



**Financial Aid Data:**

Bridge No. 05147

Federal Reimbursement: *(Limited to qualifying bridges – See Appendix I)*

Total Estimated Project Cost multiplied by 80%:

Project Reimbursement Request \$ 384,720

State Local Bridge Project Grant: *(Cannot be combined with Federal reimbursement)*

Allowable Grant Percentage \_\_\_\_\_ % of Total Cost.

Project Grant Request \$ N.A.

State Local Bridge Project Loan: *(Maximum 50% of total project cost)*

Project Loan Request \$ N.A.

**Schedule:** (Anticipated Dates)

Public Hearing Conducted: September, 05

Design Completion: December, 06

Property Acquisition Completion: N.A.

Utilities Coordination Completion: December, 06

Construction Advertising: January, 07

Supplemental Application Submission: March, 07

Start of Construction: April, 07

Completion of Construction: September, 07

I hereby certify that the above is accurate and true, to the best of my knowledge and belief.

Signature:   
(Chief Elected Official, Town Manager, or other Officer Duly Authorized)

Jerome F. Rathbun, First Selectman  
Date: 5/2/05

Return completed applications to: Mr. Stanley C. Juber  
Administrator of the Local Bridge Program  
Connecticut Department of Transportation  
2800 Berlin Turnpike, P.O. Box 317546  
Newington, Connecticut 06131-7546

**REHABILITATION OF BUNNEL STREET ROAD BRIDGE  
OVER LOON BROOK  
BRIDGE NO. 05147  
COLEBROOK, CONNECTICUT**

**Existing Condition:**

Bunnel Street is a rural major access road in the Town of Colebrook. The road carries local vehicular traffic including school buses and commercial trucks. Average Daily Traffic (ADT 1991) is 300 of which 7% is trucks.

The Bunnel Street Bridge (No. 05147) was originally constructed in 1935 and later widened (year unknown). The bridge is a single span structure with a clear span of 20' and total length of structure 23'. The bridge has a roadway width of 19'-7" and carries two lanes of traffic. The bridge is located in the middle of a horizontal curve. The south approach has a steep vertical gradient.

Approximately 16' width of the bridge superstructure consists of a cast-in-place reinforced concrete deck slab overlaid with bituminous wearing surface. The remainder superstructure consists of corrugated metal deck planks filled with bituminous concrete and supported on two steel stringers. The west side has a concrete curb and metal pipe rail. The east side has no curb but only metal pipe rail attached to deck. The substructure is of mortared stone masonry. Foundation type is not known.

The bridge is in poor condition and requires rehabilitation.

**Proposed Rehabilitation:**

The following scope of rehabilitation is proposed.

- Remove the existing superstructure and substructure.
- Construct a twin 12'x8' precast concrete box culvert and U-Type wingwalls at all four corners.
- The curb to curb width shall be 20'.
- Construct concrete parapets.
- Reconstruct approach roadways, 150' at each end to match the bridge.
- Install RB 350 guiderail within the project limits.
- Bridge to be closed to traffic during construction.

**Estimated Construction Cost:**

Removal of Superstructure	L. S.	\$ 20,000
Removal of Existing Masonry	75 C. Y. @ \$100	\$ 7,500
Structure Excavation	450 C. Y. @ \$25	\$ 11,250
Handling Water	L. S.	\$ 20,000
Prestressed Conc. Box Culvert	50 L. F. @ \$1500	\$ 75,000
Class 'A' Concrete	185 C. Y. @ \$450	\$ 83,250
Class 'F' Concrete	8 C. Y. @ \$750	\$ 6,000
Deformed Steel Bars	12,000 LB @ \$1.50	\$ 18,000
Pervious Structure Backfil	100 C. Y. @ \$35	\$ 3,500
Roadway Items (300L. F.)	L. S.	\$ 45,000
Minor Items	L. S. (10%)	\$ 29,000
Mobilization	L. S. (8%)	\$ 25,000
<b>Total Construction Cost</b>		<b>\$343,500</b>

*Barnes*

Structure No.	05147	Town	COLEBROOK
Inspection Date	3/12/01	Inspectors	TEAM 1

## 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="margin-left: 100px;">Already on file <input type="checkbox"/></span>	0

