

# STRUCTURE NO. 01748

MAYFLOWER STREET

over

INTERSTATE-84

WEST HARTFORD

*Indepth & Special Inspection*

on

9/21/2011

*Inspected by Baker - 23*

*for Area 2*

<b>TEAM:</b>	Forwarded to TE3 John Daigle	Date	12/27/2011
<b>TE3:</b>	Reviewed by TE3 John Daigle	Date	1/31/2012
	BMM Required	Yes	<input type="checkbox"/>
	Town Bridge	No	<input type="checkbox"/>
	Rating <= 5 (Items 58,59,60 or 62)	Yes	<input type="checkbox"/>
	Rating Change 2 or More Values	No	<input type="checkbox"/>
	Forwarded to Supervisor Ted Lapierre	Date	2-1-12
	Forwarded to "To Be Copied Drawer" <input type="checkbox"/>	Date	<input type="checkbox"/>
	Date BRI-19 Entered		1/31/2012
<b>SUPERVISOR:</b>	Reviewed by Supervisor TOL	Date	2/2/12
<b>SUPPORT:</b>	Date Copies Made 2-11-12	BMM No	12-107
	Scanned By: LA	Date Scanned	2-11-12
		PDF Box No	<input type="checkbox"/>

**NBI: Yes**

# BRIDGE SAFETY & EVALUATION

## LIST 99 - BRIDGE 01748

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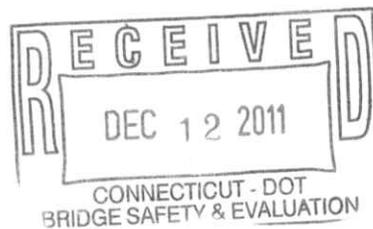
<b>Bridge No:</b> 01748	<b>Town:</b> WEST HARTFORD	<b>Area:</b> 2	<b>Deck:</b> 6
<b>Feature Carried:</b>	MAYFLOWER STREET	<b>NBI?</b> True	<b>Superstructure:</b> 4
<b>Features Intersected:</b>	INTERSTATE-84	<b>Sufficiency Rating</b> 63.44	<b>Substructure:</b> 6
<b>Year Built:</b> 1965	<b>Year Rebuilt:</b>	<b>Main Material &amp; Design:</b> 4 2	<b>Culverts:</b> N
<b>List #:</b> 99			<b>Structural Evaluation:</b> 4
<b>Submitted By:</b> JD		<b>Project #:</b>	<b>Scour Rating:</b>
<b>Date Submitted:</b> 2/1/2012		<b>Advertising Date</b>	
<b>Reviewed By:</b>			
<b>Date Submitted to Design:</b> 1/1/1900			

### **Problems and General Condition:**

Span 1, Girders 1 -3 have extensive collision damage, with cracks in the web, broken welds, and bent stiffeners and diaphragms. The girders themselves are also bowed from collision damage. The sliding bearings at the abutments are heavily rusted, with sheared anchor bolts and no evidence of movement.

### **Other Related Projects:**

**CONNECTICUT  
DEPARTMENT OF TRANSPORTATION**

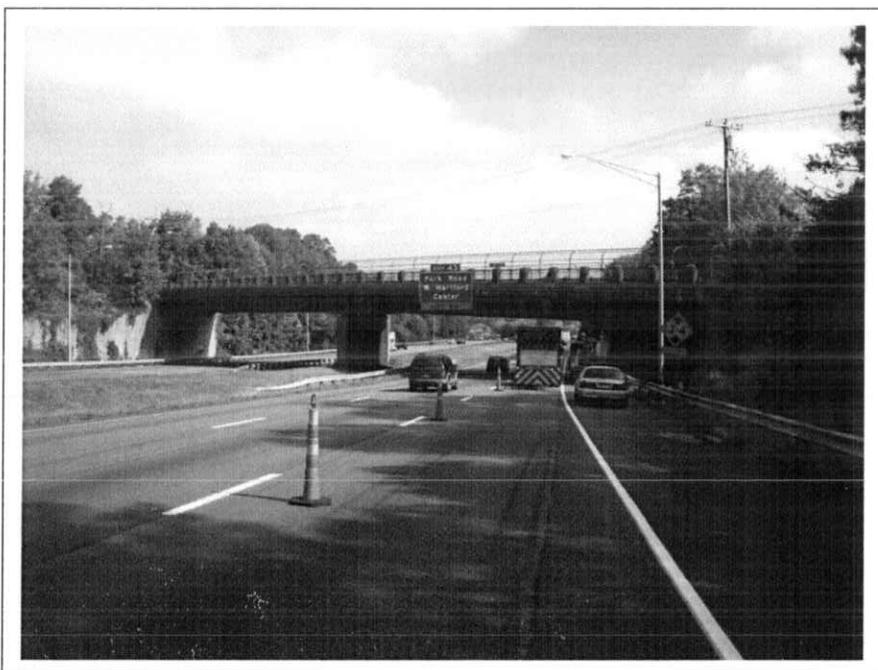


**STATE PROJECT NO. 170-3013  
BRIDGE SAFETY INSPECTION**

**BRIDGE NO. 01748  
MAYFLOWER STREET  
OVER  
INTERSTATE 84  
WEST HARTFORD, CONNECTICUT**



**IN-DEPTH INSPECTION  
SEPTEMBER 21, 2011  
LAST DAY OF INSPECTION: NOVEMBER 10, 2011**



*Prepared By:*



**Michael Baker Engineering, Inc.**

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Rocky Hill, CT 06067

Structure No. 01748 Town West Hartford

Inspectors Michael Baker Engineering (MJO, BH) Date 09/21/2011

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Plan Sheets: Project No. 63-151, 1961

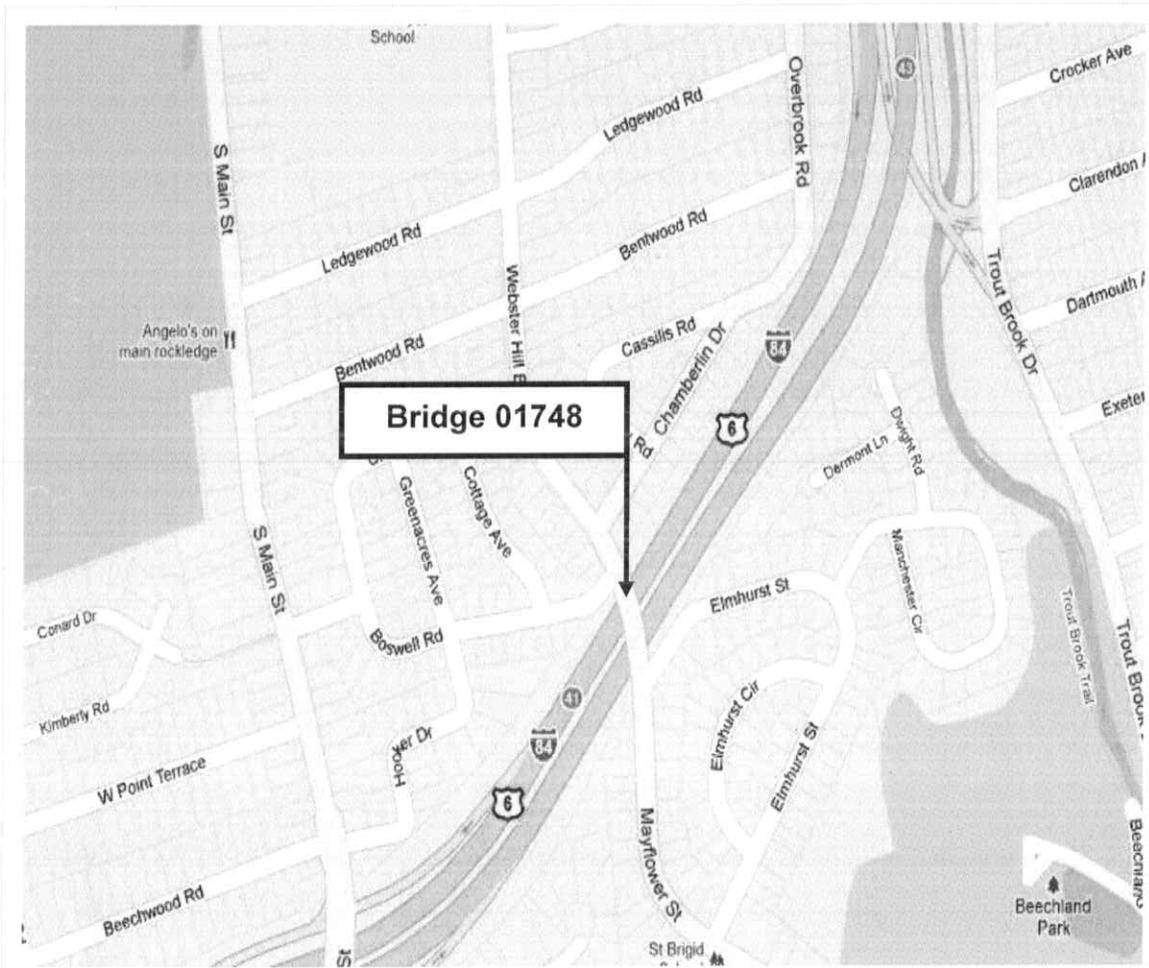
Check here if already on file:

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# LOCATION MAP

## Bridge 01748: Mayflower Street over I-84



**EXECUTIVE SUMMARY**

Bridge No. 01748 carries Mayflower Street over Interstate 84 in West Hartford, Connecticut. The bridge has a two span, continuous steel multi-girder superstructure with ship lap joints and a reinforced concrete deck. It is supported by reinforced concrete abutments and a single concrete pier. The bridge has an overall length of 260 feet and a curb-to-curb measurement of 40 feet. It was constructed in 1965. According to information on file with Connecticut Department of Transportation, the bridge has an inventory load rating capacity of 31 tons for an AASHTO HS vehicle, based on a 2001 load rating. Deficiencies were found this inspection which may warrant a re-analysis of the structure.

An in-depth inspection completed in November 2011 found the structure in fair condition (Overall Rating = 5).

**The deficiencies and repair recommendations:****Deck: (Rated – 6, previously 7)**

1. The bituminous overlay has heavy map cracking, moderate raveling, numerous patches (some settled), wheel rutting, and up to 1.5' wide x 1.5" deep raveling adjacent to the curbs. There are approximately 30 square feet of potholes that are typically 1" deep, but up to 2.5" deep at isolated locations. BS&E was notified of potholes via email on 09/22/2011. Repair the deteriorated overlay (<1 ton).
2. The underside of the deck has hairline cracks and hairline map cracking with areas of efflorescence and dampness. The deck ends have corner spalls at the shiplap joint, up to 6" wide x 6" high, typically at the beam ends. There are hollow haunches typically over dirt near the pier and south abutment. The girder 1 & 7 haunches are dull in span 1 over I-84 eastbound and westbound center lane, left lane, and left shoulder (an advanced priority C BMM was sent to the department on 12/7/11). Any loose concrete was removed at the time of inspection. The total deck deterioration is 7.6% with a maximum of 9.2% deterioration in span 2. Deck rating reduced to '6' due to map cracking with dampness. Remove dull haunches over Interstate 84 ( $\pm 150$  linear feet).
3. The approach curbs are settled up to 6", worst at the northwest approach. The sealant between the curbs and sidewalks is deteriorated along the bridge. Repair the approach curbs (<1/4 cubic yard) and repair deteriorated sealant between the curbs and sidewalks ( $\pm 500$  linear feet).
4. The southwest approach sidewalk has a cracked, hollow and breaking up concrete transition ramp, and there are areas of up to 4" deep scaling/punky concrete at the southwest approach sidewalk (BS&E notified 09/22/2011 via email). The southeast approach has up to 2" deep scaling, and the sidewalk is settled approximately 1.75" (previous transition ramp is gone). There is a new concrete sidewalk at the northwest approach that slopes down to meet the settled curbs. The northeast approach sidewalk panels are heaved/settled up to 1". The concrete transition ramp at the northeast approach is hollow and spalled at the end, leaving a 1.5" high blunt end/trip hazard. Repair the approach sidewalks (<1/2 cubic yard).
5. The parapets have random spalls, up to 3" deep with exposed rebar. Repair the parapets (<1/4 cubic yard).
6. Steel picket railing has heavy surface rust throughout, areas of laminated rust, and its paint system is 100% failed. The chainlink fences have random minor damage, and the bottom of the fence has areas where it has been bent and protrudes up to 6.5" into the sidewalk area. The previous hole at the northwest corner of the bridge has been repaired with coated wires. There is one disconnected upper horizontal rail at the southwest approach. BS&E was notified about the protruding fence areas via email on 09/22/2011. Paint the steel picket railing (520 linear feet) and repair damaged areas in the fences (50 linear feet).
7. Scuppers are up to 60% clogged, but pipes are clear. The steel weep pipe in span 1, bay 5 near the south abutment is rusted out and split near its bottom and may drain onto girder 6. Clean scuppers (2 each) and repair the weep.
8. Finger joint at the south abutment has fingers that are vertically misaligned up to 3/4" and fingers almost touch ( $\leq 1/16$ " room for expansion) near the centerline of the bridge. One finger is broken, exposing heavy debris in the joint trough. Random anchor bolt seals/covers are deteriorated. Headers have moderate scaling, cracks, minor edge spalling/hollow concrete and deteriorated sealant between the header and approach bituminous. There are up to 3/8" gaps/impacted rust between the headers and joint plates. Sidewalk plates are up to 3/4" higher than the approach sidewalks. Sidewalk headers have scrapes and spalls up to 2' x 8" x 2" deep (east end of the joint). Repair the finger joint ( $\pm 70$  linear feet).

9. The pourable sealant joint at the shiplap has bituminous patches without sawcuts, sealant is deteriorated at locations throughout, and there are areas of missing sealant. The north abutment joint has cracked sealant throughout the roadway, no sealant at the sidewalks, and there is up to 1" settlement across the joint. Repair the pourable sealant joints ( $\pm 120$  linear feet).

**Superstructure: (Rated – 4, previously rated 5)**

1. Sliding bearings at the abutments have up to 3/16" impacted rust/gaps between the plates. There are random tipped anchor bolts and backed off nuts. There are random sheared anchor bolts at the south abutment bearings. Anchor bolts are sheared at the north abutment bearings throughout, including both anchor bolts at some locations. Bearings exhibit no visible evidence of movement. Note that there are no previous bearing measurements for comparison. Clean, paint, and lubricate the sliding bearings (14 each) and consider replacing with elastomeric bearings.
2. Fixed bearings at the ship lap joint have heavy to laminated rust and up to 1/2" impacted rust between components. Measurements at the shiplap joints were within 1/8" of all previous measurements except at isolated locations where a significant amount of laminated rust was removed or where 2011 measurements matched a previous measurement marked on a girder. See item 3 below for repair recommendation.
3. Girders have areas of laminated rust throughout, typically with less than 1/16" deep section loss. Webs have random 1/16"-1/8" deep section loss and bearing stiffeners have up to 1/4" deep section losses that result in less than 5% loss in shear and less than 25% section loss in buckling. Span 1, girder 6 also has an isolated intermediate stiffener that is rusted out at its base near the south abutment. The south end 6' of span 1, girder 1 & 6 bottom flanges have up to 3/8" deep losses, resulting in up to 25% section loss in less critical zones. Girder bottom flanges near the shiplaps have less than 5% loss at all locations, except at span 1, girder 6 at the negative moment region (6% bottom flange loss). Intermediate flanges at the ship lap joints (providing bearing for hung span) have up to 7/16" deep losses. Clean and paint girders (1800 square feet). Clean and paint bearings at the shiplap joint (7 each).
4. Span 1, girder 1 has numerous cracks at the base of the web between stiffeners 11 & 16 due to previous impact damage. Cracks in the web have stop holes drilled in this area, and no cracks propagate past the stop holes. The crack at the base of stiffener 14 weld has grown 3/8" since the last inspection. Also, a new 3/8" crack was noted along the toe of the weld at the base of stiffener 13. New this inspection, the base of the span 1 girder web has a 5-1/8" long horizontal crack (no stop holes) just above the bottom flange fillet weld at the third intermediate diaphragm from the south abutment due to the diaphragm punching through the web. A 2.5" long diagonal crack in the web plate extends from this crack at the north side of the stiffener. Along the base of the vertical stiffener fillet weld at this location, there is a 1.25" crack along the web and a 3/8" crack along the stiffener (no stop holes). Stiffeners in this area have bends. Girders 1-3 are tilted up to 1/2" over 9" in these areas (worst at girder 1). Bottom flanges have random gouges that have been ground smooth, while new gouges up to 1" high x 3/4" wide x 1/4" average depth are not ground smooth. BS&E was notified about new cracks along the superstructure via email on 9/22/2011 and 11/10/2011, and an advanced priority C BMM was sent to the department on 12/7/11. Drill stop holes where required and grind out bottom flange gouges, as required. Overall rating could be lowered to a "3" per CT BIM Section 10.5 (cracks in primary members). However, rating only lowered to a "4" since crack is at fascia girder with sidewalk above.
5. An OHSS base plate weld is broken at the span 2, girder 7 web in panel 4. BS&E was notified about the cracked OHSS weld via email on 09/22/2011. Repair weld (<1 linear foot).
6. Random diaphragms have members that are bent up to 6". Continue to monitor this condition.
7. There was only a 1/8" gap between the span 2, girder 5 bottom flange and the north abutment backwall at the time of inspection ( $\pm 80$  degrees Fahrenheit), leaving little room for expansion. Consider clipping the bottom flange to allow room for expansion (1 location).

