSECTED:** BANTAM RIVER    **YEAR REBUILT:** 0  
**MAIN MATERIAL:** Prestressed concrete    **MAIN DESIGN:** Box Beam or Girders - Multi

**INSPECTION VISITS:**    **INSPECTORS:**  
**Inspection Date:** 6/23/2009    **Start Time:** 11:00 AM    **Inspector:** D. Chester    **Task:** Team Leader  
**Temperature:** 66 °F    **End Time:** 12:45 PM    **Inspector:** T. Goetz    **Task:** Assistant Team Leader

**58. DECK**    Prestressed Concrete Box Beams with bituminous concrete overlay and membrane    **OVERALL RATING** 6

	<b>RATING</b>	
OVERLAY	<b>6</b>	Bituminous Concrete Overlay with Sheet Membrane Waterproofing. The overlay shows random isolated transverse and longitudinal cracks. Wheel path on eastbound side is severely rutted and shows potholes up to 7' long x 3' wide x 3" deep. Westbound side has two severe potholes, one 2' x 3' x 4" deep, the other 1' x 2' x 2" deep. See sheet 11 and photo 9.
DECK STR. CONDITION	<b>6</b>	The bridge consists of ten prestressed concrete box beams with a bituminous concrete overlay. Rating based on condition of overlay. See Item 59 Superstructure section entitled "Girders".
CURBS	<b>7</b>	Granite curbs. The curbs show random scrapes and gouges throughout. The average curb reveal is 7-3/4 inches. See sheet 11 and photo 10.
MEDIAN	<b>N</b>	
SIDEWALKS	<b>7</b>	Concrete Sidewalks. The sidewalk shows random isolated transverse hairline cracks throughout. The safety walk also shows minor isolated hairline cracks.
PARAPET	<b>N</b>	
RAILING	<b>7</b>	Three rail painted steel bridge rails. The rails show light rust, minor pitting and peeling paint. In addition, two sections of railing at the east end are not painted (or were not repainted) and show medium rust stains, pitting, and peeling paint.
PAINT	<b>N</b>	
FENCE	<b>N</b>	
DRAINS	<b>N</b>	
LIGHTING STANDARD	<b>N</b>	
UTILITIES TYPE/SIZE	<b>N</b>	
CONSTRUCTION JOINTS	<b>N</b>	
EXPANSION JOINTS	<b>N</b>	Sawed and sealed joints are not considered to be deck joints. Deterioration previously noted in this section is included in Item 58 section entitled "Overlay". Rating revised from a "6" to "N". See sheet 11 and photo 11.

**59. SUPERSTRUCTURE**    Prestressed Concrete Box Beams    **OVERALL RATING** 7

	<b>RATING</b>	
BEARING DEVICES	<b>6</b>	The premolded joint material from bridge bearing is bulging out from between the top of the abutment and bottom of the box beams at both ends of the bridge. See photo 13.
STRINGERS	<b>N</b>	Prestressed concrete box beams (10 total) show evidence of leakage from between beams 1 & 2 for the full length and between beams 6 & 7, 7 & 8, and 8 & 9 at the east end. See Item 59 section entitled "Girders".
GIRDERS	<b>7</b>	Underside of beams show minor scaling, hairline map cracking and random exposed steel reinforcement supports. See sheet 12 and photo 9.
FLOOR BEAMS	<b>N</b>	

6/25

# Connecticut Department of Transportation Bridge Inspection Report BRI-18

BRIDGE #: **04343**

INSPECTION DATE:

**6/23/2009**

## 59. SUPERSTRUCTURE

Prestressed Concrete Box Beams

OVERALL RATING **7**

TRUSSES-GENERAL	<b>N</b>	
TRUSSES-PORTALS	<b>N</b>	
TRUSSES-BRACING	<b>N</b>	
PAINT	<b>N</b>	
RUST	<b>N</b>	
MACHINERY MOV SPAN	<b>N</b>	
RIVETS & BOLTS	<b>N</b>	
WELDS & CRACKS	<b>N</b>	
TIMBER DECAY	<b>N</b>	
CONCRETE CRACKING	<b>7</b>	See Item 59 section entitled "Girders".
COLLISION DAMAGE	<b>N</b>	
MEMBER ALIGNMENT	<b>8</b>	There is a 1-7/8" wide gap along the underside of the shear key between beams 7 & 8 at the west abutment. See sheet 12 and photo 12.
DEFLECT. UNDER LOAD	<b>N</b>	(N) Normal (E) Excessive
VIBR. UNDER LOAD	<b>N</b>	(N) Normal (E) Excessive
STAND PIPES	<b>N</b>	
BARREL LADDERS	<b>N</b>	

ARE BARREL LADDERS OSHA COMPLIANT? **NA**

## 60. SUBSTRUCTURE

Reinforced concrete abutments

OVERALL RATING **7**

**RATING**

ABUTMENTS-STEM	<b>7</b>	The west abutment shows a 3/8" horizontal misalignment at the top of the construction joint, minor shallow surface spalls and vertical hairline cracks.
ABUTMENTS-BACKWALL	<b>N</b>	Not visible.
ABUTMENTS-FOOTINGS	<b>7</b>	Both abutment footings are exposed for full length. Vertical face of the west abutment footing is exposed up to 18" (9" above water) and the east abutment footing is exposed up to 2' (9" above water). No undermining of the footings was observed at the time of the inspection. See photos 14-15.
ABUT.-SETTLEMENT	<b>8</b>	
ABUTMENTS-WINGWALLS	<b>7</b>	The concrete wingwalls have vertical ribbed faces and show minor honeycombing and minor shallow surface spalls throughout. See photo 16.
PIERS/BENTS-CAPS	<b>N</b>	
PIERS/BENTS-PILE BENT	<b>N</b>	
PIERS/BENTS-COLUMN	<b>N</b>	
PIERS/BENTS-FOOTINGS	<b>N</b>	
PIERS/BENTS-SETTLEMENT	<b>N</b>	
EROSION-SCOUR	<b>6</b>	Erosion 7: There is some minor erosion along the northwest wingwall. See sheet 14. Scour 6: Scour has exposed the east abutment up to 2' high.
CONCRETE CRACK-SPALL	<b>7</b>	See Item 60 section entitled "Abutments - Stem", Abutments - Footing", and "Abutments - Wingwalls".

**Connecticut Department of Transportation**  
**Bridge Inspection Report BRI-18**

7/25

**BRIDGE #:** 04343

**INSPECTION DATE:** 6/23/2009

**60. SUBSTRUCTURE** Reinforced concrete abutments **OVERALL RATING** 7

STEEL CORROSION **N**

PAIN **N**

TIMBER DECAY **N**

COLLISION DAMAGE **N**

DEBRIS **N**

**61. CHANNEL PROTECTION**  **OVERALL RATING** 6

**RATING**

CHANNEL SCOUR **6** ✓ See Item 60 Substructure entitled "Erosion-Scour" and "Abutments-Footings".

EMBANKMENT EROSION **7** See Item 60 Substructure entitled "Erosion-Scour".

DEBRIS **8**

VEGETATION **7** Moderate vegetative growth along the embankments upstream and downstream.

CHANNEL CHANGE **8**

FENDER SYSTEM **N**

SPUR DIKES & JETTIES **N**

RIP RAP **7** Previously reported foreslope material sloughing along both abutments exposing footings.

**62. CULVERTS & RETAINING WALL**  **OVERALL RATING** N

**APPROACH CONDITION**  **OVERALL RATING** 6

**RATING**

APPROACH SLAB **N**

RELIEF JOINTS **N**

APPROACH GUIDE RAIL **6** The weathering steel Metal Beam Rail each side of both approaches shows random dents and scrapes with some connection hardware missing at random locations.

