BRIDGE NO. 06840

15910 - COLCHESTER
ROUTE 2
over
BROOK

Special Inspection
8/05/2019
Inspected by: Team 3
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Form: Location
Inspection type: Special
Inspection Date: 8/05/2019
Inspected by: Team 3

Town: COLCHESTER
Carried: ROUTE 2
Crossed: BROOK
Inventory Route: NHS

Location Map #1
0.6 Miles East of Route 2 Exit#21
3.9 Miles West of Scott Hill Road (Route 2 Exit#22)
Form: BRI-19, Rev. 2/15

Bridge No: 06840

Inspection type: Special

Inspection Date: 8/05/2019

Inspected by: Team 3

**STRUCTURE INVENTORY & APPRAISAL**

<table>
<thead>
<tr>
<th>INSPECTION</th>
<th>STRUCTURE TYPE &amp; MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structurally Deficient</td>
<td>Y</td>
</tr>
<tr>
<td>Sufficiency Rating</td>
<td>33.7</td>
</tr>
<tr>
<td>(90) Inspection Date</td>
<td></td>
</tr>
<tr>
<td>Indepth Insp</td>
<td>No</td>
</tr>
<tr>
<td>Deck Survey Date</td>
<td></td>
</tr>
<tr>
<td>Access</td>
<td>0 - None</td>
</tr>
<tr>
<td>Frequency</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>J Corrosion / Section loss</td>
</tr>
</tbody>
</table>

**IDENTIFICATION**

| Bridge Name | 06840 |
| Town Code - Name | 15910 - COLCHESTER |
| (5) Inventory Route | |
| (A) Record Type | 1: Route carried "on" the structure |
| (B) Signing Prefix | 3 - STATE HIGHWAY |
| (C) Level of Service | 1 - MAINLINE |
| (D) Route Number. | 00002 |
| (E) Dir Suffix | 0 - NOT APPLICABLE |
| (6A) Featured Intersected | BROOK |
| (6B) Critical Facility Indicator | |
| (7) Facility Carried | ROUTE 2 |
| (9) Location | 0.6 MI E OF EXIT 21 |
| (11) Mile Post | 27.06 |
| (16) Latitude | 41 Deg. 34 Min. 10.89 Sec. |
| (17) Longitude | -72 Deg. 17 Min. 0.79 Sec. |
| (98) Border Bridge | |
| (A) State Code | |
| (B) Percent Responsibility | % |
| (C) Border Town Name | |
| (99) Border Bridge Structure No. | |

**GEOMETRIC DATA**

| (48) Length of Maximum Span | 6 ft. |
| (49) Structure Length | 6 ft. |
| (50) Curb or Sidewalk Widths | |
| A) Left | 0 ft. 0 in. |
| B) Right | 0 ft. 0 in. |
| (51) Bridge Roadway Width | Curb to Curb |
| 0 ft. 0 in. |
| (52) Deck Width, Out to Out | 0 ft. 0 in. |
| (32) Approach Roadway Width | 80 ft. |
Form: BRI-19, Rev. 2/15
Inspection type: Special
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Bridge No 06840

AGE AND SERVICE

Year Built 1971
(106) Year Reconstructed

(42) Type of Service
A) On
1 - Highway
B) Under
5 - Waterway

(28) Number of Lanes
A) On
04
B) Under
00

(29) Average Daily Traffic
23800

Is Above Half ADT? No

(109) Precent Truck
5%

(30) Years of ADT
2015

(19) Bypass, Detour Length
1 Miles

CONDITION

(58) Deck N
(59) Superstructure N
(60) Substructure N
(61) Channel & Channel Protections 3
(62) Culverts 3

(36) Traffic Safety Features
A) Bridge Railings N
B) Transitions N
C) Approach Guardrail N
D) Approach Guardrail Ends N

WATERWAY

Drainage Basin Waterway 3904 - Deep River

(38) Navigation Control
0 - No navigation control on waterway (bridge permit not required)

(39) Navigation Vertical Clearance
0 ft.

0 ft.

(111) Pier/Abutment Navigation

(116) Vert-Lift Brg Nav Min
0 ft. 0 in.

COMMENTS

Route 2 {Veterans of Foreign Wars Memorial Highway} - Inventory Route Log Direction - East..