**Substructure: (Rated – 6)**

1. The abutment pedestals have random minor spalls and hollow areas. No repairs required.
2. The south abutment backwall has hollow areas up to 3.5' x 1', and bay 3 has map cracking with rust, efflorescence, dampness, and isolated scaling up to 1" deep. The north abutment backwall has an isolated 1/32" vertical crack in bay 6. Repair the south abutment backwall (<1/2 cubic yard).
3. The pier cap has a 1' x 6" x 1" deep spall with exposed rebar. The pier columns have several shallow rebars/spalls up to 2' x 1' x 2" deep and two hollow areas up to 2.5' x 6" with an isolated 1/16" perimeter crack. Repair the concrete pier (<1/4 cubic yard).

**Approach Condition: (Rated – 5, previously rated 6)**

1. The southeast guide rail transition is bent/torn and protrudes into the sidewalk up to 8.5" x 1.5' long (no change). The transition at the northwest corner protrudes into the roadway up to 3.75". BS&E was notified about protruding guide rails via email on 09/22/2011. Repair the guide rail transitions ( $\pm 4$  linear feet).
2. The south approach pavement has map cracking up to 1" wide, numerous potholes up to 6" x 2" x 1.5" deep, and is settled up to 1.5" in the east shoulder. The north approach pavement has random map cracking that is typically not more than 1/4" wide but has random raveling up to 1" wide along the cracks. The north approach bituminous is settled up to 1" along the north abutment joint. Repair the approach bituminous (<1/2 ton).
3. Overall rating reduced due to deteriorations noted above.

7/69

# Connecticut Department of Transportation

## Bridge Inspection Report BRI-18

**Bridge #: 01748**

**Inspection Date: 09/21/2011**

<b>Inspection Type:</b>	Indepth	<b>Previous Inspection Date:</b>	6/3/2009	<b>Snooper Required:</b>	No
<b>Inspection Performed By:</b>	Baker Engineering	<b>Feature Carried:</b>	MAYFLOWER STREET	<b>Snooper Used:</b>	No
<b>Town:</b>	WEST HARTFORD	<b>Feature Intersected:</b>	INTERSTATE-84	<b>Year Built:</b>	1965
<b>Location:</b>	BETWEEN EXITS 41 & 43 I84	<b>Main Design:</b>	Stringer/Multi-beam or Girder	<b>Year Rebuilt:</b>	-
<b>Main Material:</b>	Steel continuous				

**Visits**

Visit Date:	Temp:	Start Time:	End Time:
9/21/2011	80	8:30:00 AM	4:10:00 PM
11/9/2011	50	8:00:00 PM	11:55:00 PM
11/10/2011	50	12:00:00 AM	5:00:00 AM

**Inspectors:**

Inspector:	Task:
B. Howlett	Inspector
M. Orłowsky	Lead Inspector

**DECK:** - **Overall Rating:** 6

**Rating**

<b>OVERLAY:</b>	4	The bituminous overlay has heavy map cracking, moderate raveling, numerous patches (some settled), wheel rutting, and up to 1.5' wide x 1.5" deep raveling adjacent to the curbs. There are approximately 30 square feet of potholes that are typically 1" deep, but up to 1.5" deep at isolated locations. There is also an isolated 15" x 15" x 2.5" deep pothole near the scupper at the southwest corner of the bridge. BS&E was notified of potholes via email on 09/22/2011. See sheet 16 and photos 9, 10, 17 & 26.
<b>DECK-STR. CONDITION:</b>	6	The underside of the concrete deck has hairline cracks and hairline map cracking with areas of efflorescence and dampness. There are also shallow rebars in bays 1 & 7 and at the overhangs. There are corner spalls along the deck ends at the shiplap joint, up to 6" wide x 6" high, typically at the beam ends. End diaphragm haunches are spalled up to 1" deep at the shiplap joint. There are hollow haunches typically over dirt near the pier and south abutment. The girder 1 & 7 haunches are dull in span 1 over I-84 eastbound and westbound center lane, left lane, and left shoulder (an advanced priority C BMM was sent on 12/7/11). The total deck deterioration is 7.6% with a maximum of 9.2% deterioration in span 2. Rating decreased to 6 due to mapcracking with dampness. See sheets 22, 31 & 39 and photos 11, 12 & 32.
<b>CURBS:</b>	5	Vertical faced granite curbs have chipping, rust stains, and random cracked stones and mortar joints. Sealant between the curbs and sidewalk is typically deteriorated. Approach curbs have deteriorated and missing mortar. Approach curbs are settled up to 6", worst at the northwest approach. Rating decreased due to up to 6" of approach curb settlement. Average curb reveals are 10". See sheets 16-18 and photos 13 & 17.
<b>MEDIAN:</b>	N	-
<b>SIDEWALKS:</b>	5	Bridge sidewalks: Concrete sidewalks on the bridge have random transverse

		<p>cracks, up to 1/16" wide. There is also light scaling, and the sealant between the curbs and sidewalks is deteriorated. There are scrapes/edge spalling up to 1" deep along the end of the sidewalk at the northeast corner of bridge (see "Expansion Joints" item for the south abutment joint headers and plates in the sidewalks). See sheet 16 and photos 17 &amp; 19.</p> <p>Approach sidewalks: The southwest approach sidewalk has a cracked, hollow and breaking up concrete transition ramp, and there are areas of up to 4" deep scaling/punky concrete at the southwest approach sidewalk (BS&amp;E notified 09/22/2011 via email). The southeast approach has up to 2" deep scaling along the joints, and the sidewalk is settled approximately 1.75" (previous transition ramp is gone). There is a new concrete sidewalk at the northwest approach that has minor spalling, and the sidewalk slopes down to meet the settled curbs. The northeast sidewalk has minor edge spalling and panels that are heaved/settled up to 1". The concrete transition ramp at the northeast approach is hollow throughout and spalled at the end, leaving a 1.5" high blunt end/trip hazard. Rating reduced due to scaling, spalling, and settlement of the approach sidewalks. See sheet 17 and photos 13-16.</p>
PARAPET:	7	<p>The concrete parapets have light scaling and rust stains from the steel picket fence above. The southwest approach parapet has a 2' x 6" x 2" deep spall. The east parapet has a full width x 1' high x 1.5" deep spall inside of the parapet joint at the ship lap joint. The exterior face of the parapet at the same location has a 2' x 20" x 3" deep spall with exposed rebar. See sheets 16, 17 &amp; 22 and photos 18 &amp; 19.</p>
RAILING:	6	<p>Steel picket railing on top of the parapet has heavy surface rust throughout and areas of laminated rust. The paint system is 100% failed. See sheet 16 and photo 19.</p>
PAINT:	1	<p>Paint system on the picket railing is 100% deteriorated. See photo 19.</p>
FENCE:	6	<p>Galvanized chainlink fence with curved return (9'-2" to sidewalk) in front of the picket railing: Fence has random blush to light rust. The chainlink has random minor damage, and the bottom of the fence has areas where it has been bent and protrudes up to 6.5" into the sidewalk area. The previous hole at the northwest corner of the bridge (over dirt) has been repaired with coated wires. There is one disconnected upper horizontal rail at the southwest approach. BS&amp;E was notified about the protruding fence areas via email on 09/22/2011. See sheets 16 &amp; 17 and photos 19-21.</p>
DRAINS:	6	<p>Scuppers are up to 60% clogged, but pipes are clear. Steel weep near the south abutment in bay 5 is rusted out and split at the bottom 6" and may drain onto the girder 6 bottom flange. See "Expansion Joints" item below for the joint trough. See sheet 16 and photo 22.</p>
LIGHTING STANDARD:	N	-
UTILITIES TYPE/SIZE:	7	<p>The utility in bay 1 has random torn insulation and one U-bolt in span 1 is not snug, but secure. The wrapped utility in bay 5 is in good condition, and its hangers have heavy rust. See sheets 22 &amp; 31 and photo 23.</p>
CONSTR JOINTS:	N	-
EXPANSION JOINTS:	4	<p>Finger joint at the south abutment: Joint fingers are vertically misaligned up to 3/4" (span side fingers are higher) and fingers almost touch (=1/16" room for expansion) near the centerline of the bridge. One finger is broken, exposing heavy debris in the joint trough. Random anchor bolt seals/covers are deteriorated. There is heavy rust along the shoulders. Headers have moderate scaling, cracks, minor edge spalling/hollow concrete and deteriorated sealant between the header and approach bituminous. There are up to 3/8" gaps/impacted rust between the headers and joint plates. Sidewalk plates are up to 3/4" higher than the approach sidewalks. Sidewalk headers have scrapes and spalls up to 2' x 8" x 2" deep (east end of the joint). Active leakage was not seen at the time of inspection (dry weather). See sheet 16 and photos 15, 24 &amp; 25.</p> <p>Pourable sealant joint at the shiplap joint and north abutment: The shiplap joint has bituminous patches without sawcuts, sealant is deteriorated at locations throughout (worst at northbound lane), and there are areas of missing sealant at the both sidewalks and the west shoulder. The north abutment joint has cracked sealant throughout the roadway and no sealant at the sidewalks. There is up to 1"</p>

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settlement across the joint. See sheet 16 and photos 26 & 27.

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SUPERSTRUCTURE:

-

Overall Rating:

4

Rating

BEARING DEVICES:

4

Sliding bearings:  
 Sliding bearings at the abutments have up to 3/16" impacted rust/gaps between the plates. There are random tipped anchor bolts, backed off nuts, and impacted rust below the anchor bolt washers. There are random sheared anchor bolts at the south abutment bearings. Anchor bolts are sheared at the north abutment bearings throughout, including both anchor bolts at some locations. Bearings exhibit no visible evidence of movement. Note that there are no previous bearing measurements for comparison. Rating reduced to "4" per CT BIM section 10.2 due to sheared anchor bolts and lack of evidence of movement. See sheets 19 & 20 and photo 28.

The fixed bearings at the pier have random peeling paint and random light to moderate surface rust. See sheet 31 and photo 29.

Fixed bearings at the shiplap joint:  
 Bearings have heavy to laminated rust. There is up to 1/2" impacted rust between the sole and masonry plates. Measurements at the shiplap joints were within 1/8" of all previous measurements except at girder 6. At girder 6, the "C" measurement varied by 1/4"; however, a large amount of laminated rust was removed, possibly causing the discrepancy. The girder 6 "D" measurement varied by 3/16", but the 2011 measurement matched a previous measurement that was already written on the girder web. See sheet 21 and photos 32-34.

STRINGERS:

N

-

GIRDERS:

4

Girders have areas of laminated rust throughout, typically with less than 1/16" deep section loss. Girder webs have up random 1/16"-1/8" deep section loss and bearing stiffeners have up to 1/4" deep section losses that result in less than 5% loss in shear and less than 25% section loss in buckling at the south abutment and ship lap joints. Span 1, girder 6 also has an isolated intermediate stiffener that is rusted out at its base near the south abutment. The south end 6' of span 1, girder 1 & 6 bottom flanges have up to 3/8" deep losses, resulting in up to 25% section loss in less critical zones. Girder bottom flanges near the shiplaps have up to 1/4" deep section losses, resulting in less than 5% loss at all locations, except at span 1, girder 6 at the negative moment region (6% bottom flange loss). Intermediate flanges at the ship lap joints (providing bearing for hung span) have up to 7/16" deep losses. There are also random areas of heavy pigeon debris throughout the superstructure. Rating left unchanged since flange losses greater than 5% are in less critical zones.

Diaphragms and utility supports:  
 There are isolated bent diaphragms and utility supports in span 1 over I-84 eastbound with members bowed/bent up to 6", due to past impact damage. Diaphragms have areas of heavy to laminated rust, with random minor section losses.

Girder damage/cracks due to collision damage:  
 Span 1, girder 1 has numerous cracks at the base of the web between stiffeners 11 & 16 due to previous impact damage. Cracks in the web have stop holes drilled in this area, and no cracks propagate past the stop holes. One new crack was noted at web adjacent to the north side of stiffener 15 this inspection (stop hole previously in place) and the crack at the base of stiffener 14 weld has grown from 1" to 1-3/8" since the last inspection. Also, a new 3/8" crack was noted along the toe of the weld at the base of stiffener 13. New this inspection, the base of the span 1 girder web has a 5-1/8" long horizontal crack (no stop holes) just above the bottom flange fillet weld at the third intermediate diaphragm from the south abutment due to the diaphragm punching through the web. A 2.5" long diagonal crack in the web plate extends from this crack at the north side of the stiffener.

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		<p>Along the base of the vertical stiffener fillet weld at this location, there is a 1.25" crack along the web and a 3/8" crack along the stiffener (no stop holes) (An advanced priority C BMM was sent to CDOT on 12/7/11). Stiffeners in this area have bends. Girders 1-3 are tilted up to 1/2" over 9" in these areas (worst at girder 1). Bottom flanges have random gouges that have been ground smooth, while new gouges up to 1" high x 3/4" wide x 1/4" average depth are not ground smooth. BS&amp;E was notified about new cracks along the superstructure via email on 9/22/2011 and 11/10/2011.</p> <p>Overall rating could be lowered to a "3" per CT BIM Section 10.5 (cracks in primary members). However, rating only lowered to a "4" since crack is at fascia girder with sidewalk above.</p> <p>See sheets 22-32 and photos 23 &amp; 31-42.</p>
FLOOR BEAMS:	N	-
TRUSSES-GENERAL:	N	-
TRUSSES-PORTALS:	N	-
TRUSSES-BRACING:	N	-
PAINT:	3	More than 50% of the paint system exhibits deterioration. See above items.
RUST:	5	See above items.
MACHINERY MOV SPAN:	N	-
RIVETS & BOLTS:	N	Erection bolts.
WELDS - CRACKS:	4	See "Girders" item for cracks along span 1, girder 1 without stop holes. Additionally, random diaphragm and utility support welds are sloppy or poorly fused. An OHSS base plate weld is broken at the span 2, girder 7 web in panel 4. Random overhead welds are missing between the diaphragm connection plates and undersides of the diaphragm lower struts. BS&E was notified about the broken OHSS weld via email on 09/22/2011. See sheets 22-24 & 31 and photos 36-44.
TIMBER DECAY:	N	-
CONCRETE CRACKING:	N	-
COLLISION DAMAGE:	4	See "Girders" item above.
MEMBER ALIGNMENT:	5	See "Girders" item for tipped beams due to impact damage. There was only 1/8" gap between the span 2, girder 5 bottom flange and the north abutment backwall at the time of inspection (±80 degrees Fahrenheit), leaving little room for expansion. See sheets 22 & 31 and photos 42 & 45.
DEFLECT. UNDER LOAD:	N	Normal.
VIBRATION UNDER LOAD:	N	Normal.
STAND PIPES:	N	-
BARREL LADDERS:	N	-

ARE BARREL LADDERS OSHA COMPLIANT? N/A

60. SUBSTRUCTURE:  Overall Rating:

Rating

<b>ABUTMENTS-STEM:</b>	7	The concrete abutments have painted over graffiti, random areas of light scale, random heavy pigeon debris on the seats, silt staining through-out, light to moderate vine growth and isolated hairline cracks up to 8' long. Pedestals have random minor spalls and some have been repaired since the last inspection. The filler material is missing/deteriorated at the joint near the centerline of the bridge at the south abutment. A 10" x 4" hollow area at the north abutment girder 7 pedestal does not extend to the bearing. There is a 1' shallow rebar at the east end of the north abutment. See sheets 33 & 34 and photos 46 & 47.
<b>ABUTMENTS-BACKWALL:</b>	5	The backwalls have light scale, minor chipping along their tops, and random hairline cracks with and without efflorescence. The south abutment backwall also has hollow areas up to 3.5' x 1', and bay 3 has map cracking with rust, efflorescence, and isolated scaling up to 1" deep. The north abutment backwall has an isolated 1/32" vertical crack in bay 6. See sheets 33 & 34 and photo 48.
<b>ABUTMENTS-FOOTINGS:</b>	N	Not visible.
<b>ABUTMENTS-SETTLEMENT:</b>	8	-
<b>ABUTMENTS-WINGWALLS:</b>	7	The wingwalls have random areas of light scaling, graffiti, missing/deteriorated joint filler material, and heavy vine growth in the joints. The southwest wingwall has two 6" diameter x 1 1/2" deep spalls. See sheets 35 & 36 and photo 49.
<b>PIERS/BENTS-CAPS:</b>	7	The pier cap has a 1'x6"x1" deep spall with exposed rebar and a 2' vertical hairline crack at the east end of the south elevation. See sheets 37 & 38 and photo 50.
<b>PIERS/BENTS-PILE BENT:</b>	N	-
<b>PIERS/BENTS-COLUMNS:</b>	6	The pier columns have several shallow rebars/spalls up to 2' x 1' x 2" deep, an isolated hairline crack with efflorescence, small popouts, and two hollow areas up to 2.5' x 6" with an isolated 1/16" perimeter crack. Rating reduced per CT BIM Section 10.13 due to spalls up to 2" deep with exposed rebar. See sheets 37 & 38 and photo 50.
<b>PIERS/BENTS-FOOTING:</b>	N	Not visible.
<b>PIERS/BENTS-SETTLMT:</b>	8	-
<b>EROSION-SCOUR:</b>	8	-
<b>CONCRETE CRACK-SPALL:</b>	6	See above items.
<b>STEEL CORROSION:</b>	N	-
<b>PAINT:</b>	N	-
<b>TIMBER DECAY:</b>	N	-
<b>COLLISION DAMAGE:</b>	8	-
<b>DEBRIS:</b>	6	Random heavy pigeon debris. See sheets 33-38.