APPROACH PAVEMENT **6** The bituminous concrete pavement shows isolated transverse, longitudinal and diagonal cracks, some of which have been sealed and there is minor settlement at the deck ends. In addition, the east pavement shows potholes up to 2' x 1' x 2" deep. See sheet 11 and photos 4-7.

APPROACH EMBANKMENT **8**

**TRAFFIC SAFETY FEATURES:**

BRIDGE RAILINGS **1**

TRANSITIONS **0**

APPROACH GUARDRAILS **1**

APPR. GUARDRAIL ENDS **1**

**LOAD POSTING**

SINGLE UNIT (TONS)

HS (TONS)

4 AXLE (TONS)

3S2 (TONS)

Connecticut Department of Transportation  
Bridge Inspection Report BRI-18

8/25

BRIDGE #: 04343

INSPECTION DATE: 6/23/2009

ADVANCE WARNING Y/N  N  \_\_\_\_\_  
LEGIBILITY  N  \_\_\_\_\_  
VISIBILITY/LOCATION  N  \_\_\_\_\_

MISC.

MIN VERT. UNDERCLR.  '  " \_\_\_\_\_  
POSTED CLR. UNDER BRIDGE  '  " \_\_\_\_\_  
POSTED CLR. ON BRIDGE  '  " \_\_\_\_\_  
ADVANCE WARNING (Y/N)  Yes  No \_\_\_\_\_  
SPEED LIMIT (IF ANY)  MPH \_\_\_\_\_  
CHARACTER OF TRAFFIC  Heavy  Medium  Light traffic.

ADDITIONAL NOTES

Waders and Ladders were used to inspect the bridge.  
Based upon the river flowing from south to north the bridge is logged from west to east, with the north beam designated as Beam 1 which is consistent with the previous inspection report.  
Bridge ID plate is missing.

ADDITIONAL COMMENTS:

See table of contents.

Inspectors' Signatures:

1) *Ronald K. Chute* Date: 08/10/09  
2) *Lim Sothy* Date: 06/19/09  
3) \_\_\_\_\_ Date: \_\_/\_\_/\_\_  
4) \_\_\_\_\_ Date: \_\_/\_\_/\_\_

P.E. Signature: *J Messier* Date: 08/10/09  
P.E.#: 19023

Reviewed by: *Leo Can Jr.* CDOT Date: 9/14/09

*RB*  
*8/24/09*

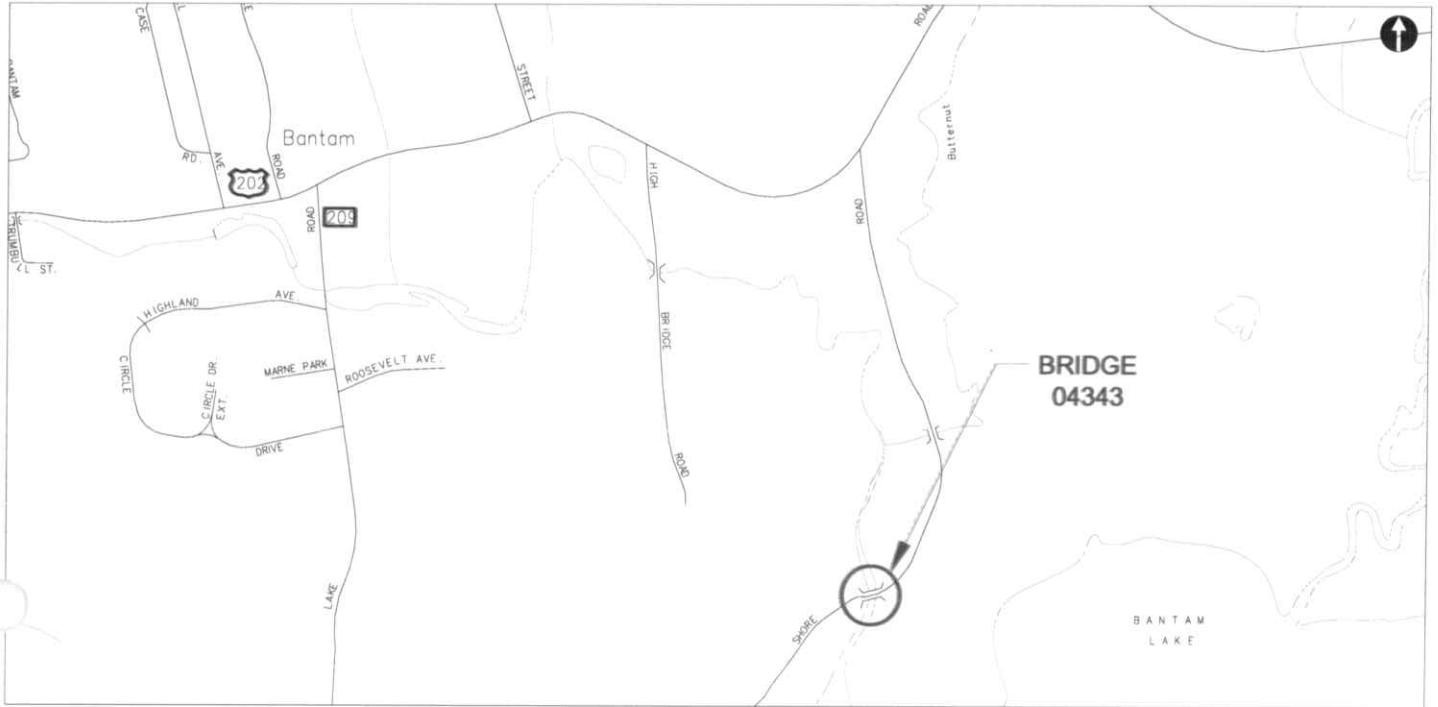
9/25



# COLLINS ENGINEERS INC.

LITCHFIELD, CT  
BRIDGE 04343

## LOCATION MAP



Source: CTDOT TRU MAPS

## AERIAL VIEW



Source: BING MAPS



# COLLINS ENGINEERS INC.

BRIDGE NO: 04343

DATE: SEE BELOW

CREW: SEE BELOW

SHEET 10 of 25

## DESCRIPTION: TIME LOG

DATE: 6/23/09	DESCRIPTION	TIME AT SITE
WEATHER: MOSTLY CLOUDY 60S	CREW: DC TG	11:00 to 12:45
EQUIP. LIST:	SNOOPER:	to
	LIFT:	to
ARROW HRS.:	CRASH TRUCK:	to
VISITORS:	TROOPER:	to

TC & NOTES: NONE

DATE:	DESCRIPTION	TIME AT SITE
WEATHER:	CREW:	to
EQUIP. LIST:	SNOOPER:	to
	LIFT:	to
ARROW HRS.:	CRASH TRUCK:	to
VISITORS:	TROOPER:	to

TC & NOTES:

DATE:	DESCRIPTION	TIME AT SITE
WEATHER:	CREW:	to
EQUIP. LIST:	SNOOPER:	to
	LIFT:	to
ARROW HRS.:	CRASH TRUCK:	to
VISITORS:	TROOPER:	to

TC & NOTES:

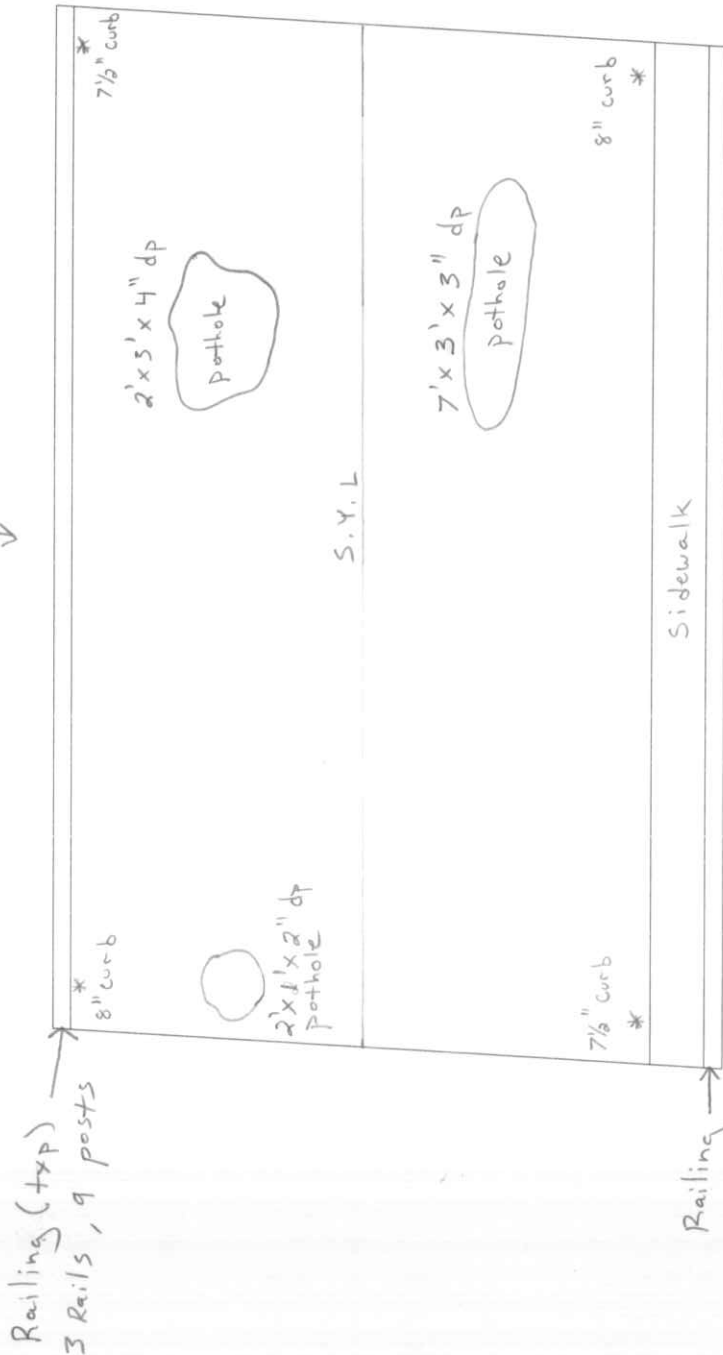
DATE:	DESCRIPTION	TIME AT SITE
WEATHER:	CREW:	to
EQUIP. LIST:	SNOOPER:	to
	LIFT:	to
ARROW HRS.:	CRASH TRUCK:	to
VISITORS:	TROOPER:	to

& NOTES:

DESCRIPTION: Top Of Deck



Flow ↓



East Abutment (#2)

West Abutment (#1)

Top of Deck

**LEGEND**

- HOLLOW AREA
- SHALLOW REBAR
- ▨ SPALL AREA
- ▩ SPALL AREA WITH EXPOSED REBAR
- ▧ MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- ▨ HAIRLINE CRACK (HLC) OR CRACKS (CRK)
- ▩ HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- \* WITH EFFLUORESCENCE

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			

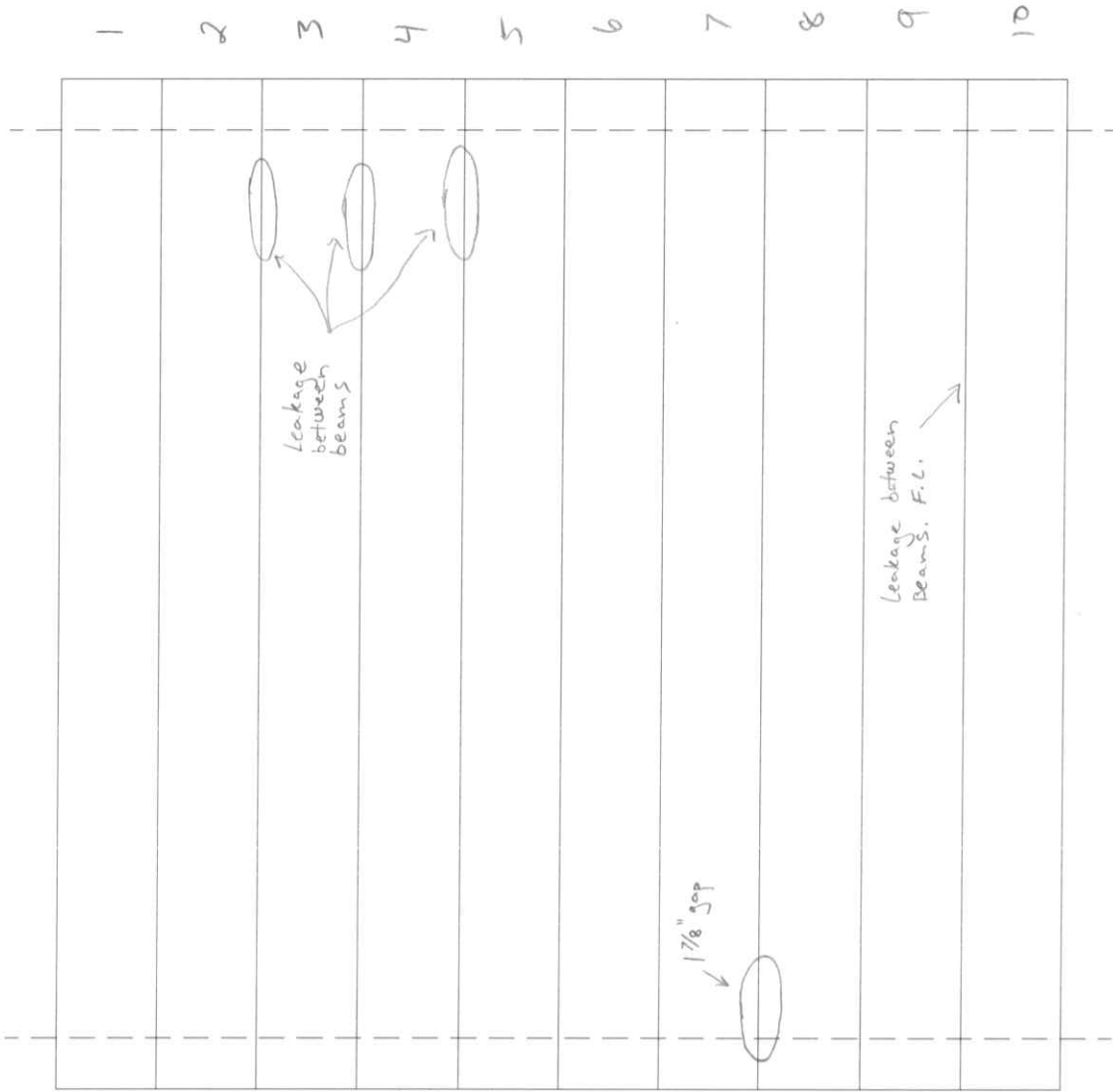
General Note

- Rutting and raveling up to 1" dp along travel path
- Concrete sidewalks have random transverse HLC.