CLASSIFICATION

(112) NBIS Bridge Length
No

(104) Highway System
1 - Structure/Route is on NHS

(26) Functional Class
02 - Rural - Principal Arterial - Other

(100) Defense Highway
0 - Not a STRAHNET route

(101) Parallel Structure
N - No parallel structure

(102) Direction of Traffic
2 - 2-way traffic
Form: BRI-19, Rev. 2/15
Inspection type: Special
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Town: COLCHESTER
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Bridge No 06840

(103) Temporary Structure
(110) Designated National Network
1 - Inventory route on National Truck Network
(20) Toll
3 - On Free Road
(21) Maintain
01 - State Highway Agency
(22) Owner
01 - State Highway Agency
Report Class
S - STATE
(37) Historical Significance
5 - Not eligible for National Register

PROPOSED IMPROVEMENTS
(75A) Type of Work Proposed
35 - Rehabilitation - Deterioration
(75B) Work Done By
1 - Work to be done by contract
(76) Length of Structure Improvement
(94) Bridge Improvement Cost
(95) Roadway Improvement Cost
(96) Total Project Cost
$600
(97) Year of Improvement Estimate
2015
(114) Future ADT
35364
(115) Year of Future ADT
2035

POSTED SIGNS
Other Posted Sign 1
Other Posted Sign 2

Actual Recomended tons tons tons tons

Posted Load Single Unit Truck
Posted Load Semi-Trailer Truck
Posted Load 4 Axle Truck
Posted Load 3S2 Truck
All Vehicles

Posted Vert. Clearance on Bridge ft. in.
Posted Vert. Underclearance ft. in.

Posted Speed Limit on Bridge m.p.h.

LOAD RATING & POSTING
(31) Design Load
5 - HS 20
(63) Operating Rating Type
0 - Field evaluation and documented engineering judgment
(64) Operating Rating
999
(65) Inventory Rating Type
0 - Field evaluation and documented engineering judgment
(66) Inventory Rating
99.9

Evaluation Code
E - Evaluated
Year of Evaluation
2015
(70) Bridge Posting
5 - Equal to or above legal loads
(41) Structure Status
A - Open

OTHER FEATURES
Fence Required
No
Fence Present
No
Fence Type
Fence Height
Fence Material
Fence Top Type
Barrel Ladders
No
Stand Pipes
No
Catwalks
No
Moveable Inspection System
No
Haunches Present over Roadway
Utilities
N | No Utilities present
Form: BRI-19, Rev. 2/15
Inspection type: Special
Inspection Date: 8/05/2019
Inspected by: Team 3

Town: COLCHESTER
Carried: ROUTE 2
Crossed: BROOK
Inventory Route: NHS

Bridge No: 06840

INSPECTOR'S SIGNATURES:

1) 
Date: 09/12/2019

2) 
Date:

3) 
Date:

4) 
Date:

P.E. SIGNATURE:

P.E. #

Reviewed By:

Date: 10/16/2019
### SPECIAL INSPECTION

<table>
<thead>
<tr>
<th>Inspectors:</th>
<th>Visits:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead Inspector: Stephen Keedy</td>
<td>Visit Date: 08/05/2019</td>
</tr>
<tr>
<td>Inspector:</td>
<td>Temp: 80</td>
</tr>
<tr>
<td>Area, 03</td>
<td>Start Time: 10:30 AM</td>
</tr>
<tr>
<td>Keedy, Stephen</td>
<td>End Time: 01:00 PM</td>
</tr>
<tr>
<td>Patel, Dhvani</td>
<td>BSE - Inspector</td>
</tr>
<tr>
<td></td>
<td>BSE - Supervisor</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>BSE - TE3</td>
</tr>
</tbody>
</table>

**Special Inspection Type:** J Corrosion / Section loss

**Inspection Description:** Checking section loss in culvert

**Feature Inspected:** Culvert interior

**Inspection Results:** Up to 2' x 18" perforations (at 197 feet from inlet) and heavy section loss in steel pipe. See sketch for details.