**61. CHANNEL & CHANNEL PROTECTION:**

-

Overall Rating:

N

**62. CULVERTS &**

-

Overall Rating:

N

RETAINING WALL:

65. APPROACH CONDITION  Overall Rating:

Rating

APPROACH SLAB:	N	-
RELIEF JOINTS:	N	-
APPROACH GUIDE RAIL:	7 <i>Bmm ISSUED THIS INSPECTION 1-31-12</i>	Metal beam rail at all four corners: Metal beam rail has random minor scrapes. The southeast guide rail transition is bent/torn and protrudes into the sidewalk up to 8.5" x 1.5' long (no change). The transition at the northwest corner protrudes into the roadway up to 3.75". BS&E was notified about protruding guide rails via email on 09/22/2011. See sheets 16 & 17 and photo 51.
APPROACH PAVEMENT:	5	The south approach pavement has map cracking up to 1" wide, numerous potholes up to 6" x 2" x 1.5" deep, and is settled up to 1.5" in the east shoulder. The north approach pavement has random map cracking that is typically not more than 1/4" wide but has random raveling up to 1" wide along the cracks. The north approach bituminous is settled up to 1" along the north abutment joint. Rating reduced due to 1" wide cracking and 1.5" settlement, per CT BIM Section 10.10. See sheets 16 & 17 and photos 5, 52 & 53.
APPROACH EMBANKMENT:	8	-

TRAFFIC SAFETY FEATURES

Rating

BRIDGE RAILINGS:	Last Inspection: 0 Current: 0	Do not meet standards for Non-NHS bridge due to blunt ends caused by concrete posts throughout the bridge.
TRANSITIONS:	Last Inspection: 0 Current: 0	Do not meet R-B 350 standards (no rub rail).
APPROACH GUARDRAILS:	Last Inspection: 0 Current: 0	Do not meet R-B 350 standards (steel blockouts).
APPR. GUARDRAIL ENDS:	Last Inspection: 1 Current: 1	Transition to ground behind sidewalks.

66. LOAD POSTING

- Posted Loading -

SINGLE UNIT (TONS): Last Inspection:

	-	
	Current: -	
SEMI TRAILER (TONS):	Last Inspection: -	
	Current: -	
4 AXLE (TONS):	Last Inspection: -	
	Current: -	
3S2 (TONS):	Last Inspection: -	
	Current: -	
ADVANCE WARNING (Y/N):	N	
LEGIBILITY:	N	
VISIBILITY/LOCATION:	N	

67. MISCELLANEOUS

Rating

MIN. VERT. UNDERCLEARANCE:	Last Inspection: 14' 0" Current: 14' 0"	14'-0" at shoulder line, 13'-8" at edge of pavement at I-84 Eastbound. See clearance diagram on sheet 15.
POSTED CLR. UNDER BRIDGE:	Last Inspection: 13' 9" Current: 13' 4"	Eastbound right lane is posted for 13'-9" (sign attached to parapet). Eastbound right shoulder is posted for 13'-4" (sign behind guide rail). See photo 2.
POSTED CLR. ON BRIDGE:	Last Inspection: - Current: -	-
ADVANCED WARNING (YES/NO):	Yes	The I-84 Eastbound on-ramp (South Main Street) has an advance warning vertical clearance posting sign for 13'-9". There is also a 13'-9" vertical clearance posting sign in I-84 Eastbound between exits 40 & 41. Bridge is just past I-84 Eastbound exit 41. Westbound clearances do not need posting signs. See photo 54.
SPEED LIMIT (IF ANY):	Last Inspection: - Current: -	No signs posted on bridge.
CHARACTER OF TRAFFIC:		Light to moderate volume, mostly passenger cars.

ADDITIONAL NOTES:

Bridge ID is legible.  
 Bridge is labeled from south to north, girder 1 at the west fascia (consistent with plans and previous report).  
 Bridge inspected with 40' lift.  
 Double lane closures done at night.  
 Trooper and crash trucks used for I-84 lane closures.

ADDITIONAL COMMENTS:

A BMM is associated with this report.

Inspectors' Signatures:

1) 

Date: 12/8/11

2) 

Date: 12/8/11

3) \_\_\_\_\_

Date: ---/---/---

4) \_\_\_\_\_

Date: ---/---/---

P.E. Signature:



Date: 12/8/11

P.E. #:

20004

Date: ---/---/---

Reviewed by:

  
conndot

Date: 1/31/12

# SUPPLEMENTAL SHEET

BRIDGE NO. 1748

DATE: SEE BELOW

FIELD ORIGINAL       TRANSCRIBED BY: \_\_\_\_\_

CREW: SEE BELOW

SHEET 13/69

## DESCRIPTION: TIME LOG

DATE:	<u>9/21/11</u>	DESCRIPTION:		TIME AT SITE:	
WEATHER:	<u>SUNNY, 80</u>	CREW:	<u>MJD, BH</u>	8:30	TO <u>4:10</u>
EQUIP. LIST:	<u>CUBE</u>	SNOOPER:	<u>-</u>		TO _____
		LIFT:	<u>E-L</u>	8:30	TO <u>4:10</u>
		CRASH TRUCK:	<u>Mc CLAIN</u>	8:45	TO <u>2:30</u>
ARROW HRS.	<u>TO</u>	TROOPER:	<u>O'LOPNO12</u>	8:45	TO <u>2:30</u>
VISITORS:	<u>-</u>				TO _____
TC & NOTES:	<u>RT LN CLOSURES I-84 E/B + W/B ; INSP PORTIONS OF SP #1 + 2</u> <u>APRNG RT LNS + SHOULDERS ; T.O.D.</u>				

DATE:	<u>10/20/11</u>	DESCRIPTION:		TIME AT SITE:	
WEATHER:	<u>50's CLEAR</u>	CREW:	<u>MJD/BH</u>	8:45	TO <u>10:30</u>
EQUIP. LIST:	<u>CUBE</u>	SNOOPER:	<u>-</u>		TO _____
		LIFT:	<u>BKR</u>	8:45	TO <u>10:30</u>
		CRASH TRUCK:	<u>McCLAIN</u>	10	TO <u>10:30</u>
ARROW HRS.	<u>TO</u>	TROOPER:	<u>NO SHOW</u>	-	TO _____
VISITORS:	<u>-</u>				TO _____
TC & NOTES:	<u>NO WORK - TROOPER NO SHOW</u>				

DATE:	<u>11/9/11 - 11/10/11</u>	DESCRIPTION:		TIME AT SITE:	
WEATHER:	<u>50°F (NIGHT)</u>	CREW:	<u>MJD, BH</u>	8:00PM	TO <u>5:00</u>
EQUIP. LIST:	<u>CUBE</u>	SNOOPER:			TO _____
		LIFT:	<u>BKR</u>	8:00	TO <u>5:00</u>
		CRASH TRUCK:	<u>(2) McClain</u>	8:30	TO <u>5:00</u>
ARROW HRS.	<u>TO</u>	TROOPER:	<u>Puzz #878</u>	9:00	TO <u>5:00</u>
VISITORS:					TO _____
TC & NOTES:	<u>DOUBLE LEFT LANE CLOSURES ON I-84 EB &amp; WB. INSP SP'S 1&amp;2. (INSP COMPLETE)</u> <u>INSP COMPLETE -&gt; JUST USED TO VERIFY VT CLEARANCE PAVING SIGN</u>				

DATE:	_____	DESCRIPTION:		TIME AT SITE:	
WEATHER:	_____	CREW:	_____		TO _____
EQUIP. LIST:	_____	SNOOPER:	_____		TO _____
	_____	LIFT:	_____		TO _____
	_____	CRASH TRUCK:	_____		TO _____
ARROW HRS.	<u>TO</u>	TROOPER:	_____		TO _____
VISITORS:	_____		_____		TO _____
TC & NOTES:	_____				

# SUPPLEMENTAL SHEET

FIELD ORIGINAL       TRANSCRIBED BY: \_\_\_\_\_

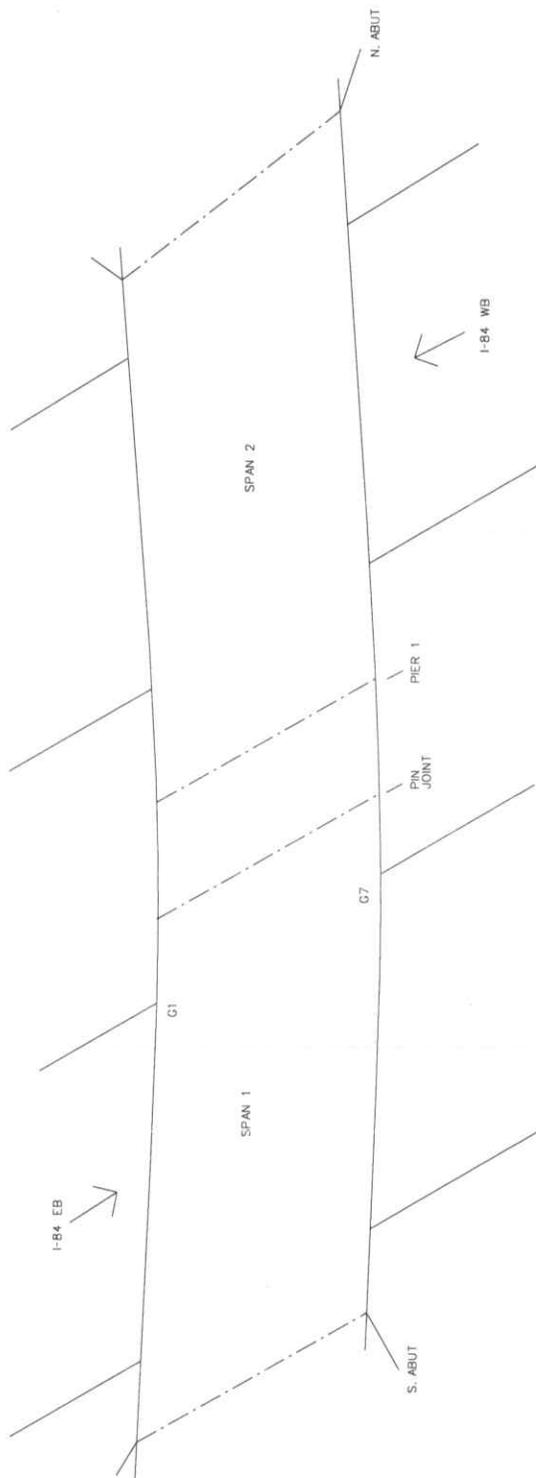
BRIDGE NO. 01748

DATE: 9/21/11

CREW: MTD/BH

SHEET 14/69

DESCRIPTION: KEY PLAN



**KEY PLAN**

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			





# SUPPLEMENTAL SHEET

FIELD ORIGINAL       TRANSCRIBED BY: \_\_\_\_\_

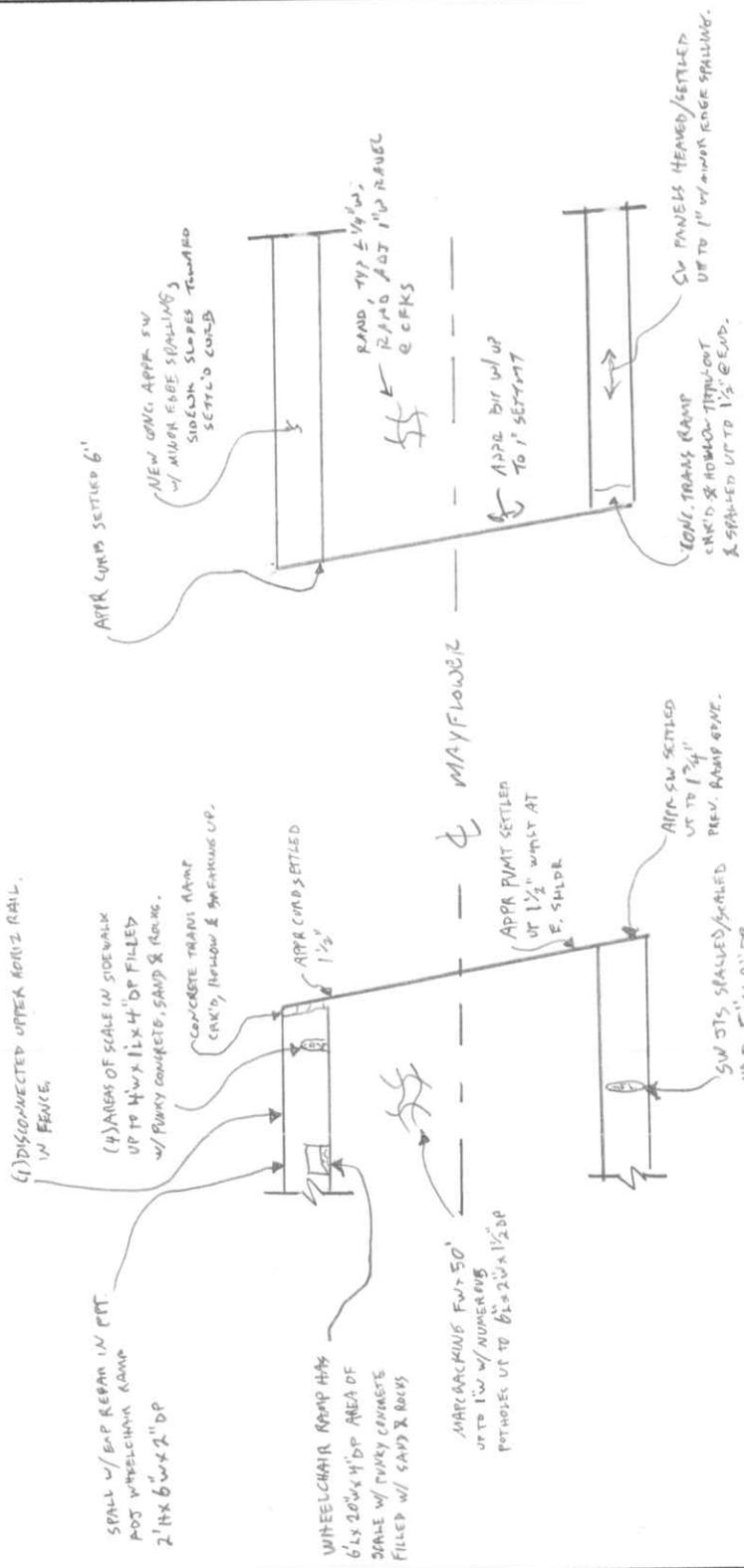
BRIDGE NO. 01748

DATE: 9/21/11

CREW: BH, MSD

SHEET 17 OF 69

DESCRIPTION: TOP OF DECK - APPROACHES



N. APPROACH

S. APPROACH

GEN. NOTES

- CURBS HAVE DEFORMATIONS/MISSING ANCHORS THRU-OUT w/ MOD VEG. GROWTH.
- MDR @ ALL 4 APPRS w/ MINOR SCRAPES.

LEGEND

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

UPDATE	DATE	COMPANY	CREW
△			
△			
△			
△			

# SUPPLEMENTAL SHEET

BRIDGE NO. 01784

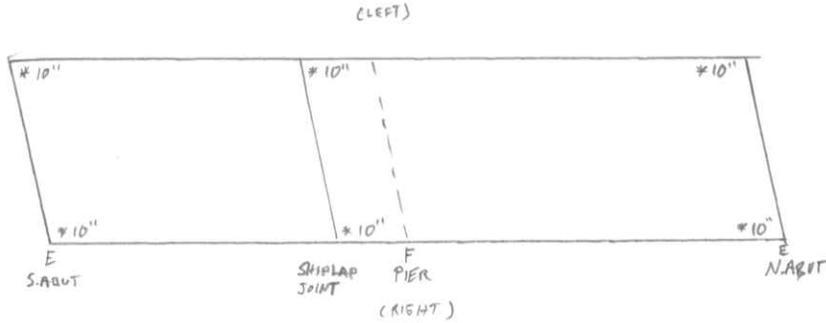
DATE: 9/21/11

FIELD ORIGINAL       TRANSCRIBED BY: \_\_\_\_\_

CREW: BH, MJO

SHEET 18/69

DESCRIPTION: PARAPET JOINT MEASUREMENTS.