DESCRIPTION: Framing Plan

West Abutment (#1)

East Abutment (#2)



**LEGEND**

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACK (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVV, MED OR LT) WITH EFFLORESCENCE

Framing Plan

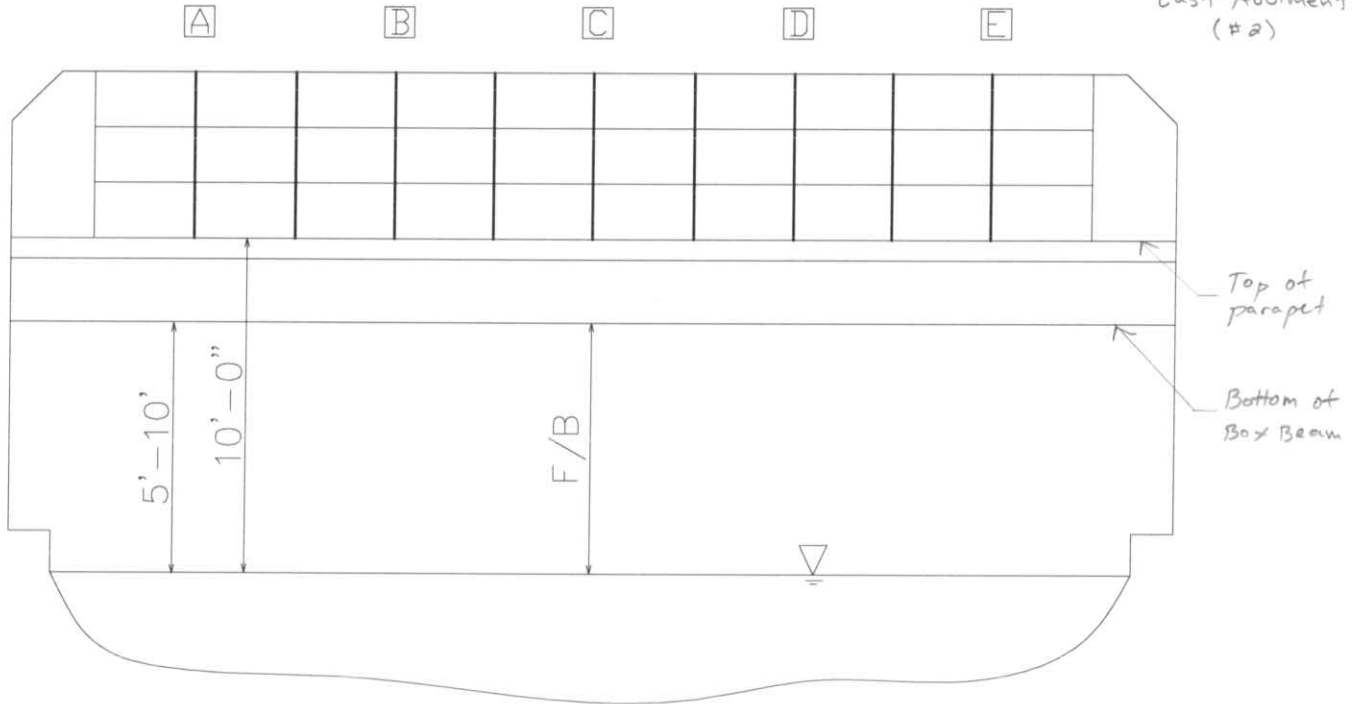
UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			



DESCRIPTION: Drop Line Measurements

West Abutment  
(#1)

East Abutment  
(#2)



South Elevation (Inlet)

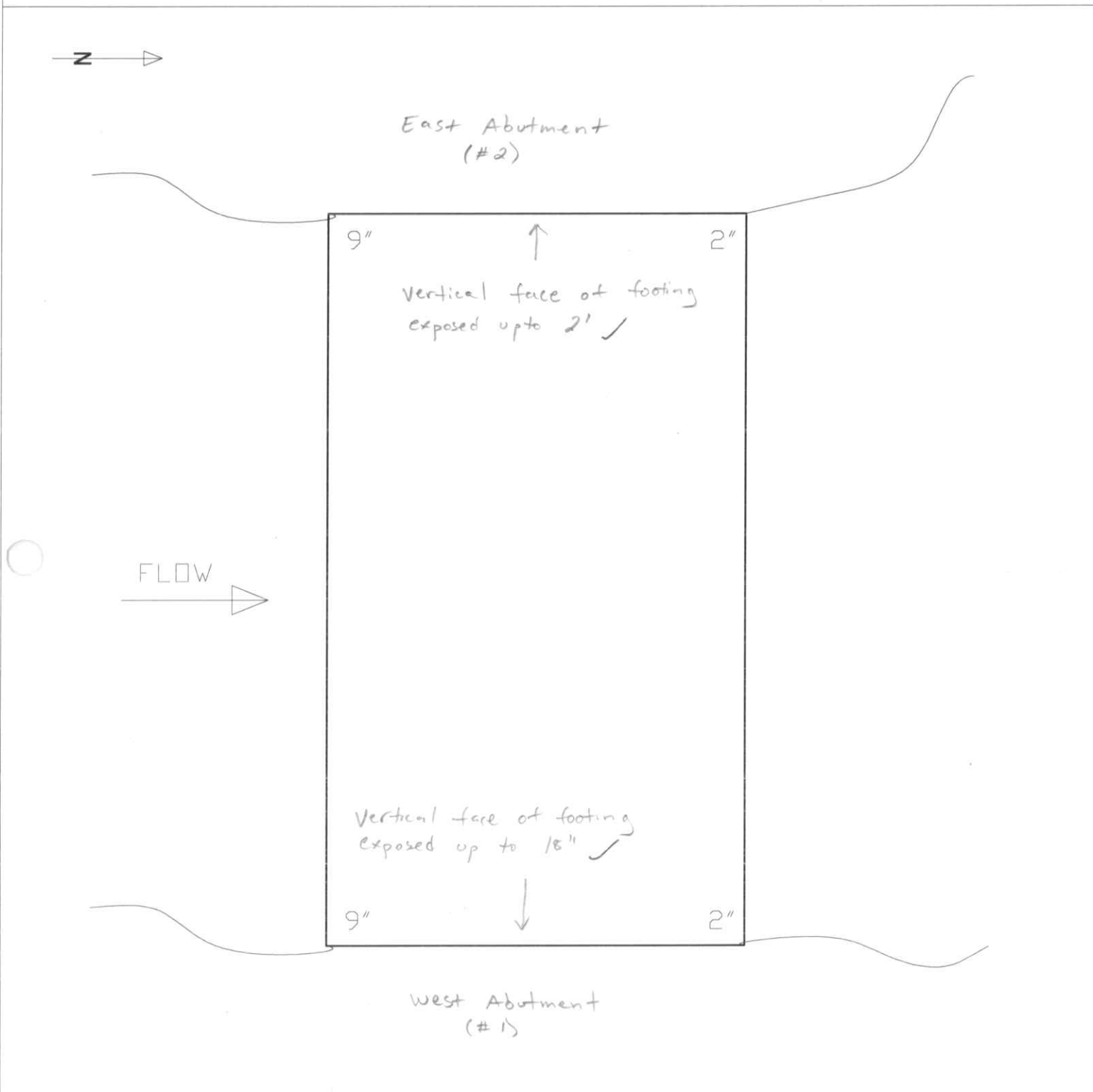
Sounding Measurements

Date	A	B	C	D	E	Free Board
6/23/09	11'-0"	15'-7"	16'-0"	15'-8"	11'-0"	6'-0"