**Action To Be Taken:** 12 month inspection frequency until culvert replacement under Project 0028-0202, advertise date 11/2019
# Bridge No. 0 6840
## Town of Colchester
### Route 2 over Brook

## Horizontal & Vertical Round Pipe Diameter Measurements
### Project No. 28 - 128 - Year 1968

| Date       | Horizontal Diameter | Vertical Diameter | Location | Inlet        | 50 feet | 100 feet | 150 feet | 200 feet | 250 feet | 300 feet | 350 feet | 379 feet |
|------------|---------------------|-------------------|----------|--------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|
| 12-Dec-13  | 5' - 8"             | 6' - 1 1/2"      | Inlet    | 5' - 8"     | 6' - 1 1/2" | 5' - 8" | 6' - 1 1/2" | 5' - 8" | 6' - 1 1/2" | 5' - 8" | 6' - 1 1/2" | 5' - 8" | 6' - 1 1/2" |
| 9-Jun-14   | 5' - 8"             | 6' - 1 1/2"      | 50 feet  | 6' - 2"     | 5' - 6 1/2" | 6' - 1 3/4" | 5' - 6" | 6' - 1 1/4" | 5' - 6" | 6' - 1 1/4" | 5' - 6" | 6' - 1 1/4" |
| 9-Sep-14   | 5' - 8"             | 6' - 1 1/2"      | 100 feet | 6' - 2"     | 5' - 7 1/2" | 6' - 1 5/8" | 5' - 7 1/4" | 6' - 1 13/16" | 5' - 7 3/16" | 6' - 2 1/2" | 5' - 6 3/4" | 6' - 2 1/2" | 5' - 6 3/4" |
| 15-Sep-15  | 5' - 8"             | 6' - 1 1/2"      | 150 feet | 6' - 2 1/2" | 5' - 7"     | 6' - 2 1/4" | 5' - 6 3/8" | 6' - 2 1/4" | 5' - 6 5/8" | 6' - 2 1/2" | 5' - 6 3/4" | 6' - 2 1/2" | 5' - 6 3/4" |
| 15-Sep-15  | 5' - 8"             | 6' - 1 1/2"      | 200 feet | 6' - 1"     | 5' - 9"     | 6' - 00 1/2" | 5' - 8 15/16" | 6' - 00 1/2" | 5' - 8 7/8" | 6' - 00 1/4" | 5' - 8 9/16" | 6' - 00 1/4" | 5' - 8 9/16" |
| 15-Sep-15  | 5' - 8"             | 6' - 1 1/2"      | 250 feet | 6' - 00"    | 5' - 7 3/4" | 5' - 11 1/4" | 5' - 7 1/8" | 5' - 11 1/4" | 5' - 7 5/8" | 5' - 10 15/16" | 5' - 5 15/16" | 5' - 10 15/16" | 5' - 5 15/16" |
| 15-Sep-15  | 5' - 8"             | 6' - 1 1/2"      | 300 feet | 6' - 1"     | 5' - 9 1/2" | 6' - 00 15/16" | 5' - 9 1/4" | 6' - 00 1/2" | 5' - 9 3/8" | 6' - 00 11/16" | 5' - 9 5/32" | 6' - 00 11/16" | 5' - 9 5/32" |
| 15-Sep-15  | 5' - 8"             | 6' - 1 1/2"      | 350 feet | 5' - 11"    | 5 - 10"     | 5' - 11"     | 5' - 9 1/2" | 5' - 11"     | 5' - 9 3/8" | 5' - 11 3/32" | 5' - 9 1/2" | 5' - 11 3/32" | 5' - 9 1/2" |
| 15-Sep-15  | 5' - 8"             | 6' - 1 1/2"      | 379 feet | 5' - 9 1/2" | 5' - 11"    | 5' - 9 1/2" | 5' - 10 1/2" | 5' - 9 1/2" | 5' - 10 7/8" | 5' - 9 1/2" | 5' - 11 1/16" | 5' - 9 1/2" | 5' - 11 1/16" |

**Notes:**
- Corrugated Steel Round Pipe - 72 inch diameter by 379 feet - 00 inches {length}.
- Reinforced Concrete Round Pipe - 72 inch diameter by 40 feet 00 inches {length} - Outlet Section.
- Top Plates - Corrugation Size 2 2/3 inch by 1/2 inch by 12 gage {0.109 inch thickness}.
- Bottom Plates - Corrugation Size 2 2/3 inch by 1/2 inch by 10 gage {0.138 inch thickness}.
- Horizontal Diameter Measurements - Pipe Span Length {6 feet - 00 inches} {72 inches}.
- Vertical Diameter Measurements - Pipe Rise {6 feet - 00 inches} {72 inches}.
- Route 2 East Bound Ballast Depth - Approximately 24 feet 00 inches.
- Route 2 West Bound Ballast Depth - Approximately 9 feet 00 inches.
- Location - 50 feet from Inlet {South Side of Structure}; 100 feet from Inlet {South Side of Structure}; etc.
## Bridge No. 0 6840
Town of Colchester
Route 2 over Brook