\*CORNER REVEAL

LOCATION	MEASUREMENT < 50° F				MEASUREMENT > 50° F				JOINT TYPE
	LEFT	RIGHT	TEMP	DATE	LEFT	RIGHT	TEMP	DATE	
S. ABUT					1 1/4"	1" ②	70°F	9/21/11	FINGER JOINT
LAP JOINT					3/8"	1/2"	70°F	9/21/11	SAW & SEAL
N. ABUT					N/A ①	1 1/4" ④	70°F	9/21/11	SAW & SEAL

**GENERAL NOTES:**

- MEASUREMENTS TAKEN 3" DOWN FROM INSIDE CHAMFER.
- ① PARAPET ENDS, NO JOINT IN PPT.
- ④ MEASUREMENT TAKEN @ BOT OF PPT & JT HEADER (SIDEWALK HEIGHT),







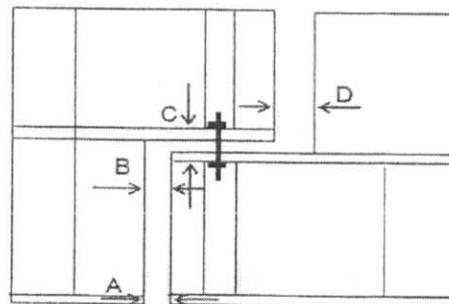
2/1/09

Span 1 - Ship Lap Joint Measurement Sheet

Beam	A	B	C-West	C-East	D	Temp	Date	Comments
1	1 1/16"	1 3/16"	1 5/16"	1 7/8"	7 1/4"	63°	2009	
1	1 1/16"	1 3/16"	1 5/16"	1 7/8"	7 3/8"	52°	11/10/11	± 1/2" IR BELOW BRG (MEAS C W. SIDE, TYP 2011)
2	1 1/4"	1 1/16"	2 1/16"	1 1/16"	8 3/8"	63	2009	
2	1 1/4"	1 1/16"	2 1/16"	1 3/4"	8 1/2"	52°	11/10/11	± 3/8" IR BELOW BRG
3	1 9/16"	1 1/16"	2 1/16"	1 3/4"	8 1/4"	63	2009	
3	1 9/16"	1 1/16"	2"	1 7/8"	8 3/8"	52°	11/10/11	± 3/8" IR BELOW BRG
4	1 3/16"	1 3/16"	1 5/16"	1 1/16"	7 3/4"	63	2009	
4	7/8"	1 1/8"	1 5/16"	1 13/16"	7 7/8"	52°	11/10/11	± 1/4" - 3/8" IR BELOW BRG
5	1 3/4"	2 1/16"	1 5/16"	1 3/4"	8 3/8"	63°	2009	
5	1 13/16"	2 1/16"	1 7/8"	1 3/4"	8 1/2"	52°	11/10/11	± 1/4" IR BELOW BRG
6	1 3/16"	1 1/8"	1 1/16"	1 7/8"	7 3/8"	63	2009	
6	1 3/16"	1 1/8"	1 5/16" ①	1 13/16" ②	7 5/16"	52°	11/10/11	± 1/4" IR BELOW BRG
7	1 1/16"	1"	1 11/16"	1 11/16"	7 1/4"	63	2009	
7	1 1/16"	1 5/16"	1 3/4"	1 3/4"	7 1/4"	52°	11/10/11	± 1/4" IR BELOW BRG

Measurement Locations:

- A - West edge of bottom flange.
- B - West side of web.
- C - Edge of bottom flange, as noted.
- D - West side of web.



LEGEND

- ① LARGE AMOUNT OF LIR REMOVED ∴ CHANGE IN MEAS
- ② 2011 MEAS MATCHES MEAS WRITTEN ON GIRDER FROM AN EARLIER INSP

General Notes:

• Huy To Lam Rust @ BRGS.

BAKER (MJO, BH) 9/21/11

Revision Date Crew

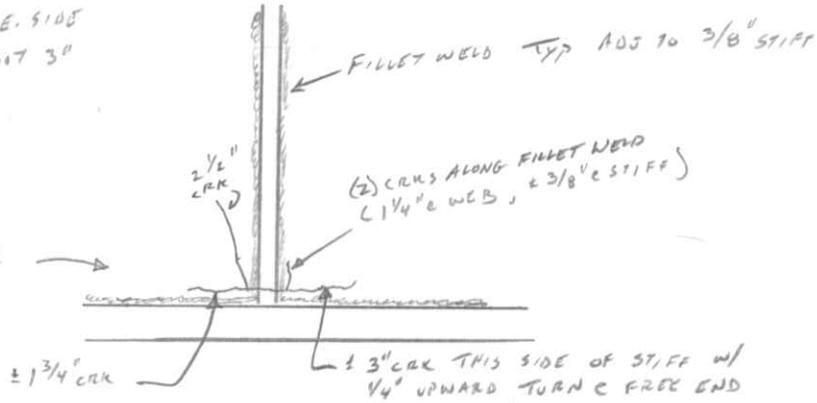


**DESCRIPTION:** FRAMING NOTES

**NOTES**

- BOT PORTION OF WEB BULGED  $\pm 5/8"$
- DIAPH "PUSHED THRU" WEB
- DIAPH LOWN B & E. SIDES
- W/ MINOR BEND & BIT 3"

$$CRK = 1\frac{3}{4} + \frac{3}{8} + 3 = \underline{\underline{5\frac{1}{8}''}}$$



SP #1, GIRDER I C 3<sup>RD</sup> INT DIAPH, W. ELEV  
 (LOWER J-BY E/B CENTER LN)

**LEGEND**

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (M/C) OR HAIRLINE MAP CRACKS (H/M/C)
- HAIRLINE CRACK (H/C) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (H/V, MED OR LT)
- WITH EFFLORESCEENCE

REV. NO:	DATE:	COMPANY:	CREW:
△			
△			
△			
△			

# SUPPLEMENTAL SHEET

FIELD ORIGINAL

TRANSCRIBED BY: MTU

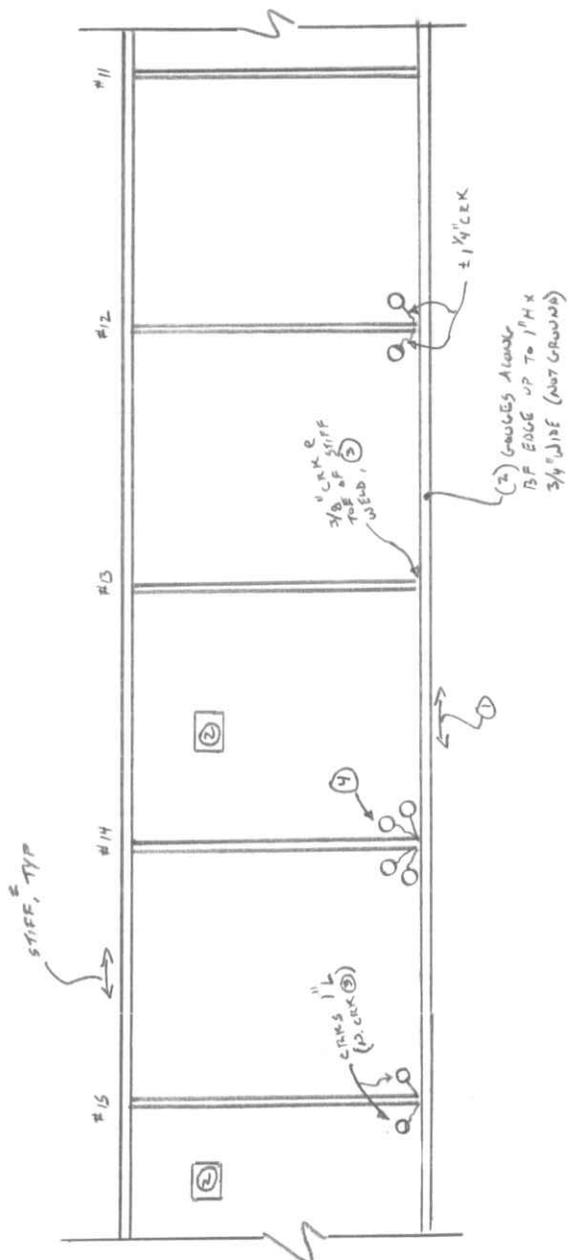
BRIDGE NO. 01748

DATE: 9/21/11

CREW: MTU/BH

SHEET 24 OF 69

DESCRIPTION: SP #1, G1 IMP DAM / CRNS



SPAN #1, G1, U. CLEV (I-84 E/D RT LW)

LEGEND

- ①: NUMEROUS GOUGES c BF UP TO 1 3/4" H x 1" DP/WIDE c BOTTOM EDGE GROUND SMOOTH → ONLY GOUGES w/ SHARP EDGES SHOWN; 1501 MINOR DENYS c BF ↓ SLAPES
- ②: c OHSS BASE IT WELDED TO WEB
- ③: NEW THIS MSP
- ④: + 2 1/2", 1", 1 3/4" + 2 1/2" CRKS STARTING w/ LOWER LT + GOING CLOCKWISE; 1 3/8" CRK c BASE OF STIFF WELD (PREV 1")

- ⑤: 1/2" CRK c 3/8" OF TOP OF WEB, ②
- ⑥: GOUGES ALONG BF EDGE UP TO 1" H x 3/4" WIDE (NOT GROUND)

- ⑦: 1/2" CRK c 3/8" OF TOP OF WEB, ②
- ⑧: GOUGES ALONG BF EDGE UP TO 1" H x 3/4" WIDE (NOT GROUND)

- ⑨: 1/2" CRK c 3/8" OF TOP OF WEB, ②
- ⑩: GOUGES ALONG BF EDGE UP TO 1" H x 3/4" WIDE (NOT GROUND)

- ⑪: 1/2" CRK c 3/8" OF TOP OF WEB, ②
- ⑫: GOUGES ALONG BF EDGE UP TO 1" H x 3/4" WIDE (NOT GROUND)

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			

# Baker

Bridge No. 01748

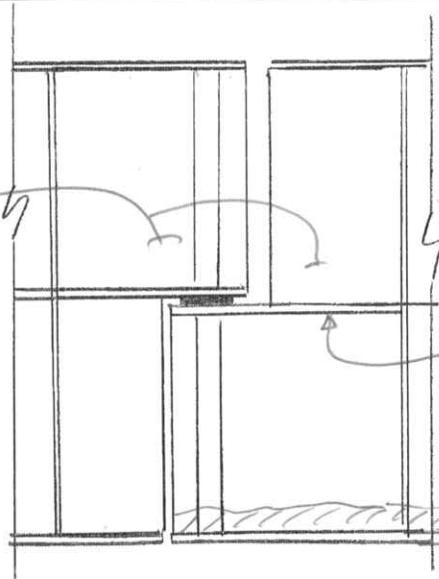
Date: 11/10/11

Crew: MJD, BH

Sheet 25/69

Description: Ship Lap Notes

HVY SURF RUST  
SPOTTY LR  
w/ NEG LOSS

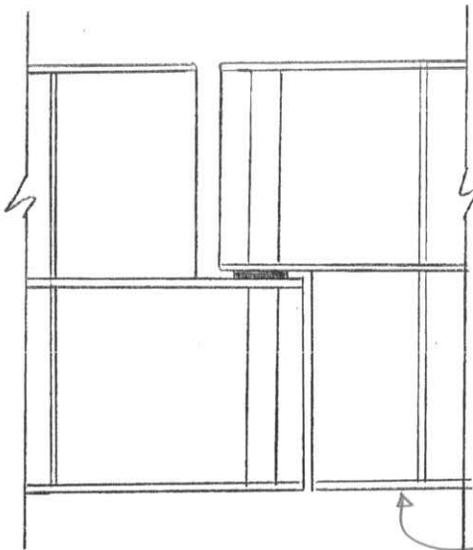


LR e t w/ 1/2" REM (1 1/2" ORIG)

Bot 6" OF WEB STIFFS w/  
LR = 8" w/ 1/16" - 1/8" SL;  
MOJ DF w/ 1 9/16" MIN  
REM (1 5/8" ORIG)

Span 1, Girder 1, East Elevation.

HVY SURF RUSTY w/  
SPOTTY LR +  
NEG LOSS CRIT  
ZONES



3/4" DF ∴  
NO LOSS

1 3/4" LEG w/ LR  
± 1 3/16" REM,  
1 5/16" STIFF w/  
± 5/32" SL (MAX) e  
Bot 6"

Span 1, Girder 1, West Elevation

**Baker**

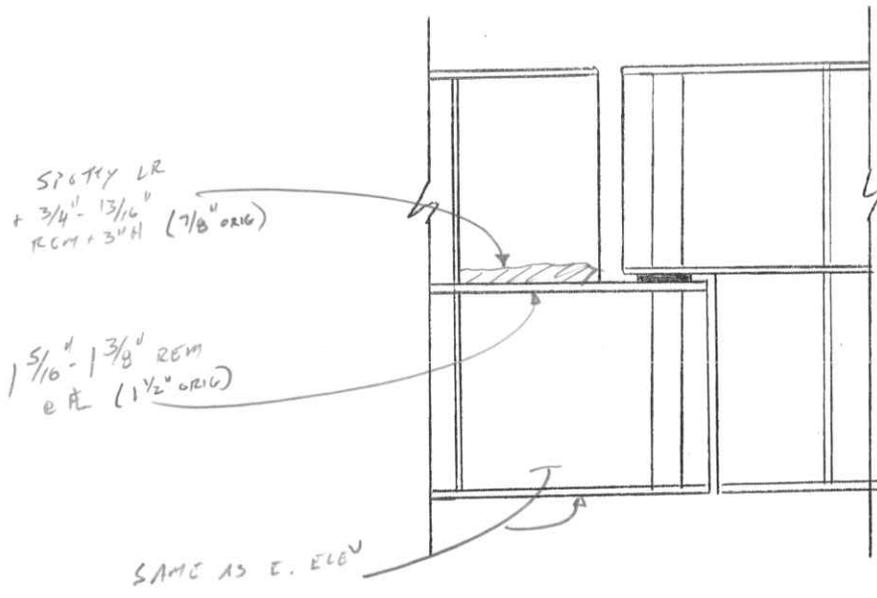
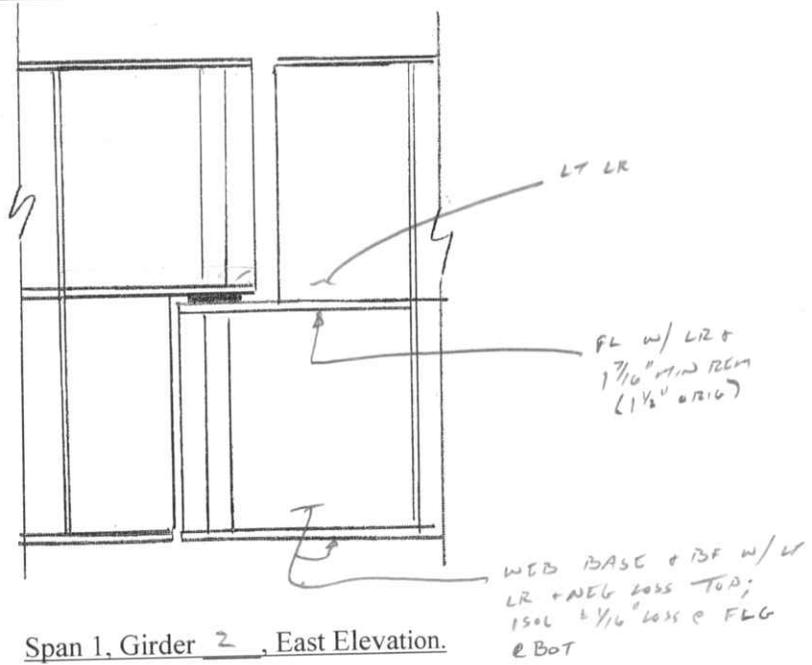
Bridge No. 01748

Date: 11/10/11

Crew: MSO, BH

Sheet 26/69

Description: Ship Lap Notes



**Baker**

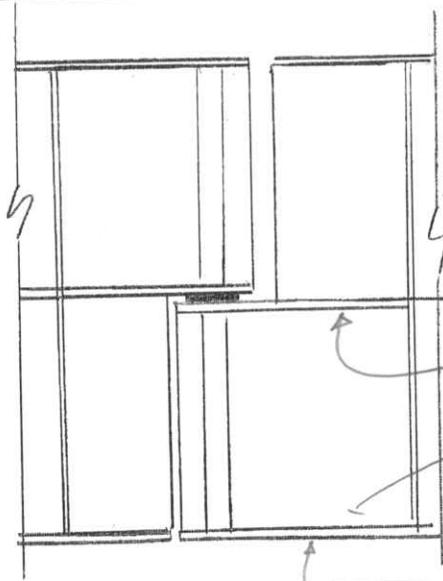
Bridge No. 01748

Date: 11/10/11

Crew: MSO, BSH

Sheet 27/69

Description: Ship Lap Notes



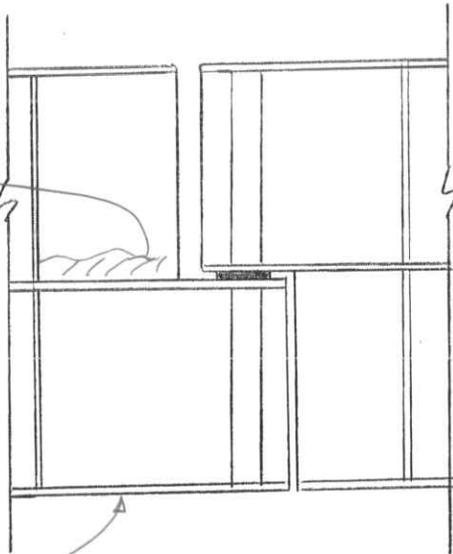
Span 1, Girder 3, East Elevation.

1 7/16" MIN  
REM E FLG  
(1 1/2" ORIG)

SPOTTY LR & STIFFS  
+ WEB, L 1/16" SL

BF w/ LR GL  
AREA B/W STIFFS w/  
1 7/16" MIN AVE REM,  
AREA PAST w/ 1 1/16" REM  
(1 3/4" ORIG)

3" H x 1 3/16"  
REM w/ HUY  
RUST (7/8" ORIG)



Span 1, Girder 3, West Elevation

BF B/W STIFFS  
w/ LR + 1 7/16" MIN  
REM; NEG LOSS PAST  
THIS AREA (1 3/4" REM)

**Baker**

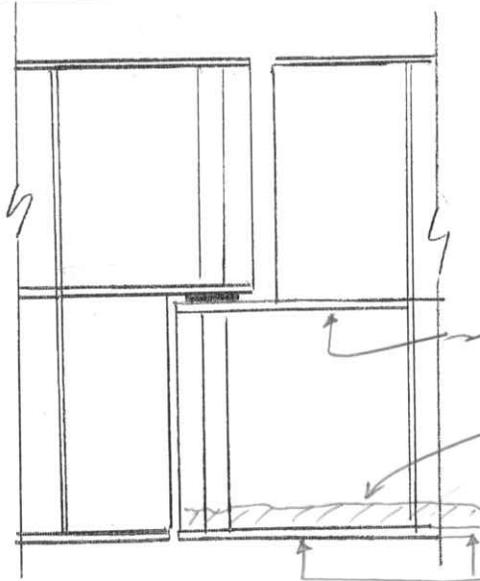
Bridge No. 01748

Date: 11/10/11

Crew: MSD, BH

Sheet 28/69

Description: Ship Lap Notes



Span 1, Girder 4, East Elevation.