Note: Sounding measurements taken from top of parapet to channel bottom

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			

DESCRIPTION: Stream Channel

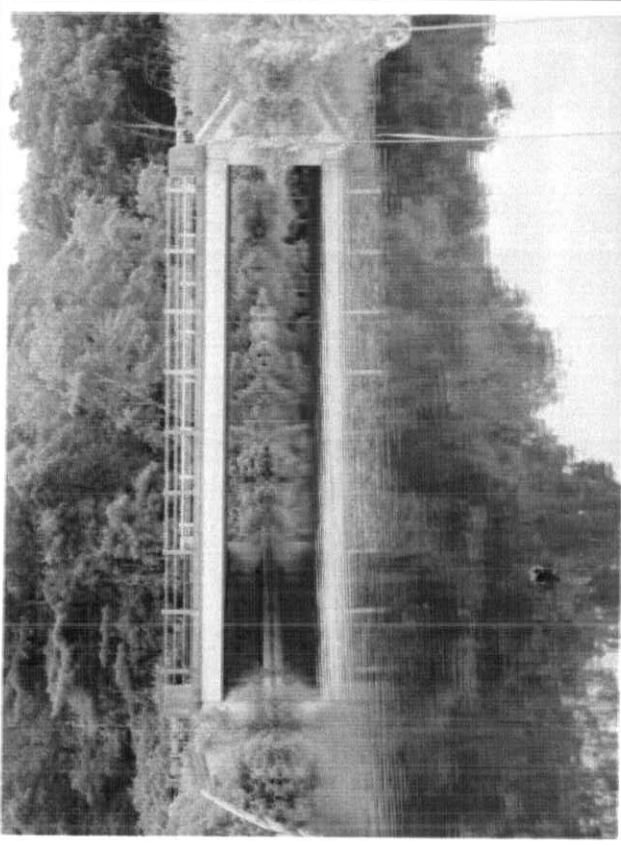


Stream Channel

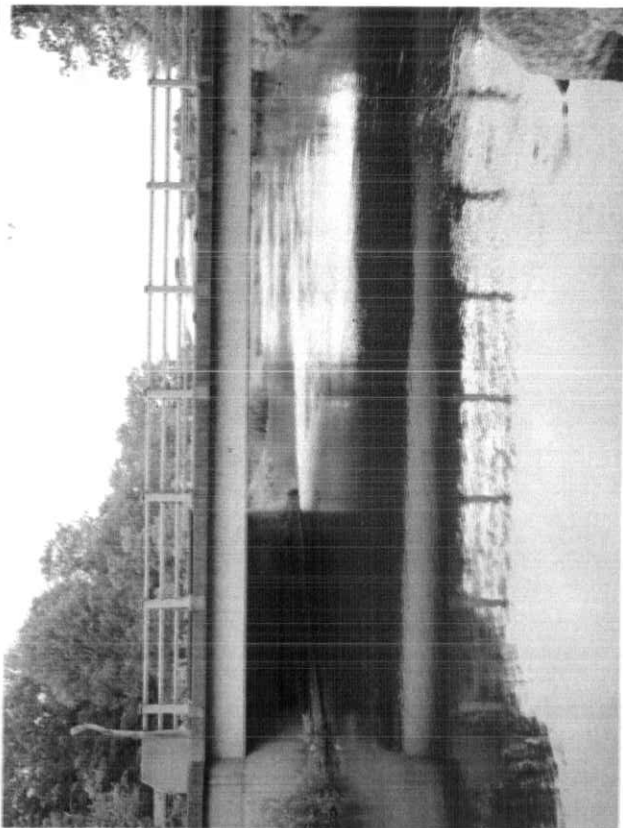
Measurements taken from top of footing to water surface

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			

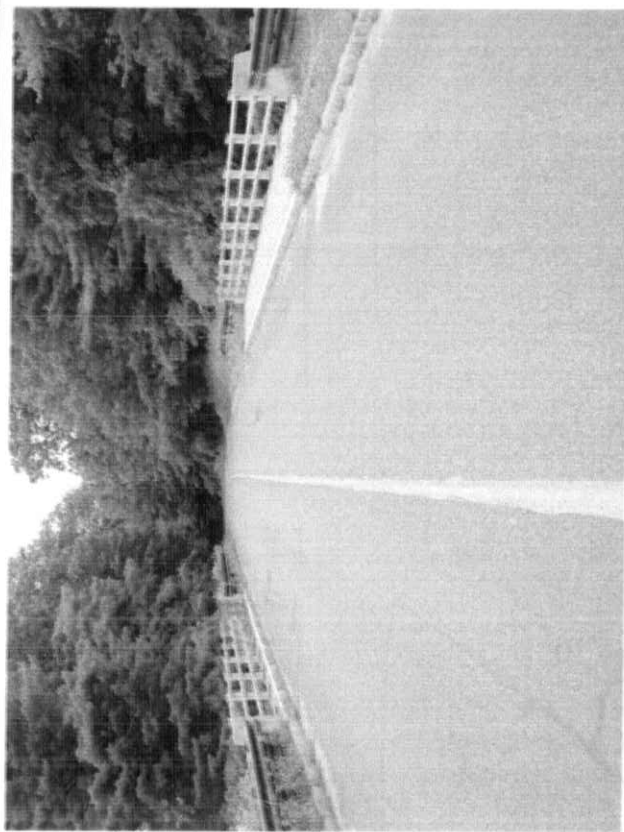
<b>Bridge No.</b>	04343	<b>Inspected by:</b>	D. Chester
<b>Town:</b>	Litchfield	<b>Inspected by:</b>	T. Goetz
<b>Feature Carried:</b>	North Shore Road	<b>Date Inspected:</b>	6/23/2009
<b>Feature Crossed:</b>	Bantam River	<b>Project No.:</b>	170-2729

<h1>04343</h1>	
<p><b>Photo # 1:</b> Bridge identification number.</p>	<p><b>Photo # 2:</b> North elevation (downstream).</p>

<b>Bridge No.</b>	04343	<b>Inspected by:</b>	D. Chester
<b>Town:</b>	Litchfield	<b>Inspected by:</b>	T. Goetz
<b>Feature Carried:</b>	North Shore Road	<b>Date Inspected:</b>	6/23/2009
<b>Feature Crossed:</b>	Bantam River	<b>Project No.:</b>	170-2729



**Photo # 3:** South elevation (upstream).



**Photo # 4:** Bridge from the west approach.

<b>Bridge No.</b>	04343	<b>Inspected by:</b>	D. Chester
<b>Town:</b>	Litchfield	<b>Inspected by:</b>	T. Goetz
<b>Feature Carried:</b>	North Shore Road	<b>Date Inspected:</b>	6/23/2009
<b>Feature Crossed:</b>	Bantam River	<b>Project No.:</b>	170-2729

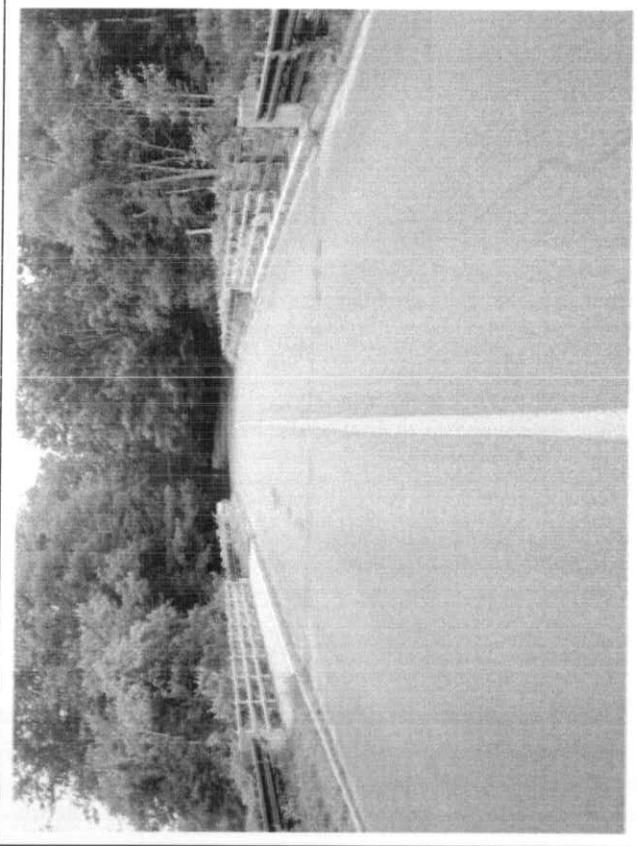


Photo # 5: Bridge from the east approach.