### Horizontal & Vertical Round Pipe Diameter Measurements
**Project No. 28 - 128 - Year 1968**

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Horizontal Diameter</th>
<th>Vertical Diameter</th>
<th>Horizontal Diameter</th>
<th>Vertical Diameter</th>
<th>Horizontal Diameter</th>
<th>Vertical Diameter</th>
<th>Horizontal Diameter</th>
<th>Vertical Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Nov-16</td>
<td>Inlet</td>
<td>5’ - 8 1/4”</td>
<td>6’ - 2 1/32”</td>
<td>5’ - 9”</td>
<td>6’ 2 1/2”</td>
<td>5’ - 8”</td>
<td>6’ - 1 1/2”</td>
<td>5’ - 6”</td>
<td>6’ - 2 1/2”</td>
</tr>
<tr>
<td>1-Nov-16</td>
<td>50 feet</td>
<td>6’ - 1 23/32”</td>
<td>5’ - 6 3/32”</td>
<td>6’ - 1”</td>
<td>5’ - 6”</td>
<td>6’ - 2 1/4”</td>
<td>5’ - 6”</td>
<td>6’ - 2 1/4”</td>
<td>5’ - 6”</td>
</tr>
<tr>
<td>6-Mar-18</td>
<td>100 feet</td>
<td>6’ - 1 15/16”</td>
<td>5’ - 7 13/32”</td>
<td>6’ - 2”</td>
<td>5’ - 7”</td>
<td>6’ - 1 5/8”</td>
<td>5’ - 7 1/2”</td>
<td>6’ - 2 1/2”</td>
<td>5’ - 7 1/2”</td>
</tr>
<tr>
<td>6-Mar-18</td>
<td>150 feet</td>
<td>6’ - 2 1/2”</td>
<td>5’ - 6 27/32”</td>
<td>6’ - 2”</td>
<td>5’ - 7”</td>
<td>6’ - 2 1/2”</td>
<td>5’ - 6 1/2”</td>
<td>5’ - 2 1/2”</td>
<td>5’ - 6 1/2”</td>
</tr>
<tr>
<td>6-Mar-18</td>
<td>200 feet</td>
<td>6’ - 00 11/16”</td>
<td>5’ - 8 15/16”</td>
<td>6’ - 00”</td>
<td>5’ - 9”</td>
<td>6’ - 1/2”</td>
<td>5’ - 8 1/2”</td>
<td>5’ - 2 1/2”</td>
<td>5’ - 8 1/2”</td>
</tr>
<tr>
<td>6-Mar-18</td>
<td>250 feet</td>
<td>5’ - 10 3/8”</td>
<td>5’ - 5 5/8”</td>
<td>5’ - 11”</td>
<td>5’ - 6”</td>
<td>6’ - 0”</td>
<td>5’ - 8”</td>
<td>5’ - 2 1/2”</td>
<td>5’ - 8”</td>
</tr>
<tr>
<td>6-Mar-18</td>
<td>300 feet</td>
<td>6’00 27/32”</td>
<td>5’ - 9 1/4”</td>
<td>6’ - 00”</td>
<td>5’ - 9”</td>
<td>6’ - 0”</td>
<td>5’ - 9”</td>
<td>5’ - 2 1/2”</td>
<td>5’ - 9”</td>
</tr>
<tr>
<td>6-Mar-18</td>
<td>350 feet</td>
<td>5’ - 11 1/32</td>
<td>5’ - 9 9/16”</td>
<td>5’ - 11”</td>
<td>5’ - 9”</td>
<td>5’ - 11”</td>
<td>5’ - 9 1/2”</td>
<td>5’ - 9 1/2”</td>
<td>5’ - 9 1/2”</td>
</tr>
<tr>
<td>5-Aug-19</td>
<td>379 feet</td>
<td>5’ - 9 1/2”</td>
<td>5’ - 11 11/16”</td>
<td>5’ - 9”</td>
<td>5’ - 11”</td>
<td>5’ - 9”</td>
<td>5’ - 11”</td>
<td>5’ - 9 1/2”</td>
<td>5’ - 9 1/2”</td>
</tr>
</tbody>
</table>