1 5/16" AUC  
REM E FLG

DOT 5" WEBS + 7/8"  
W/ LR + NEG-1/16" SC

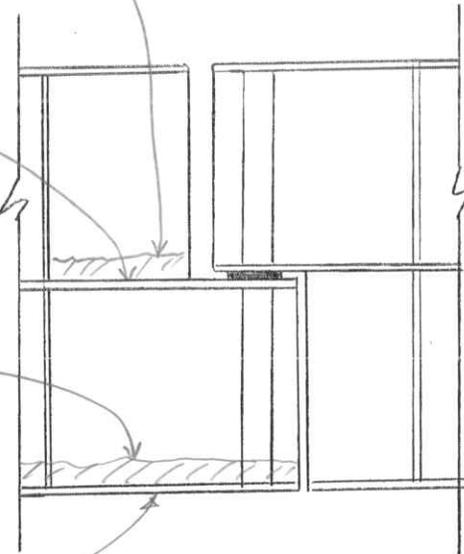
BF B/W DRG  
STIFFS W/ LR +  
4 1 1/16" AUC REM:  
NEXT 4" W/ LR +  
13/4" - 1 13/16" AUC REM  
(1 3/4" ORIG)

DOT 3" WEBS W/ LR  
(7/8" MIN REM). ← 7/8" ORIG

1 5/16" AUC  
REM E FLG  
(1 1/2" ORIG)

DOT 3" OF WEBS +  
STIFFS W/ LR  
+ ± 1/16" SC (7/8" ORIG)

BF W/ 3L + 1 1/2" AUC  
REM W/ UP TO 1/4"  
LOSS OF WIDTH



Span 1, Girder 4, West Elevation

**Baker**

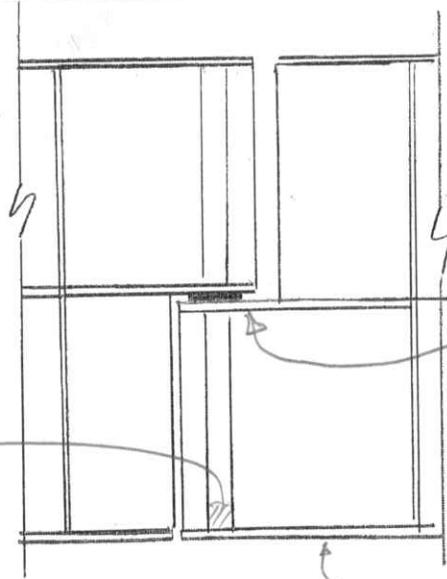
Bridge No. 1748

Date: 11/10/11

Crew: 170/B11

Sheet 29/69

Description: Ship Lap Notes

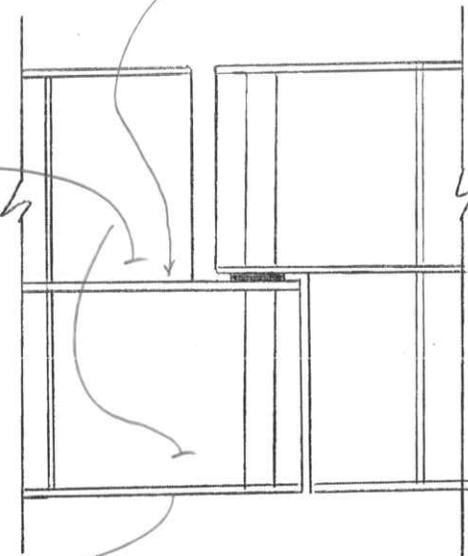


LR B/W STIFFS  
4" H w/ 1/16" ESP SL  
LR DIFFICULT TO REMOVE  
DUE TO STIFF'S;  
S. STIFF w/ UP TO  
3/16" SL C BOOT 6", LR

E w/ 1/4" MIN  
REM BELOW  
HUNG BF (1 1/2" ORIG)

BF w/ LR SL  
w/ 1/32" MIN REM

Span 1, Girder 5, East Elevation.



BOOT 6" OF WEBS  
w/ LT LR w/ NET  
LOSS TYP (ISOL 1/16" SPOTTY  
AREAS).

E w/ 1 7/16" MIN REM (1 1/2" ORIG)

BF w/ LT LR & ES'L  
w/ 1/16" SL;

Span 1, Girder 5, West Elevation

**Baker**

Bridge No. 1748

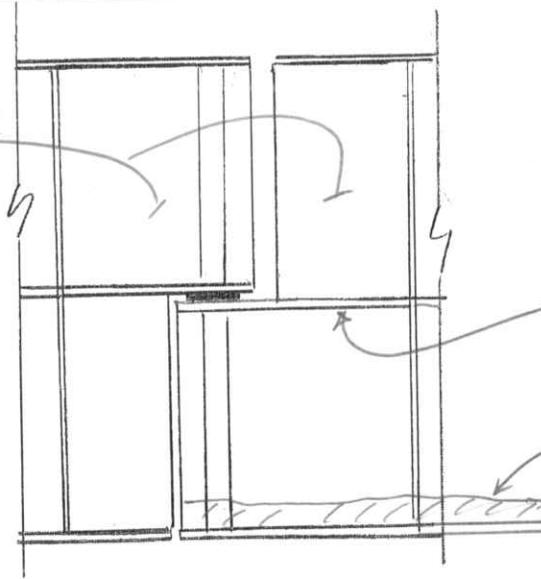
Date: 11/10/11

Crew: MTO, BH

Sheet 30/69

Description: Ship Lap Notes

HUY SURF RUST  
TO LT LON RUST  
w/ MINOR LOSS



FE w/ 1 1/16" MIN  
REIN (1 1/2" ORIG)

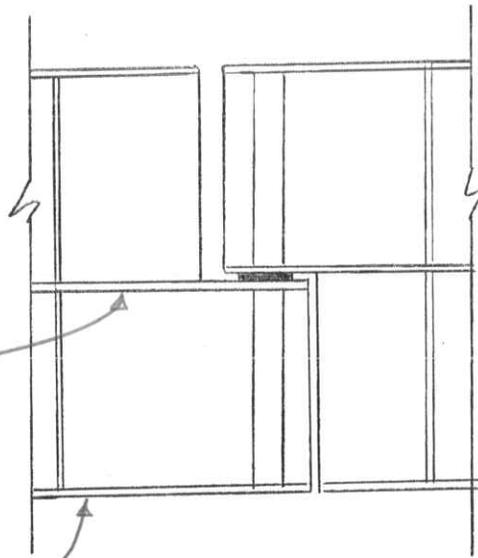
STIFFS  
WEB w/ LR UP TO 6'H  
+ 9'L w/ UP TO 1/16" - 1/8"  
LOSS. ADJ BF LEG w/  
1 1/2" MIN REIN →  
LOSSES WORST BELOW  
JT + TRANSITION TO  
FULL SECTION ± 4'-9'  
(1 3/4" ORIG).

Span 1, Girder 6, East Elevation.

WEBS w/ LR +  
MINOR (L 1/16" SL'S)

FE w/ 1 1/2"  
MIN REIN, LR

LR ± 6'L w/ 1 5/8"  
MIN REIN, LR



Span 1, Girder 6, West Elevation

NOTE: GIRDER 7 SHIDLAP w/ ONLY  
MINOR LOSSES

# SUPPLEMENTAL SHEET

BRIDGE NO. 01748

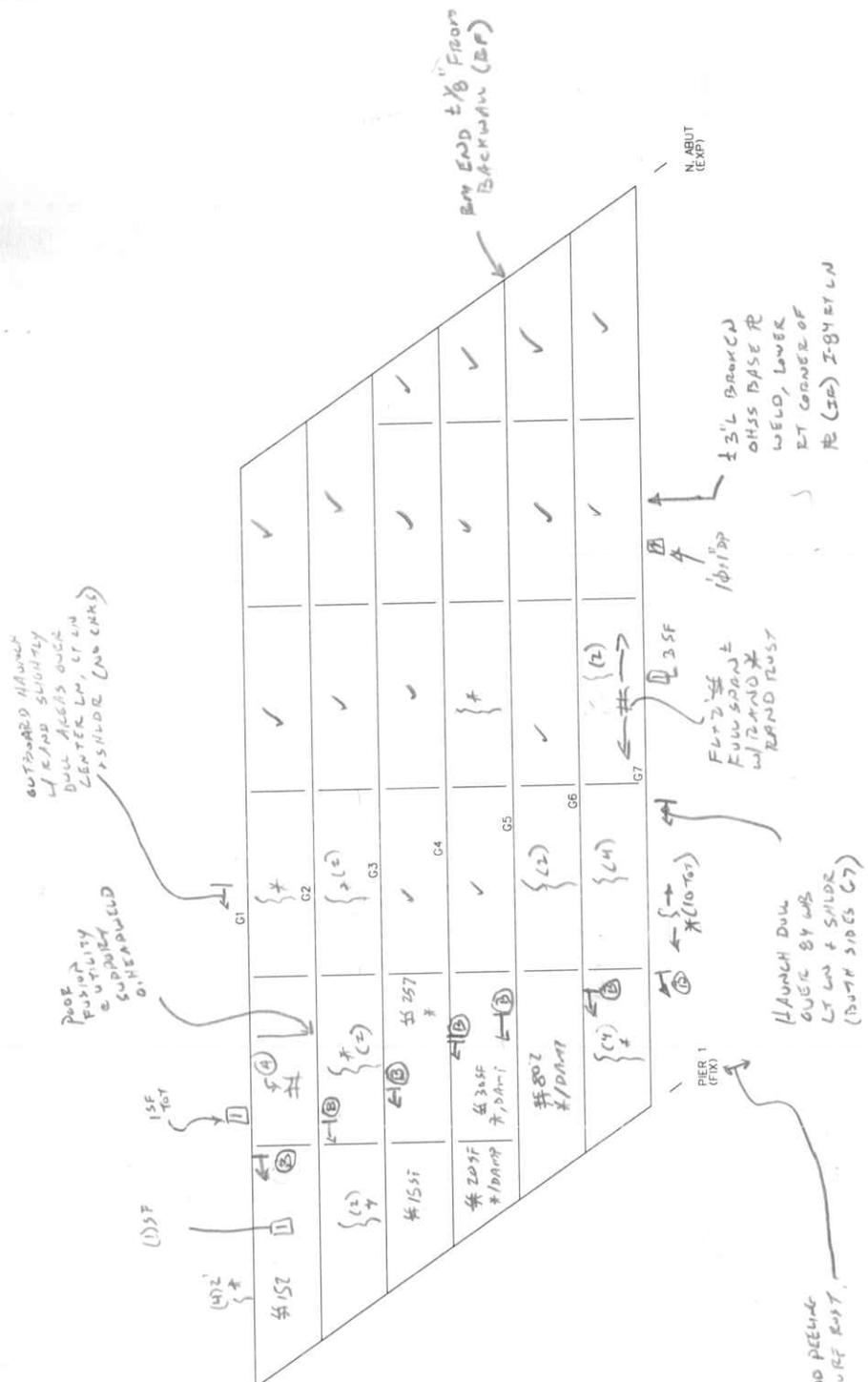
DATE: 9/21/11

FIELD ORIGINAL       TRANSCRIBED BY: \_\_\_\_\_

CREW: MD, BH

SHEET 31/69

DESCRIPTION: SUBSTRUCTURE



## UNDERSIDE OF DECK - SPAN 2

- GEN
- RAND LT HL; EXT REBAR CHAIRS w/ RUST
  - D.H. WELDS MISSING & NUMEROUS DIAPH LOWER SIGTS
  - LT CR THROUGH w/ 1/2" LOSS & 3/8" x 3/8" DIAPHS
  - RAND BY PIGEON DEBRIS

UPDATE NO.	DATE	COMPANY	CREW
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LEGEND  
 (A) = 225 SF w/ RAND #, D.M.P.  
 (B) = 1500 HAUNCH OVER DIET, (1) SIDE OF FLG, U.O.M.

FIELD RECS w/ RAND REBAR  
 PAINT & LT-MOD SURF REAR,  
 & RAND WELDS

NOTE: UTILITY SUPPORT HANGERS NOT DRAWN.

### LEGEND

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- ▨ SPALL AREA WITH EXPOSED REBAR
- ▧ MAP CRACKS (MPC) OR HARLINE MAP CRACKS (HLMPC)
- ▩ HARLINE CRACK (HLC) OR CRACKS (CRK)
- ⊞ HONEY COMB AREA
- ⊞ SCALE AREA (HVY. MED OR LT)
- ✕ WITH EFFLORESCENCE

S.O. No. BR # 1748 - SECTION LOSSES

Subject: \_\_\_\_\_

Sheet No. \_\_\_\_\_ of \_\_\_\_\_

Drawing No. \_\_\_\_\_

Computed by MJD Checked By JAC Date 11/23/11

GEN

- SHEAR LOSSES AT ABUTS ARE  $\angle 23$
- LOSSES IN BUCKLING ONLY SHOWN IF APPROACH 252

- BUCKLING AREA @ S. ABUT

- WEB =  $3/8"$ - STIFF SPACING =  $10"$  &  $3/4"$  STIFFS- STIFF WIDTH =  $1/2"$  SHORT OF DF ENDS ( $18" FLG$ ) - STIFF WIDTH VARIES

$$= \frac{18" - (2) 1/2" - 3/8" \text{ WEB}}{2} = 8.3" \rightarrow \therefore \text{ SAY } 8 1/4" \text{ WIDE STIFF}$$

$$A_{\text{BUCKLING}} = [2(9) \tau_w + 6B] \tau_w + A_{\text{BS}}$$

$$= [(2)(9)(3/8") + 10"] 3/8" + 4(8 1/4")(3/4") \Rightarrow \underline{31 \text{ in}^2 \text{ FOR BUCKLING}}$$

( $\therefore 252 \text{ SL} = 7.75 \text{ in}^2 \text{ SL}$ )

SP #1 SL'S NEAR S. ABUT

- GIRDER 1  $\rightarrow \angle 252$  BUCKLING LOSS
 $\rightarrow 1/2" \text{ REM @ E. LEG ISF} \rightarrow 3/4" \text{ ORIG} \rightarrow \therefore \text{ LOSS} = \frac{1/4" (0.5")}{3/4"} = 162 \text{ SL @ LESS CRIT ZONE @ END 5'}$ 
- GIRDER 6  $\rightarrow$  VOID IN BUCKLING (RTH IS A INT STIFF)
 $\rightarrow 3/8" \text{ REM @ E. LEG ISF} \rightarrow 3/4" \text{ ORIG} \rightarrow \therefore \text{ LOSS} = \frac{3/8" (0.5")}{3/4"} = 252 \text{ SL @ LESS CRIT ZONE @ END 6'}$ 

SP #1 SL'S @ SHIPLAP

• FH WEB @  $58" \times 7/8" = 50.8 \text{ in}^2$ • HUNG TOP WEB @  $\pm 25" \times 7/8" = 21.9 \text{ in}^2$ • SUPPORT LOWER WEB @  $\pm 24 1/2" \times 7/8" = 21.4 \text{ in}^2$ • GIRDER 1-5+7  $\rightarrow \angle 57$  WEB LOSS, ISF LOSS MINOR ( $\angle 58$ )

• GIRDER #6 (SUPPORT SPAN)

WEBS -  $\angle 57$  SL
 $\text{ISF @ } X = 6' \rightarrow \text{E LEG} \rightarrow 1/4" \text{ MAX LOSS} \rightarrow 0" \text{ LOSS @ } X = 9' \rightarrow (1/3) 1/4" = 0.083" \text{ LOSS @ } X = 6" \text{ (EST)}$ 
 $\text{W. LEG} \rightarrow 1 5/8" \text{ MIN REM (1 3/4" ORIG)} \rightarrow 1/8" \text{ LOSS}$ 

$$\text{LOSS} = \frac{(0.083" + 1/8") (1/2")}{1.75"} = \underline{62 \text{ BF LOSS @ NEG MOMENT}}$$