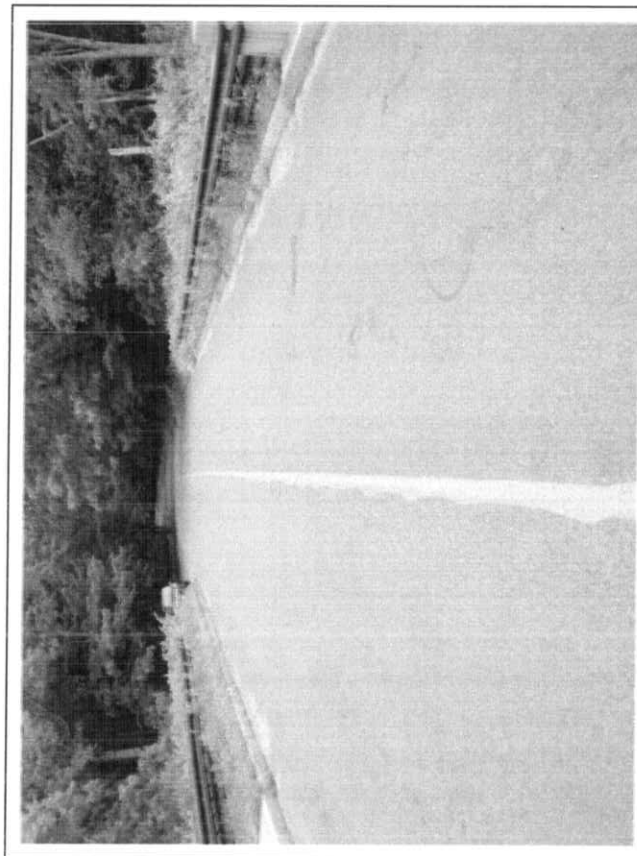
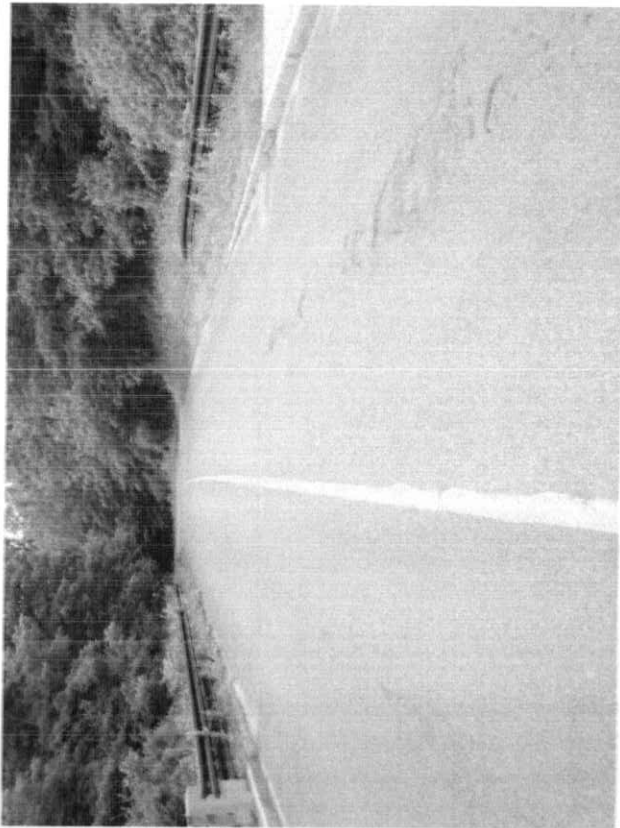
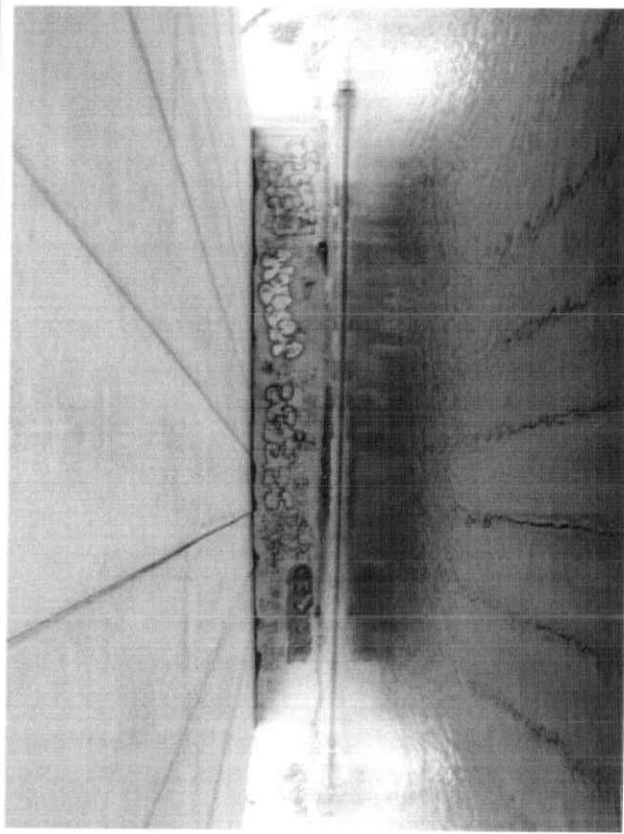


Photo # 6: West approach from the bridge.

<b>Bridge No.</b>	04343	<b>Inspected by:</b>	D. Chester
<b>Town:</b>	Litchfield	<b>Inspected by:</b>	T. Goetz
<b>Feature Carried:</b>	North Shore Road	<b>Date Inspected:</b>	6/23/2009
<b>Feature Crossed:</b>	Bantam River	<b>Project No.:</b>	170-2729