### Bound Report Pages

Title Cover Sheet	0
Table of Contents	1 ✓
Executive Summary	0
Field Notes	0
Calculations: <span style="margin-left: 100px;">Load Rating Evaluation</span>	0
<span style="margin-left: 100px;">Quantities &amp; Cost Estimate</span>	0
Photo Sheets	4 ✓
Photo Images	7 ✓

### Forms

BRI-18, Bridge Inspection Form	4 ✓
BRI-19, Highway Bridge Inventory Form	2 ✓
BRI-10, Concrete Deterioration	1 ✓

Comments:

Bridge Number **05147**

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BRIDGE SAFETY & EVALUATION

Inspected By: S. Jaromczyk & J. Jones

**STRUCTURE EVALUATION**

SHEET 1 OF 2 FORM BRI-19 REV 10/00

Sufficiency Rating **77.13**  
Previous Inspection Date **02/24/99**

BS&E Received  Data Entry By: \_\_\_\_\_

Copies Made  Data Entry Date: \_\_\_\_\_

SHEET 1 OF 8 (INSP. REPORT)

90) Inspection Date <b>03/12/01</b>	Inspection Team <b>107</b>	91) Frequency, Class <b>24</b> <input type="checkbox"/> <b>01</b> <input type="checkbox"/>
Indepth Insp <b>05/06/93</b>	Deck Survey <input type="checkbox"/>	Access Flagman <b>0</b> <input type="checkbox"/> <b>0</b> <input type="checkbox"/>

  

CRITICAL FEATURE INSPECTIONS			
Type	Frequency	Team	Date
Fracture: <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>12:00:00 A</b>
Uwater: <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>01/01/01</b>
Special: <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>01/01/01</b>

**IDENTIFICATION**

Bridge Name \_\_\_\_\_  
Town Name **COLEBROOK** Town Code **16050**

5) Inventory Route:  
A) Record Type **1** D) Route Number **00000**  
B) Signing Prefix **5** City Street E) Directional Suffix **0** NA  
C) Level of Service **0** None of the be

6) Feature Intersected **LOON BROOK**

7) Facility Carried **BUNNEL STREET**

9) Location **JCT RTE 183 SANDY BROOK**

11) Milepoint **1.15** Mile  
16) Latitude **41 deg 59 min 54.00 sec** deg min sec  
17) Longitude **73 deg 6 min 54.00 sec** deg min sec

98) Border Bridge:  
A) State Code \_\_\_\_\_ B) Percent Responsibility \_\_\_\_\_ %  
C) Border Town Name \_\_\_\_\_

99) Border Bridge Structure No \_\_\_\_\_

**STRUCTURE TYPE AND MATERIAL**

43) Structure Type, Main:  
A) Material **1** Concrete B) Design Type **1** Slab

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 **1** Concrete Cast-in-Place

108) Wearing Surface/Protective System:

A) Type of Wearing Surface **6** Bituminous  
B) Type of Membrane **0** None  
C) Type of Deck Protection **0** None

**AGE AND SERVICE**

27) Year Built **1935** 106) Year Reconstructed **0000**

42) Type of Service:  
A) On **1** Highway B) Under **5** Waterway

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

29) Average Daily Traffic **300**

109) Percent Truck **7 %**

30) Year of ADT **1991**

19) Bypass, Detour Length **3** miles

**GEOMETRIC DATA**

48) Length of Max Span **20** ft

49) Structure Length **23** ft

50) Curb or Sidewalk Widths:  
A) Left **0.0** ft B) Right **0.0** ft

51) Brg Rdwy width, curb-curb **19.9** ft

52) Deck Width, Out-Out **21.8** ft

32) Approach Roadway Width **19** ft

33) Bridge Median **0** No Median  
Deck Area **501** sqft

34) Skew Angle **9** deg

35) Structure Flared **0**

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

47) Log Inv. Rte. Total Horiz Clr.: **19.7** ft

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

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

54) Min Vert Under Clearance **N** Ref **0** ft **0** in

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

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

**BRIDGE COMMENTS**

**CLASSIFICATION**

112) NBIS Bridge Length	Yes	
104) Highway System	0 Off System	
26) Functional Class	9 Rural Local	
100) Defense Highway	0 Not Defense Highway	
101) Parallel Structure	N No parallel structure exists	
102) Direction of Traffic	2 2-way traffic	
103) Temporary Structure		
110) Designated National Network	0 Not on national network	
20) Toll	3 On Free Road	
21) Maintain	3 Town or Township Highway Agency	
22) Owner	3 Town or Township Highway Agency	
Report Class	L Local	
37) Historical Significance	5 Bridge is eligible for National Register	