SP #2

- LOSSES ARE NEGLIGIBLE

# SUPPLEMENTAL SHEET

BRIDGE NO. 01748

DATE: 9/24/11

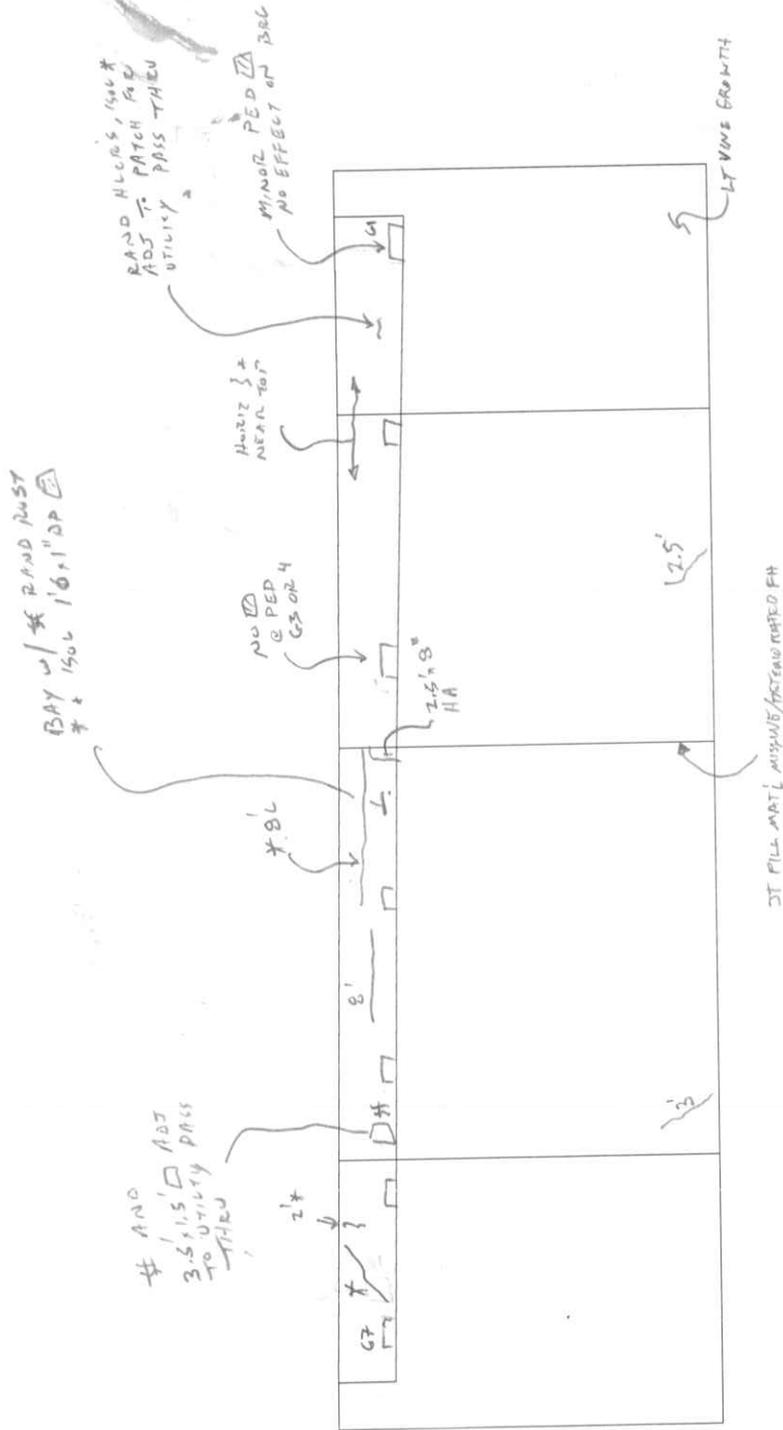
FIELD ORIGINAL

TRANSCRIBED BY: \_\_\_\_\_

CREW: BH, MJO

SHEET 33/69

DESCRIPTION: SUBSTRUCTURE



GEN. NOTES

- PRINTED OVER GRAFFITI 8" x 80" LENGTH AT BOT.
- RAND AREAS OF LT SCALE.
- SILT STRAINING THROUGH-PUT.
- BACKWASH w/ LT

SOUTH ABUTMENT

LEGEND

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

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			

# SUPPLEMENTAL SHEET

BRIDGE NO. 01748

DATE: 9/21/11

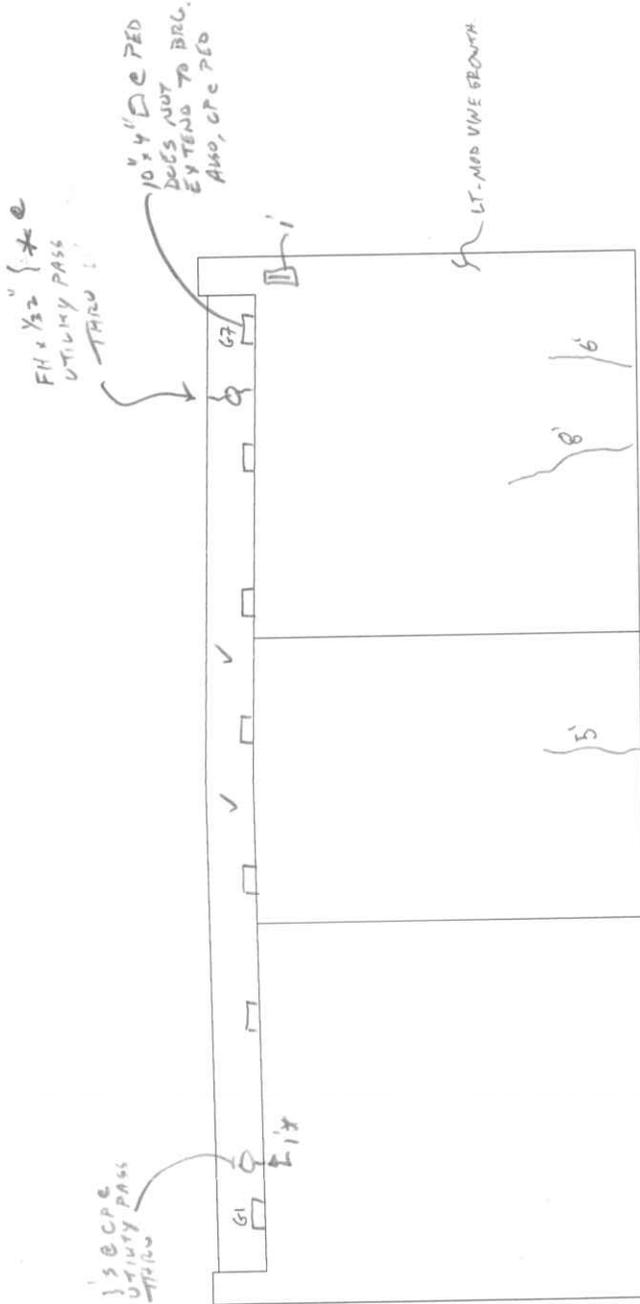
FIELD ORIGINAL

TRANSCRIBED BY: \_\_\_\_\_

CREW: BH, MJO

SHEET 34/69

DESCRIPTION: SUBSTRUCTURE



GEN. NOTES

- PAINTED OVER BRACKET 90% OF HEIGHT x 7" W
- RAMP MINOR FED D'S AWAY FROM BRGS.
- MINOR CHIPPING @ TOP OF BACKWALL
- RAMP HWY PIGEON DEBRIS

NORTH ABUTMENT

**LEGEND**

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

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			

# SUPPLEMENTAL SHEET

FIELD ORIGINAL

TRANSCRIBED BY: \_\_\_\_\_

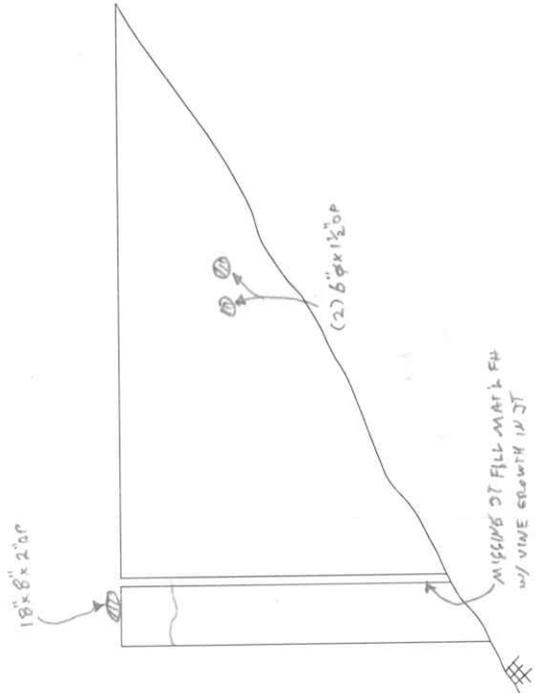
BRIDGE NO. 01748

DATE: 9/21/11

CREW: BH, MSO

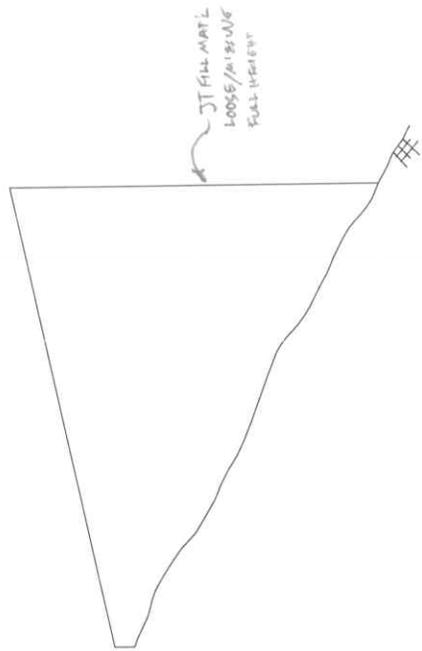
SHEET 35/69

DESCRIPTION: SUBSTRUCTURE



**S.W. WINGWALL**

- MOD - Hvy VINE GROWTH THRU-OUT
- RAPD AREAS OF LT SCALE.



**S.E. WINGWALL**

- PAINTED OVER STAFFITI 7' Hx FL @ 50'

**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 EFFLORESCENCE

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			

# SUPPLEMENTAL SHEET

BRIDGE NO. 01748

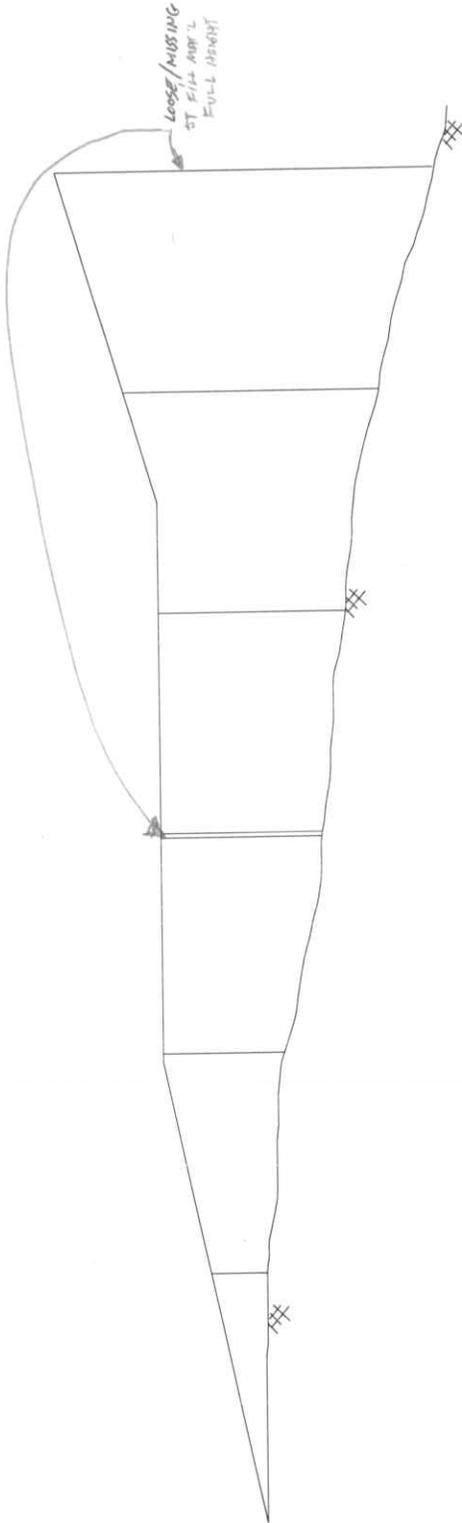
DATE: 9/21/11

FIELD ORIGINAL       TRANSCRIBED BY: \_\_\_\_\_

CREW: BH, MSO

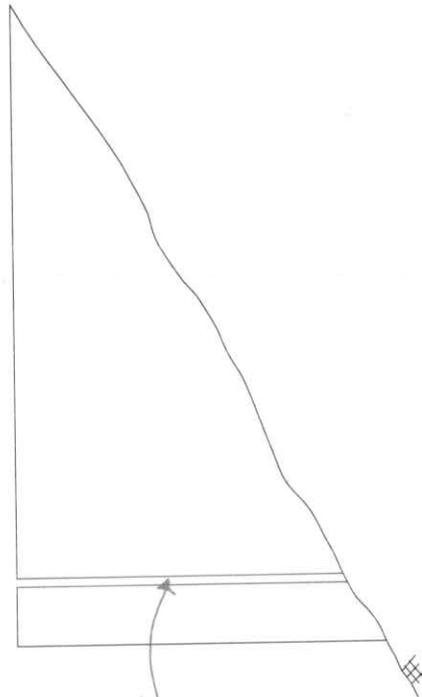
SHEET 36/69

DESCRIPTION: SUBSTRUCTURE



**N.W. WINGWALL**

- MOD - HVY VINE GROWTH IN ALL STS.
- LT - MOD VINE GROWTH THRU-OUT.
- RAMP AREAS OF LT SCALE.



**N.E. WINGWALL**

- HAND AREAS OF LT. SCALE.

**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 (HY, MED OR LT)
- WITH EFFLORESCENCE

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			

# SUPPLEMENTAL SHEET

FIELD ORIGINAL       TRANSCRIBED BY: \_\_\_\_\_

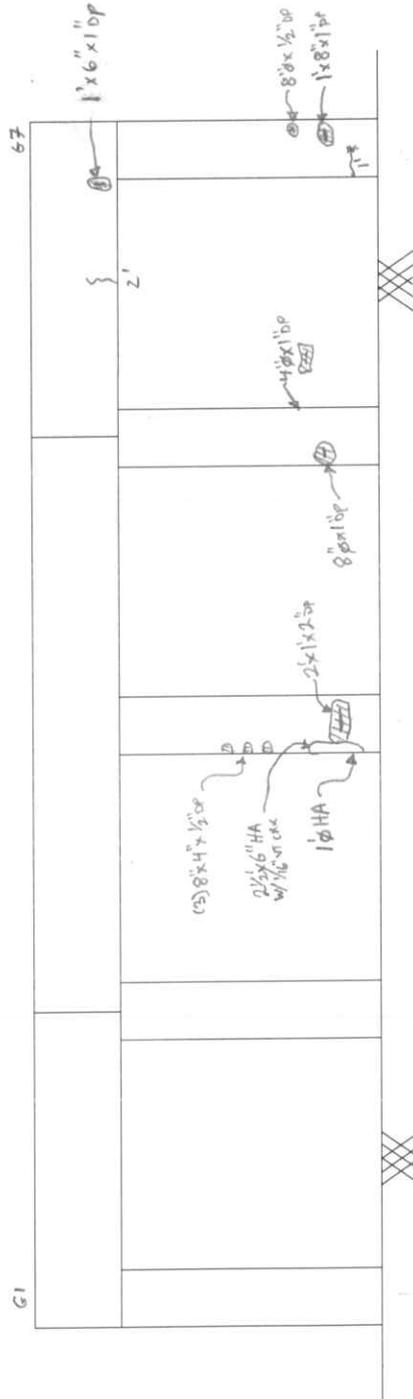
BRIDGE NO. 01748

DATE: 11/9/11

CREW: BH, MSJ

SHEET 37/69

DESCRIPTION: SUBSTRUCTURE



PIER - SOUTH ELEVATION

**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 (HVT, MED OR LT)
- WITH EFFLORESCENCE

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
△			
△			

# SUPPLEMENTAL SHEET

BRIDGE NO. 01748

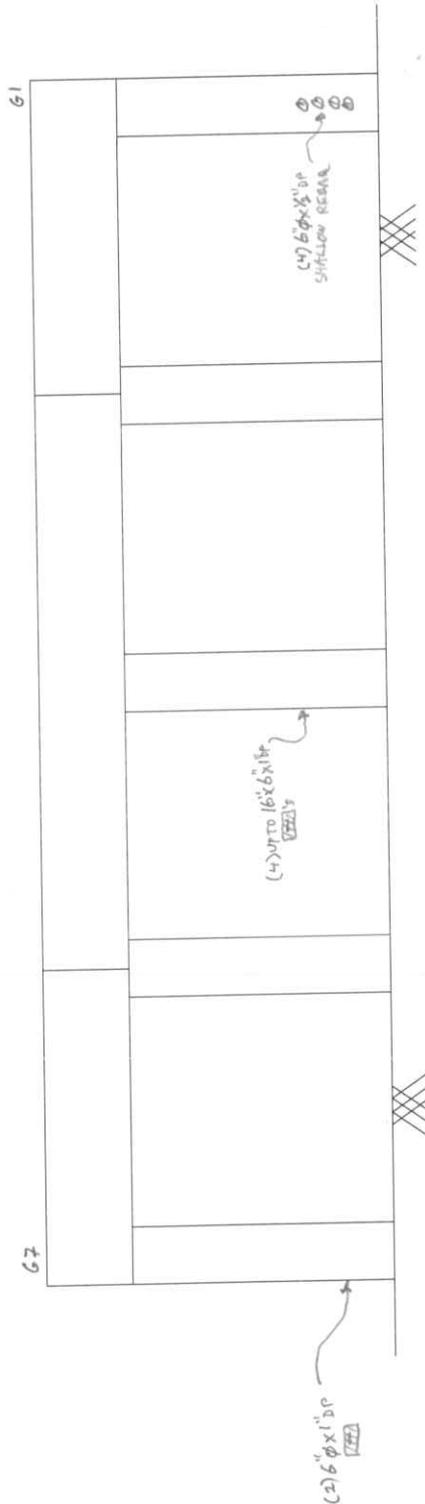
DATE: 11/9/11

FIELD ORIGINAL       TRANSCRIBED BY: \_\_\_\_\_

CREW: BH, MJO

SHEET 30/69

DESCRIPTION: SUBSTRUCTURE



**PIER - NORTH ELEVATION**

- 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

UPDATE NO.	DATE	COMPANY	CREW
△			
△			
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△			

### CONCRETE DETERIORATION WORKSHEET

		Deterioration By Span - In Square Feet										
		Span Number										
Deterioration Type	X	1	2	3	4	5	6	7	8	9	10	Total
Spalled and Delaminated Areas	Top											0
	Bot.	33	36									69
Scale (Moderate to Severe Only)	Top											0
	Bot.											0
Cracks:with Efflorescence (Use 6" width x length)	Bot.		50									50
Cracks w/o Efflo.(Use 3" width x Length)	Top											0
	Bot.	6	16									22
Map Cracking: w/Efflorescence (Use full Area)	Bot.	160	480									640
Map Cracking w/o Efflo.(Use 50% of Area)	Top											0
	Bot.	250	22									272
Honeycombed Areas (only areas more than 1 1/2" deep)	Bot.											0
Total Deterioration	Bot.	449	604	0	0	0	0	0	0	0	0	1053
Span Area		7370	6571									13941
% Spalled and Delaminated on top	Top	0.0%	0.0%									X
% Deterioration on Bottom	Bot.	6.1%	9.2%									7.6%

Note: Bridge is separated into spans at the pier.