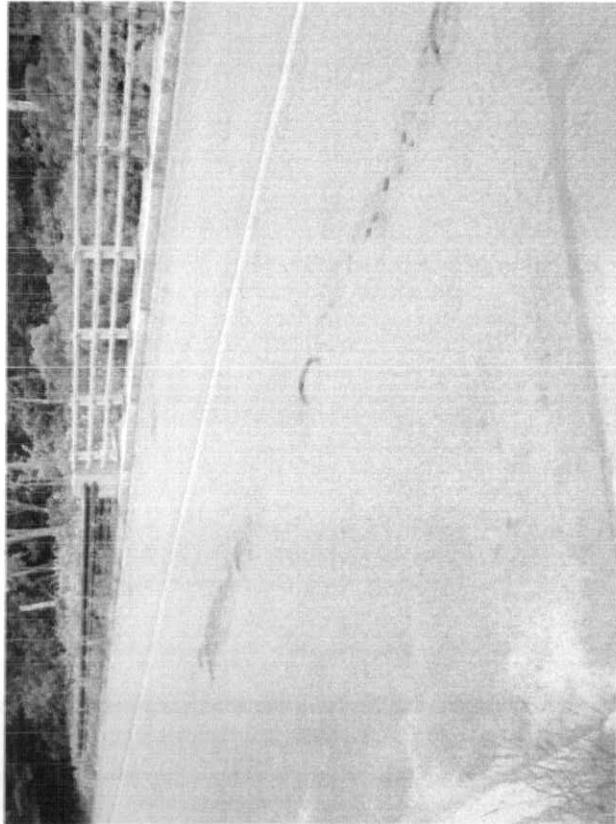


**Photo # 7:** East approach from the bridge.

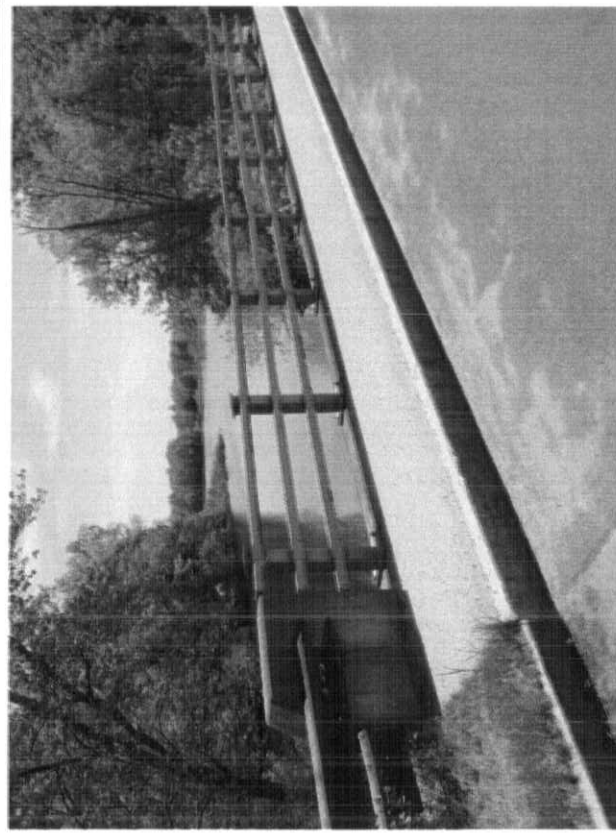


**Photo # 8:** Underside of the precast concrete box beams.

<b>Bridge No.</b>	04343	<b>Inspected by:</b>	D. Chester
<b>Town:</b>	Litchfield	<b>Inspected by:</b>	T. Goetz
<b>Feature Carried:</b>	North Shore Road	<b>Date Inspected:</b>	6/23/2009
<b>Feature Crossed:</b>	Bantam River	<b>Project No.:</b>	170-2729



**Photo # 9:** View of the bituminous concrete overlay.

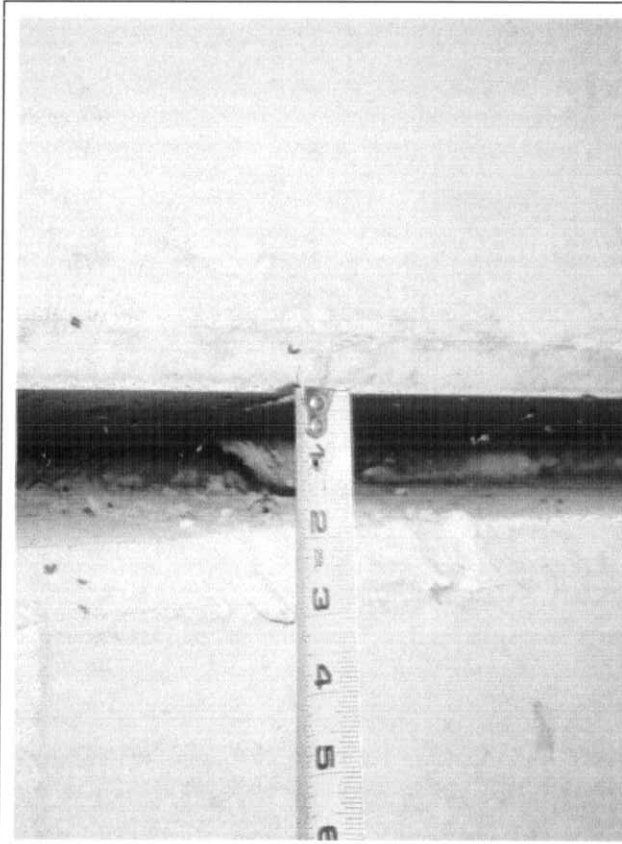


**Photo # 10:** South bridge railing, curb and sidewalk.

Bridge No.	04343	Inspected by:	D. Chester
Town:	Litchfield	Inspected by:	T. Goetz
Feature Carried:	North Shore Road	Date Inspected:	6/23/2009
Feature Crossed:	Bantam River	Project No.:	170-2729



**Photo # 11:** Deck joint at the east abutment.



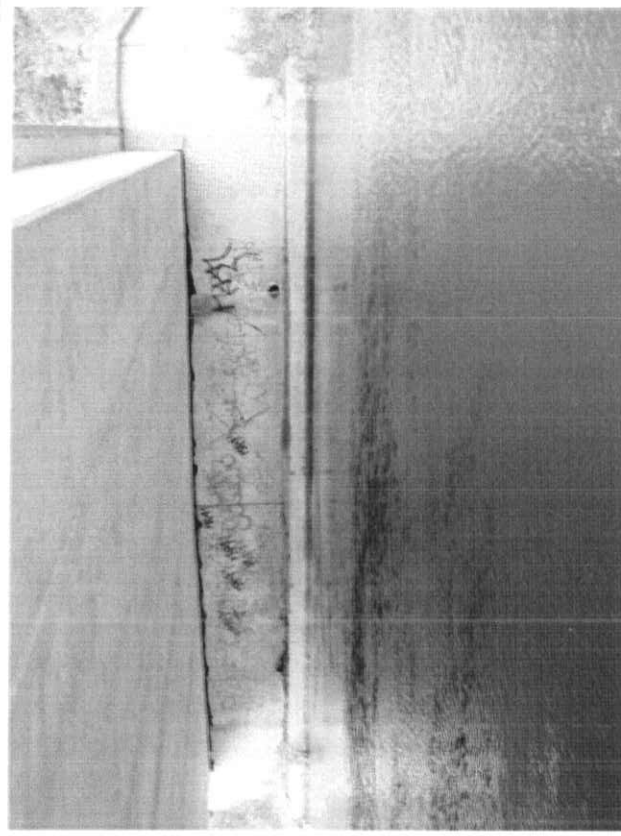
**Photo # 12:** 1-7/8" wide gap along the underside of the shear key between beams 7 and 8 at the west abutment.



<b>Bridge No.</b>	04343	<b>Inspected by:</b>	D. Chester
<b>Town:</b>	Litchfield	<b>Inspected by:</b>	T. Goetz
<b>Feature Carried:</b>	North Shore Road	<b>Date Inspected:</b>	6/23/2009
<b>Feature Crossed:</b>	Bantam River	<b>Project No.:</b>	170-2729

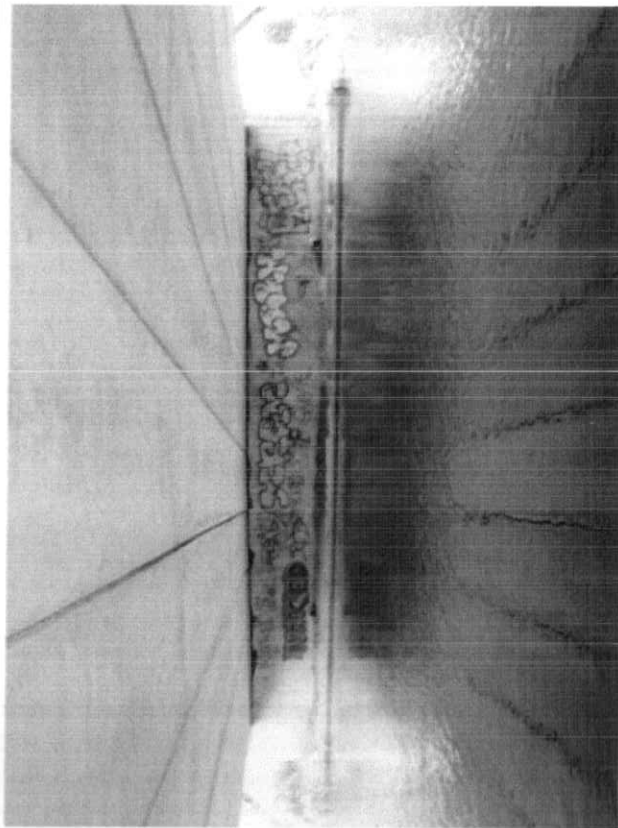


**Photo # 13:** Bulging bearing material for bridges at the west abutment.



**Photo # 14:** East abutment elevation.

<b>Bridge No.</b>	04343	<b>Inspected by:</b>	D. Chester
<b>Town:</b>	Litchfield	<b>Inspected by:</b>	T. Goetz
<b>Feature Carried:</b>	North Shore Road	<b>Date Inspected:</b>	6/23/2009
<b>Feature Crossed:</b>	Bantam River	<b>Project No.:</b>	170-2729