**WATERWAY**

DrainageBasinCode	4399	
38) Navigation Control	0 No navigation control on waterway	
39) Navigation Vert Clr.	0	40) Navigation Horiz Clr.
116) Vert-Lift Brg Nav Min		
111) Pier Abutment Protection	0 Not applicable	

**PROPOSED IMPROVEMENTS**

75A) Type of Work Proposed	30 Invalid type of work	
75B) Work Done By	2 Work done by owner's forces	
76) Length of Struct. Improvement		ft
94) Bridge Improvement Cost	\$	
95) Roadway Improvement Cost	\$	
96) Total Project Cost	\$	
97) Year of Improvement Cost Est.	0	
114) Future ADT		115) Year Future ADT
Program List No.	00	Project No.
		0000

**POSTED SIGNS & UTILITIES**

Other Posted Signs 1	Speed Limit lower than the Inventory Route	
Other Posted Signs 2	Merge	
Other Posted Signs 3		
Actual P.L. Single Unit Truck	tons	Actual P.L. 4Axle Truck
Rec. P.L. Single Unit Truck	tons	Rec. P.L. 4Axle Truck
Actual P.L. Semi-Trailer Truck	tons	Actual P.L. 3S2 Truck
Rec. P.L. Semi-Trailer Truck	tons	Rec. P.L. 3S2 Truck
Posted Vert Clearance On Bridge	ft in	
Posted Vert Under Clearance	ft in	
Posted Speed Limit	mph	

**STRUCTURE EVALUATION**

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

SHEET 2 OF 8 (INSP. REPORT)

Bridge Number	05147	NBIS Length	
Town Name	COLEBROOK	Yes	23
Facility Carried	BUNNEL STREET		
Feature Crossed	LOON BROOK		

Inspected By: Jaranczyk & Jones

**LOAD RATING AND POSTING**

31) Design Load	5	Evaluation Code	C
63) Operating Rating Type	2	Year of Evaluation	2000
64) Operating Rating	58	70) Bridge Posting	5
65) Inventory Rating Type	2	41) Structure Status	A
66) Inventory Rating	34	Open, no restriction	

**CONDITION**

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

**APPRAISALS**

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

Items 58 Thru 72 Checked By:

36) Traffic Safety Features:

A) Bridge Railings	0	0
B) Transitions	0	0
C) Approach Guardrail	0	0
D) Approach Guardrail End	0	0

**OTHER FEATURES**

Fence Required	No	Barrel Ladder	No
Fence Present	No	Stand Pipes	No
Fence Height	0.0 ft	Cat Walks	No
Fence Type	0	Movable Inspection System	No
Fence Material	0		
Fence Top Type	0		

**INSPECTION COMMENTS**

Proposed Next Indepth Insp Year 2003

REVIEWED BY D. Carlson Date 4/10/01

518

# Connecticut Department of Transportation Bridge Inspection Report BRI-18

BRIDGE #: **05147**

INSPECTION DATE: **3/12/01**

INSPECTION TYPE: **BIENNIAL**      PREVIOUS INSPECTION DATE: **2/24/99**      SNOOPER REQUIRED:  No  
 INSPECTION PERFORMED BY: **TEAM 1**      SNOOPER USED:  No

TOWN: **COLEBROOK**      FEATURE CARRIED: **BUNNEL STREET**      YEAR BUILT: **1935**  
 LOCATION: **JCT RTE 183 SANDY BROO**      FEATURE INTERSECTED: **LOON BROOK**      YEAR REBUILT: **0000**  
 MAIN MATERIAL: **CONCRETE**      MAIN DESIGN: **SLAB**

INSPECTION VISITS:      INSPECTORS:  
 Inspection Date: **3/12/01**      Start Time: **11:40 AM**      Inspector: **S. Jaronczyk**      Task: \_\_\_\_\_  
 Temperature: \_\_\_\_\_ ° F      End Time: **1:00 PM**      Inspector: **J. Jones**      Task: \_\_\_\_\_