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #1 :**  
Bridge ID.



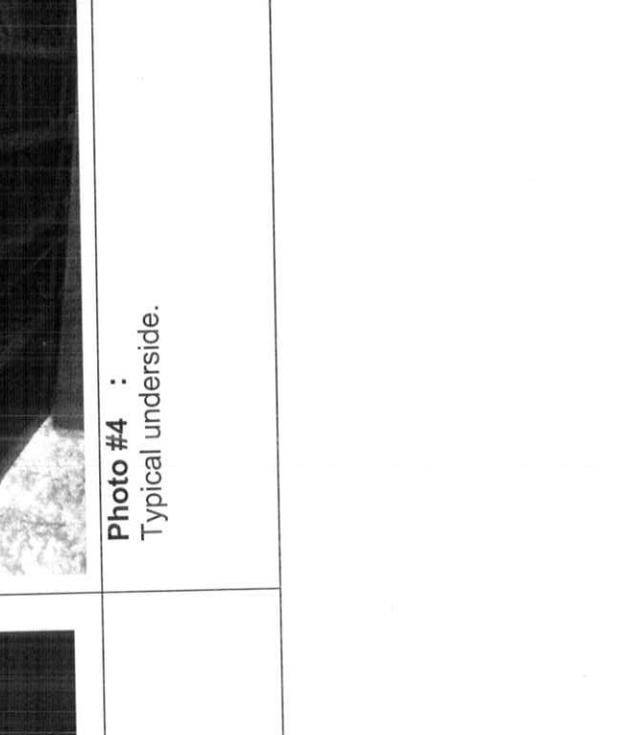
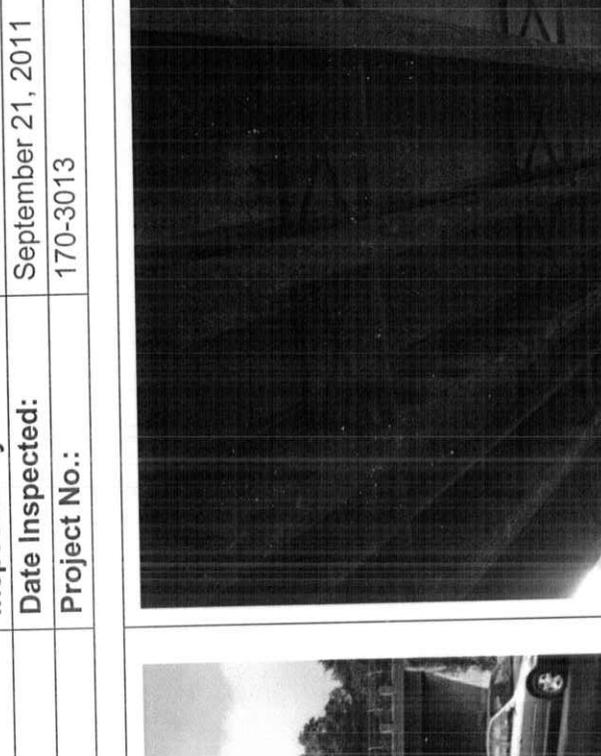
**Photo #2 :**  
West elevation.

Note the vertical clearance posting signs attached to the parapet and behind the guide rail.

Prepared by:

**Baker**

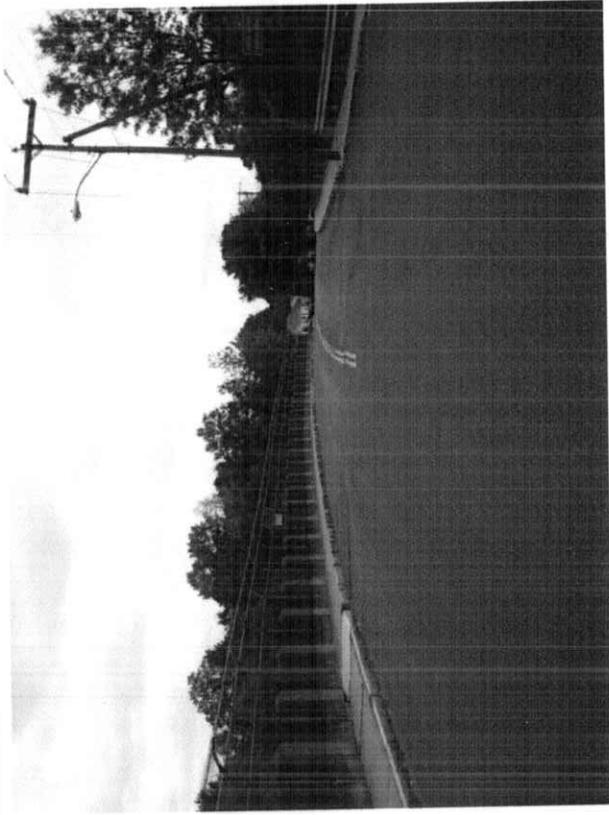
<b>Bridge No.</b>	01748	<b>Inspected by:</b>	M. Orlowsky
<b>Town:</b>	West Hartford	<b>Inspected by:</b>	B. Howlett
<b>Feature Carried:</b>	Mayflower Street	<b>Date Inspected:</b>	September 21, 2011
<b>Feature Crossed:</b>	Interstate 84	<b>Project No.:</b>	170-3013

	<p><b>Photo #3 :</b> East elevation.</p>
	<p><b>Photo #4 :</b> Typical underside.</p>

Bridge No.	01748	Inspected by:	M. Orłowski
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Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #5 :**  
 Bridge from the south approach.  
 Note the cracking in the approach pavement.

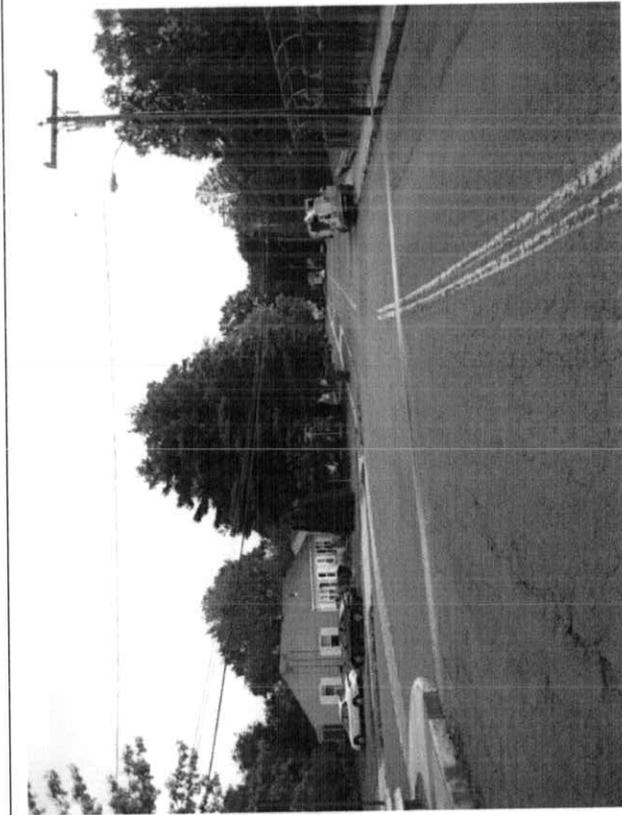


**Photo #6 :**  
 Bridge from the north approach.

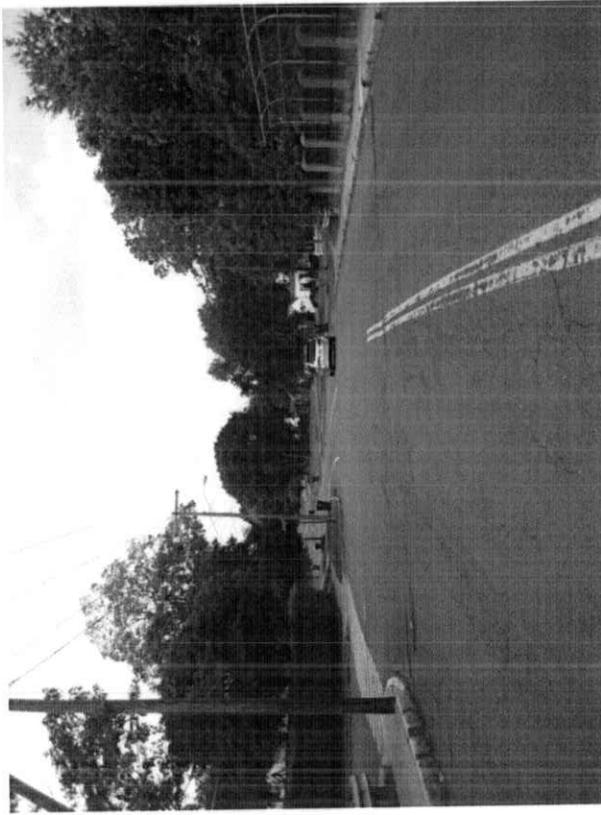
Prepared by:

**Baker**

<b>Bridge No.</b>	01748	<b>Inspected by:</b>	M. Orłowski
<b>Town:</b>	West Hartford	<b>Inspected by:</b>	B. Howlett
<b>Feature Carried:</b>	Mayflower Street	<b>Date Inspected:</b>	September 21, 2011
<b>Feature Crossed:</b>	Interstate 84	<b>Project No.:</b>	170-3013



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

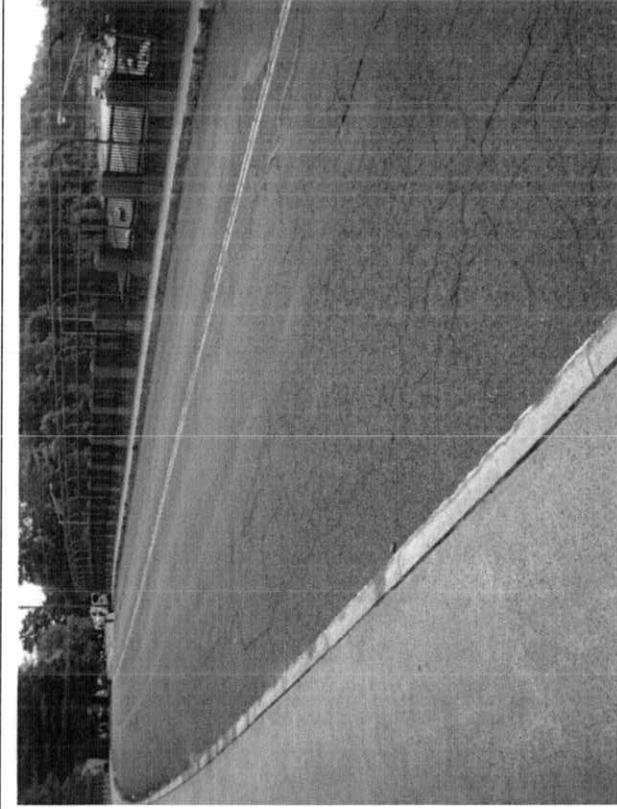


**Photo #8 :**  
North approach from the bridge.

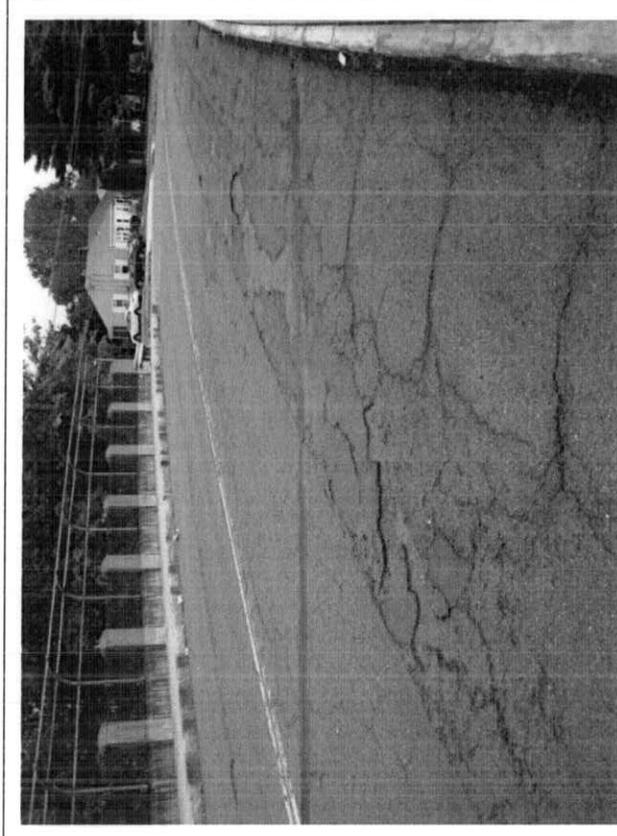
Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #9 :**  
 Typical top of deck.  
 Note the heavy cracking in the bridge overlay.



**Photo #10 :**  
 Deteriorated bridge overlay near the shiplap joint in span 1.

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Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #11 :**  
Span 1, girder 7: Dull haunch over left and center lanes.

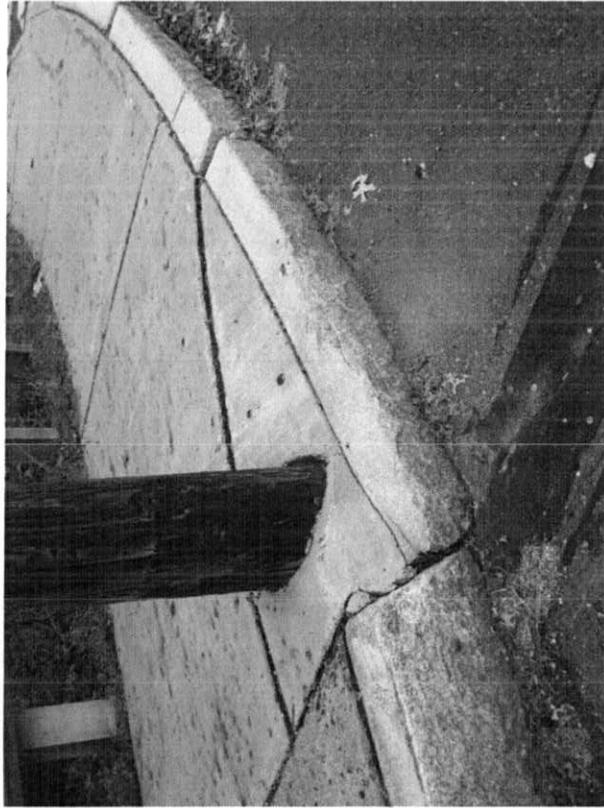


**Photo #12 :**  
Span 2, bay 5: Map cracking with dampness.

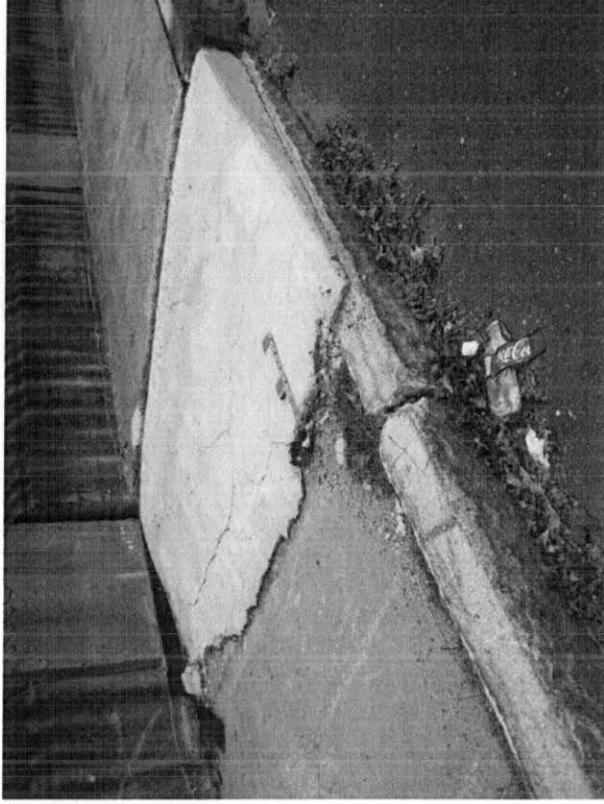
Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orlowsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #13 :**  
Northwest approach. New approach sidewalk. Also note the approach curb settlement.