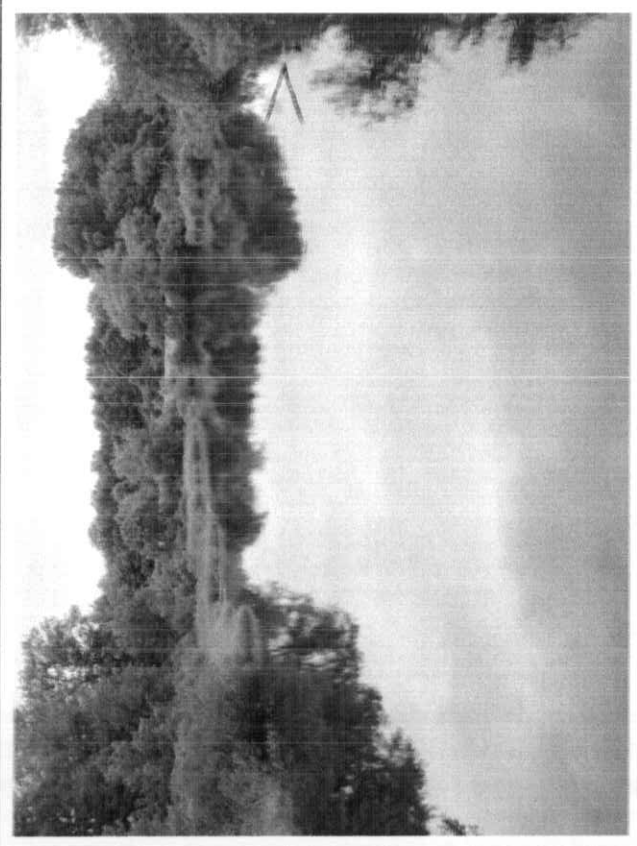


**Photo # 15:** West abutment elevation.

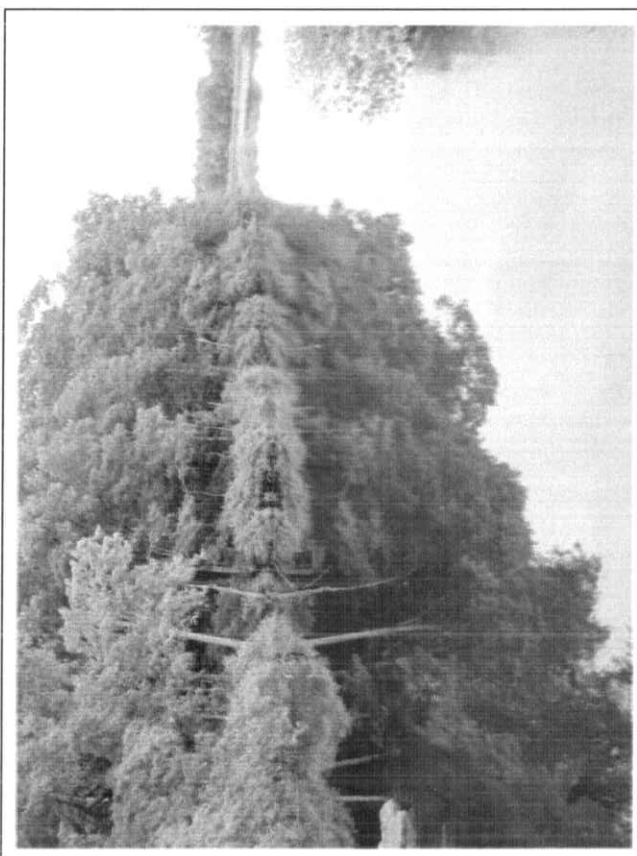


**Photo # 16:** Northwest wingwall elevation.

<b>Bridge No.</b>	04343	<b>Inspected by:</b>	D. Chester
<b>Town:</b>	Litchfield	<b>Inspected by:</b>	T. Goetz
<b>Feature Carried:</b>	North Shore Road	<b>Date Inspected:</b>	6/23/2009
<b>Feature Crossed:</b>	Bantam River	<b>Project No.:</b>	170-2729



**Photo # 17:** Upstream view from the bridge.



**Photo # 18:** Downstream view from the bridge.

# PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System	
Image Inventory	
Bridge No. <u>04343</u>	Date <u>6/23/09</u>
Town: <u>Litchfield</u>	Photographer: <u>DC</u>
Carried / Crossed: <u>North Shore Road / Bantam River</u>	
Film Frame #	Image Description
01	Bridge ID
02	Bridge from west approach
03	Transition s.w.
04	West approach from bridge
05	East approach from bridge
06	Bridge from east approach
07	Joint @ east abutment
08	Typical overlay
09	Joint @ west abutment
10	South elevation
11	Underside of beams / deck
12	west abutment
13	Joint material bulding from w. abutment
14	East abutment
15	1/8" gap between beams 7 + 8 west side
16	North elevation
17	Downstream view
18	Upstream view
19	Railing and Transition N.W
20	Typical overlay
21	Bridge from East approach
22	N.W. wingwall
23	
24	



04343 - 01.JPG



04343 - 02.JPG



04343 - 03.JPG



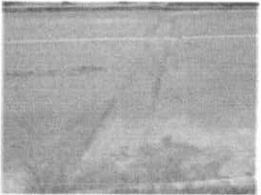
04343 - 04.JPG



04343 - 05.JPG



04343 - 06.JPG



04343 - 07.JPG



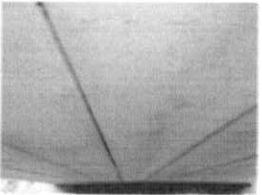
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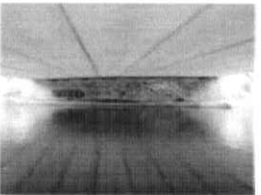
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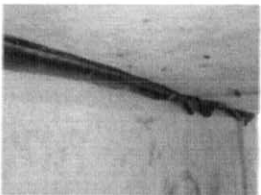
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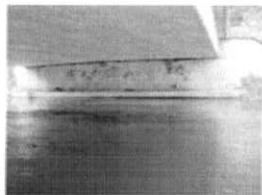
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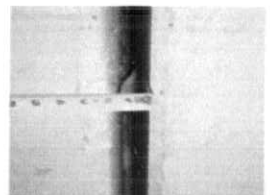
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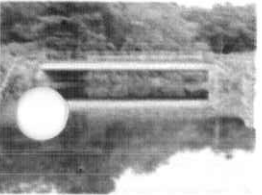
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04343 - 14.JPG



04343 - 15.JPG



04343 - 16.JPG



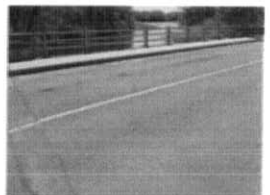
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04343 - 18.JPG



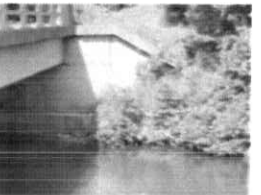
04343 - 19.JPG



04343 - 20.JPG



04343 - 21.JPG



04343 - 22.JPG