### Notes:
- Corrugated Steel Round Pipe - 72 inch diameter by 379 feet - 00 inches {length}
- Reinforced Concrete Round Pipe - 72 inch diameter by 40 feet 00 inches {length} - Outlet Section
- Top Plates - Corrugation Size 2 2/3 inch by 1/2 inch by 12 gage (0.138 inch thickness)
- Bottom Plates - Corrugation Size 2 2/3 inch by 1/2 inch by 10 gage (0.138 inch thickness)
- Horizontal Diameter Measurements - Pipe Span Length (6 feet - 00 inches) {72 inches}
- Vertical Diameter Measurements - Pipe Rise (6 feet - 00 inches) {72 inches}
- Route 2 East Bound Ballast Depth - Approximately 24 feet 00 inches
- Route 2 West Bound Ballast Depth - Approximately 9 feet 00 inches
- Location - 50 feet from Inlet {South Side of Structure}; 100 feet from Inlet {South Side of Structure}; etc.
Form: Asset Photos
Inspection type: Special
Inspection Date: 8/05/2019
Inspected by: Team 3

Town: COLCHESTER
Carried: ROUTE 2
Crossed: BROOK
Inventory Route: NHS

:Bridge No 06840

Photo Number: 1
Looking west (on Rte. 2 East)  Photo Taken: 08/05/2019

Photo Number: 2
Looking east (on Rte. 2 East)  Photo Taken: 08/05/2019
Form: Asset Photos
Inspection type: Special
Inspection Date: 8/05/2019
Inspected by: Team 3

Town: COLCHESTER
Carried: ROUTE 2
Crossed: BROOK
Inventory Route: NHS

Bridge No 06840

Pavement over structure (on Rte. 2 East)

Looking upstream
Form: Asset Photos
Inspection type: Special
Inspection Date: 8/05/2019
Inspected by: Team 3

Town: COLCHESTER
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Crossed: BROOK
Inventory Route: NHS

Photo Number: 5
Inlet (South elevation)
Photo Taken: 08/05/2019

Photo Number: 6
Inlet (South elevation)
Photo Taken: 08/05/2019
Misaligned joint approximately 36' from inlet. Appears to be as-built.

Perforation 2" x 1" on east wall approximately 92 feet from inlet
Bridge No 06840

Photo Number: 9
4" diameter hole on the east wall approximately 140 feet from inlet (joint breaking up at same location).

Photo Number: 10
Joint separation on east wall approximately 170 feet from inlet

Photo Taken: 08/05/2019
Perforation 2' x 18" and heavy section loss on west wall approximately 197 feet from inlet.

Invert
Severe deterioration 10" wide x 2' high approximately 237 feet from inlet on east wall

Severe deterioration 10" wide x 2' high approximately 237 feet from inlet on west wall
Grout repairs on west wall at 250 feet from inlet

Drainage pipe on east wall
Perforation 16” x 2” wide on west wall at springline at approximately 265 feet from inlet

Concrete pipe, looking downstream
Concrete interface at east wall

Invert of concrete pipe. Exposed rebar and spalls up to 2 1/2” deep x up to 10’ long.
Form: Asset Photos
Inspection type: Special
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:Bridge No 06840

Photo Number: 21
Looking downstream

Photo Taken: 08/05/2019

Photo Number: 22
Looking downstream

Photo Taken: 08/05/2019
Scour pool approximately 25' diameter x 5' deep (too deep to safely measure) at outlet
Form: Asset Photos
Inspection type: Special
Inspection Date: 8/05/2019
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Town: COLCHESTER
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Inventory Route: NHS

Photo Number: 25
Concrete pipe separation 8-1/2" wide on outlet side

Photo Number: 26
Looking west (on Rte. 2 West)
Bridge No: 06840

Town: COLCHESTER
Carried: ROUTE 2
Crossed: BROOK
Inventory Route: NHS

Looking east (on Rte. 2 West)

Roadway over structure (on Rte. 2 West)
Exit 21 sign on Rte. 2 westbound (culvert outlet is approximately 70 feet west of sign)