**58. DECK**      **OVERALL RATING** **6**

	RATING	
OVERLAY	<b>7</b>	BITUMINOUS-ONE LONGITUDINAL CRACK, SMALL SURFACE SPALLS AND SAND ACCUMULATION IN SHOULDERS.
DECK STR. CONDITION	<b>6</b>	REINFORCED CONCRETE SLAB. METAL DECK PLANKING OVER ROLLED BEAMS ALONG WEST, SHOWS AN ISOLATED AREA OF HEAVY LAMINAR RUST WITH TWO PERFORATED RIBS AT MIDSPAN. REMAINING PLANKS SHOW LIGHT RUST ADJACENT TO TOP FLANGES OF STRINGERS. SOUTHWEST CORNER OF DECK 1 FOOT AWAY FROM RAIL HAS A 6" DIAMETER HOLE, PERFORATION HAS RUSTED AWAY UNDERNEATH, MAY HAVE BEEN PATCHED, NO HOLE VISIBLE FROM UNDERSIDE, SNOW COVERED TOPSIDE.
CURBS	<b>N</b>	
MEDIAN	<b>N</b>	
SIDEWALKS	<b>N</b>	
PARAPET	<b>7</b>	RAILBASE - EAST ONLY, SMALL SURFACE SPALLS.
RAILING	<b>6</b>	3" PIPE ON POSTS. LIGHT-MODERATE RUST, ROSEBUDDING OF ANCHOR BOLTS. LAMINAR RUST AT MOST COUPLINGS WITH PEELING PAINT THROUGHOUT.
PAINT	<b>N</b>	
FENCE		
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>	

**59. SUPERSTRUCTURE**      **OVERALL RATING** **7**

	RATING	
BEARING DEVICES	<b>7</b>	STEEL PLATES FOR ROLLED BEAMS SHOW LIGHT RUST, PREMOLD FOR R.C. SLAB IS SQUEEZED OUT.
STRINGERS	<b>7</b>	R.C. SLAB - SHOWS SMALL AREA OF MAP HAIRLINE CRACKS, LIGHT HONEYCOMB AREA, WOOD LEFT EMBEDDED IN SLAB AT ABUTMENTS. RANDOM TIE WIRES EXPOSED WITH HEAVY RUST AND ONE POTENTIAL SPALL AT ABUTMENT #1 WITH FORM IN PLACE MEASURING 12" X 6", SEE PHOTO. STEEL BEAMS SHOW LIGHT SPOTTY RUST
GIRDERS	<b>N</b>	

# Bridge Inspection Report BRI-18

BRIDGE #: **05147**

INSPECTION DATE: **3/12/01**

<b>59. SUPERSTRUCTURE</b>		OVERALL RATING <b>7</b>
FLOOR BEAMS	<b>N</b>	
TRUSSES-GENERAL	<b>N</b>	
TRUSSES-PORTALS	<b>N</b>	
TRUSSES-BRACING	<b>N</b>	
PAIN	<b>7</b>	SCATTERED PEELING PAINT.
RUST	<b>7</b>	SEE STEEL BEAMS.
MACHINERY MOV SPAN	<b>N</b>	
RIVETS & BOLTS	<b>N</b>	
WELDS & CRACKS	<b>8</b>	
TIMBER DECAY	<b>N</b>	
CONCRETE CRACKING	<b>7</b>	SEE R.C. SLAB.
COLLISION DAMAGE	<b>8</b>	
MEMBER ALIGNMENT	<b>8</b>	
DEFLECT. UNDER LOAD	<b>N</b>	
VIBR. UNDER LOAD	<b>N</b>	
STAND PIPES	<input type="checkbox"/>	
BARREL LADDERS	<input type="checkbox"/>	
ARE BARREL LADDERS OSHA COMPLIANT? <input type="checkbox"/>		

<b>60. SUBSTRUCTURE</b>		OVERALL RATING <b>7</b>
	<b>RATING</b>	
ABUTMENTS-STEM	<b>7</b>	MASONRY - MINOR CRACKS IN MORTAR. FORM IN PLACE (2 X 4) FULL WIDTH OF ABUTMENT #2.
ABUTMENTS-BACKWALL	<b>8</b>	VISIBLE AT WESTEDGE FOR ROLLED BEAMS PORTION OF STRUCTURE.
ABUTMENTS-FOOTINGS	<b>N</b>	
ABUT.-SETTLEMENT	<b>8</b>	
ABUTMENTS-WINGWALLS	<b>6</b>	STONES HAVE FALLEN IN NORTHEAST FREE END. 1/4" OPEN VERTICAL CRACK IN MORTAR SOUTHWEST, SNOW COVERED.
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>8</b>	
CONCRETE CRACK-SPALL	<b>7</b>	SEE above items.
STEEL CORROSION	<b>N</b>	

Bridge Inspection Report BRI-18

BRIDGE #: **05147**

INSPECTION DATE: **3/12/01**

<b>60. SUBSTRUCTURE</b>		OVERALL RATING	<b>7</b>
PAINT	<b>N</b>		
TIMBER DECAY	<b>N</b>		
COLLISION DAMAGE	<b>8</b>		
DEBRIS	<b>8</b>		

<b>61. CHANNEL PROTECTION</b>		OVERALL RATING	<b>7</b>
<small>RATING</small>			
CHANNEL SCOUR	<b>7</b>	WATER DEPTH 3-4' AT STRUCTURE.	
EMBANKMENT EROSION	<b>7</b>	MINOR DOWNSTREAM, SNOW COVERED.	
DEBRIS	<b>6</b>	ENCROACHMENT AT SOUTHWEST, SNOW COVERED.	
VEGETATION	<b>7</b>	BRUSH GROWTH ADJACENT TO ENROACHMENT.	
CHANNEL CHANGE	<b>8</b>		
FENDER SYSTEM	<b>N</b>		
SPUR DIKES & JETTIES	<b>N</b>		
RIP RAP	<b>N</b>		

<b>62. CULVERTS &amp; RETAINING WALL</b>		OVERALL RATING	<b>N</b>
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<b>APPROACH CONDITION</b>		OVERALL RATING	<b>6</b>
<small>RATING</small>			
APPROACH SLAB	<b>N</b>		
RELIEF JOINTS	<b>N</b>		
APPROACH GUIDE RAIL	<b>6</b>	SINGLE POSTS EAST SIDE ONLY. LEANING SOME SPLITTING. EXTREME SAFETY HAZARD FOR MOTORISTS ALONG WEST SIDE OF STRUCTURE.	
APPROACH PAVEMENT	<b>6</b>	TRANSVERSE AND LONGITUDINAL OPEN CRACKS, SETTLEMENT AT DECK ENDS UP TO 3/4", BITUMINOUS SPALLS AND MINOR BREAKING UP AT SHOULDERS.	
APPROACH EMBANKMENT	<b>8</b>		
<b>TRAFFIC SAFETY FEATURES:</b>			
BRIDGE RAILINGS	<b>0</b>		
TRANSITIONS	<b>0</b>		
APPROACH GUARDRAILS	<b>0</b>		
APPR. GUARDRAIL ENDS	<b>0</b>		

<b>LOAD POSTING</b>			
SINGLE UNIT (TONS)	<input type="checkbox"/>		
HS (TONS)	<input type="checkbox"/>		
4 AXLE (TONS)	<input type="checkbox"/>		
2S3 (TONS)	<input type="checkbox"/>		
ADVANCE WARNING Y/N	<b>N</b>		

Connecticut Department of Transportation  
Bridge Inspection Report BRI-18

BRIDGE #: 05147

INSPECTION DATE: 3/12/01

LEGIBILITY  N  \_\_\_\_\_

VISIBILITY/LOCATION  N  \_\_\_\_\_

MISC.

MIN VERT. UNDERCLR.  0'  0" \_\_\_\_\_

POSTED CLR. UNDER BRIDGE  0'  0" \_\_\_\_\_

POSTED CLR. ON BRIDGE  0'  0" \_\_\_\_\_

ADVANCE WARNING (Y/N)  No \_\_\_\_\_

SPEED LIMIT (IF ANY)  NN  MPH \_\_\_\_\_

CHARACTER OF TRAFFIC  LIGHT - MIXED \_\_\_\_\_

ADDITIONAL NOTES

\_\_\_\_\_

ADDITIONAL COMMENTS:

\_\_\_\_\_

Inspectors' Signatures: 1) *[Signature]* Date: 04/11/01

2) *[Signature]* Date: 04/11/01

3) \_\_\_\_\_ Date: \_\_/\_\_/\_\_

4) \_\_\_\_\_ Date: \_\_/\_\_/\_\_

P.E. Signature: \_\_\_\_\_ Date: \_\_/\_\_/\_\_

P.E.#: \_\_\_\_\_

Reviewed by: *D. Carlson* CDOT Date: 4/10/01