**Photo #14 :**  
Spalling of the concrete transition ramp at the northeast approach sidewalk.

*BMM ISSUED THIS INSPECTION PD 1-31-12*

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orlovsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #15 :**  
 Concrete transition ramp is missing at the southeast approach sidewalk. Also note the spalling of the sidewalk joint header.  
*BMM ISSUED THIS INSPECTION 10/13/12*

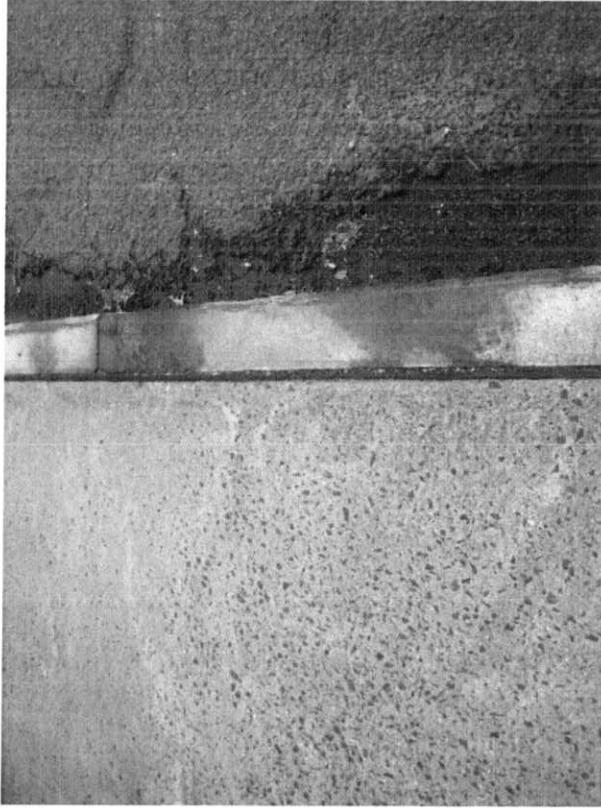


**Photo #16 :**  
 Southwest approach sidewalk with up to 4" deep scaling.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orlovsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #17 :**  
 Typical deteriorated sealant between the curbs and sidewalks. Also note the raveling of the bridge overlay near the curb.

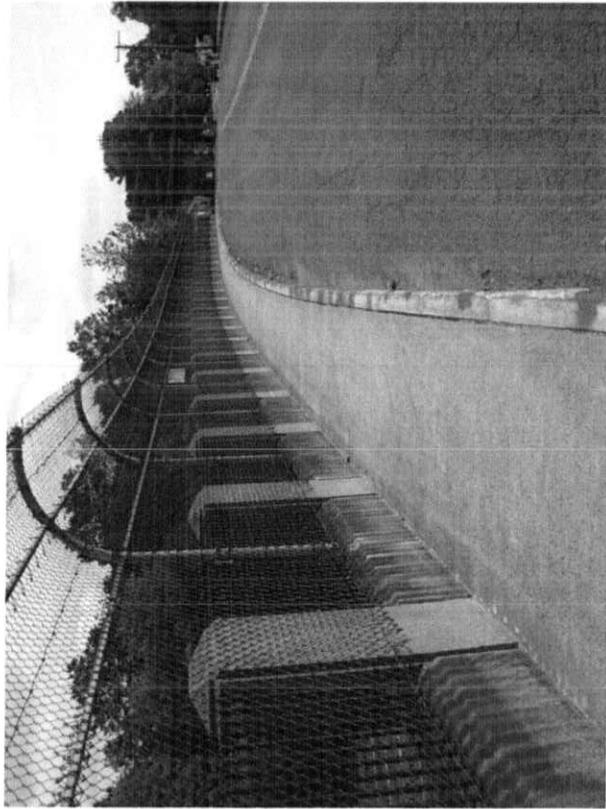


**Photo #18 :**  
 Span 1, east parapet: Spall with exposed rebar in the outside face of the parapet at the shiplap joint.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orlovsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #19 :**  
Typical sidewalk, parapet, railing, and fence.

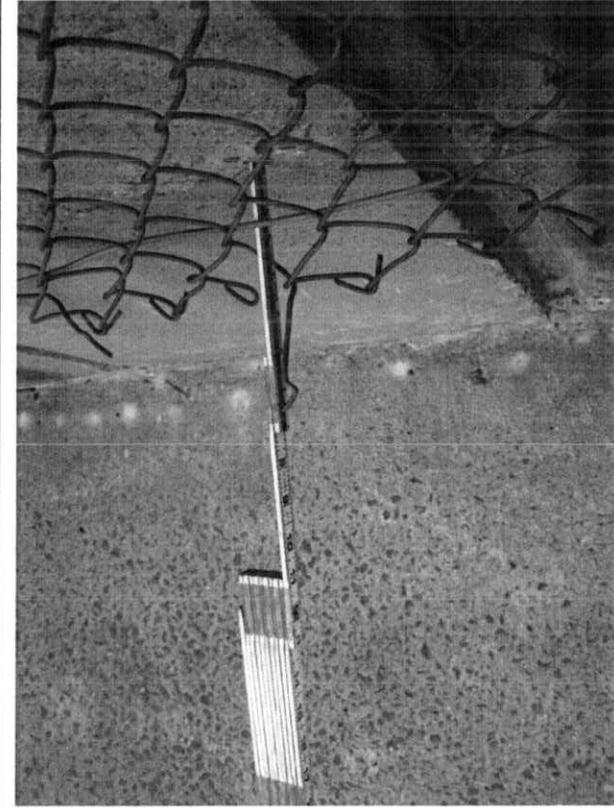


**Photo #20 :**  
Southwest approach: Disconnected horizontal fence rail.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #21 :**  
Span 2: Bottom of the east fence is bent and protrudes into the sidewalk area.

*BMM ISSUED THIS INSPECTION 10-13-12*



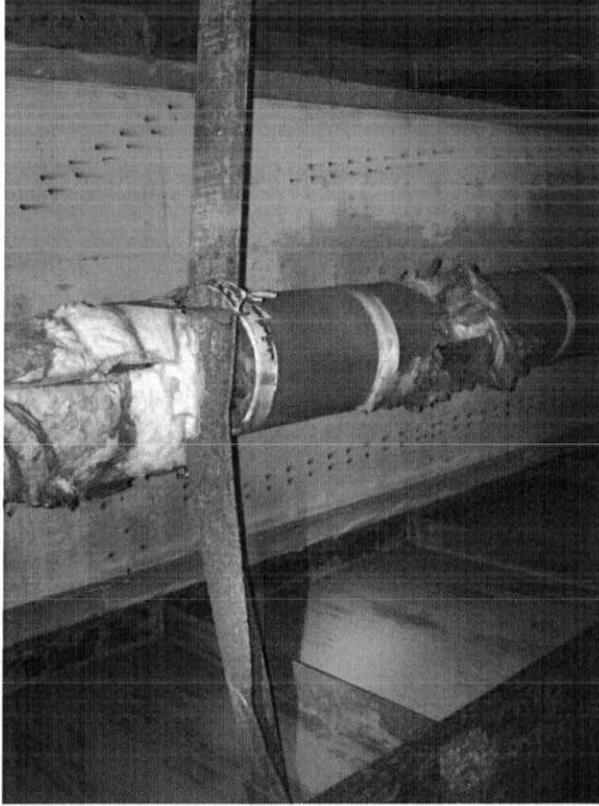
**Photo #22 :**  
Span 1, bay 5: Steel weep near the south abutment is rusted out and split near the bottom and may drain onto girder 6.

*BMM ISSUED THIS INSPECTION 10-13-12*

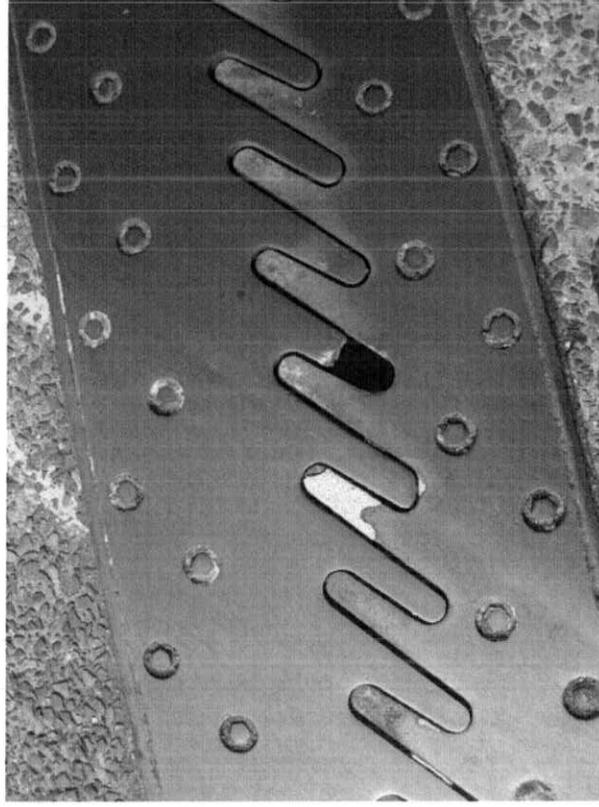
Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orlovsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #23 :**  
Span 1, bay 1: Bent utility support member. Also note the torn insulation.

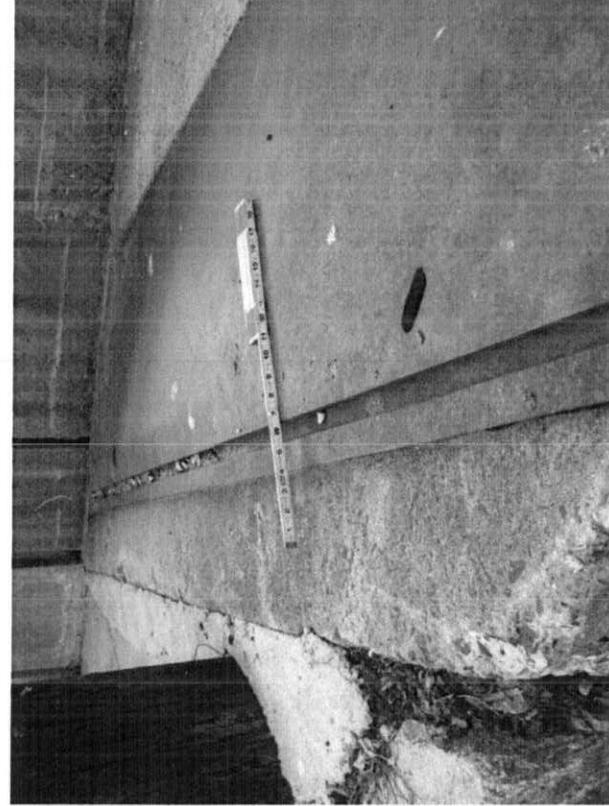


**Photo #24 :**  
Broken tooth in the south abutment finger joint. Note that the joint is almost closed at 80 degrees Fahrenheit.

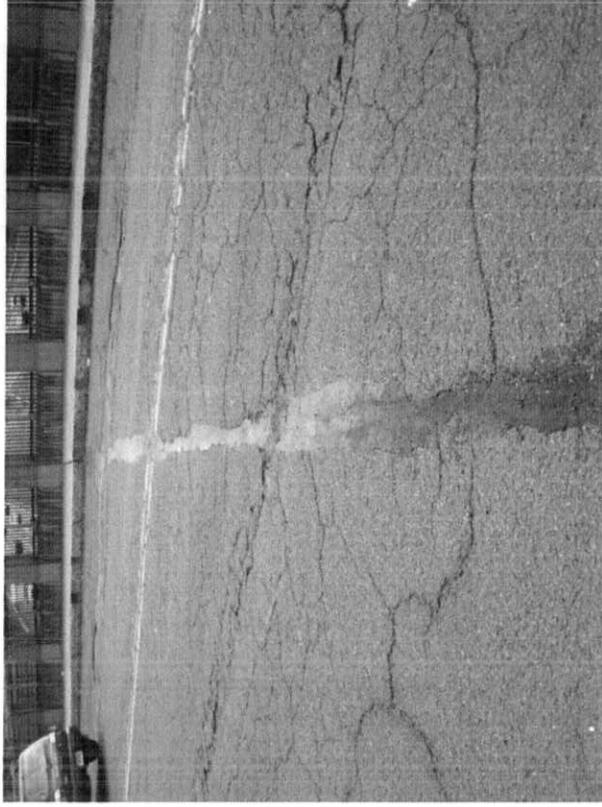
Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #25 :**  
South abutment joint: Joint plate at the west sidewalk is up to 3/4" higher than the sidewalk header.



**Photo #26 :**  
Pourable sealant joint at the shiplap joint, span 1. Also note the deteriorated overlay.

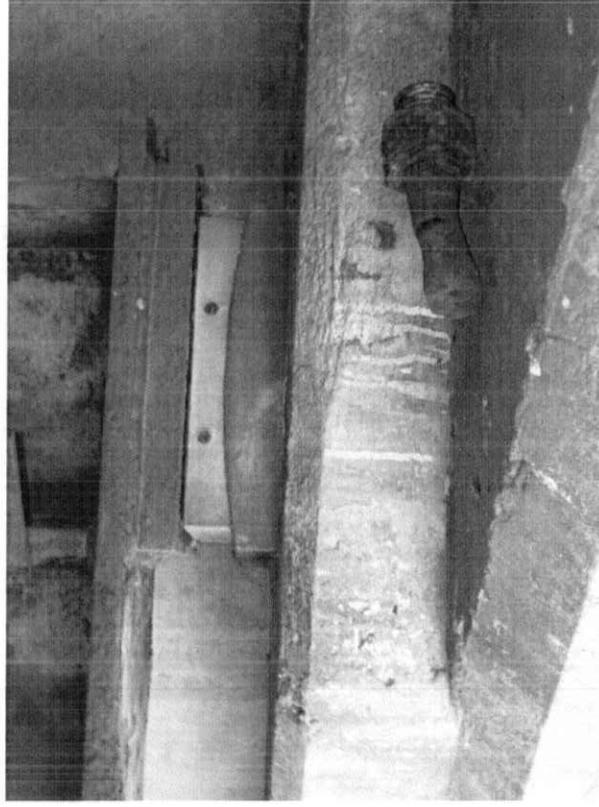
Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orlovsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #27 :**  
Shiplap joint, east sidewalk: Missing sealant along the sidewalk joint.



**Photo #28 :**  
Span 2, girder 5 bearing at the north abutment: Sheared anchor bolt and up to 3/16" impacted rust between the plates.

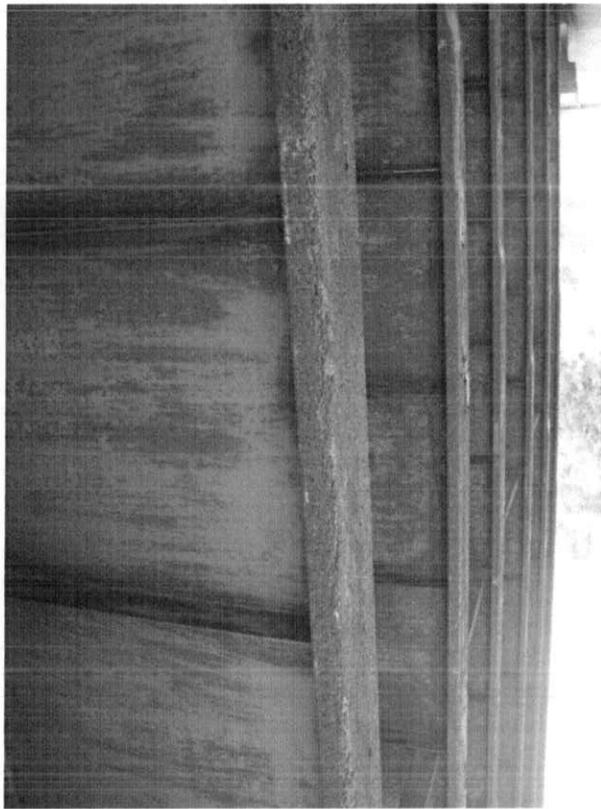
Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #29 :**  
Girder 7 fixed bearing at the pier, typical.

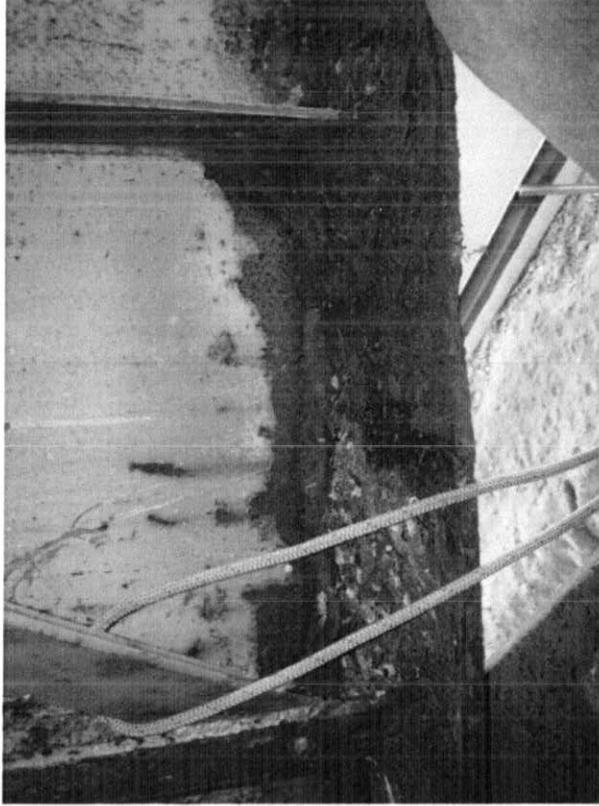


**Photo #30 :**  
Typical heavy to laminated rust with negligible losses along the bottom flanges.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #31 :**  
Span 1, girder 6 near the south abutment: Laminated rust with section loss along the bottom flange and web base. Stiffener at the right side of the photo is rusted out at the base.



**Photo #32 :**  
Span 1, girder 1 shiplap joint, typical. Note the spalled girder haunch and heavily rusted fixed bearing.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #33 :**  
Span 1, girder 4 shiplap. Note the laminated rust and section loss at the base of the web and bottom flange. Also note the rusted bearing.

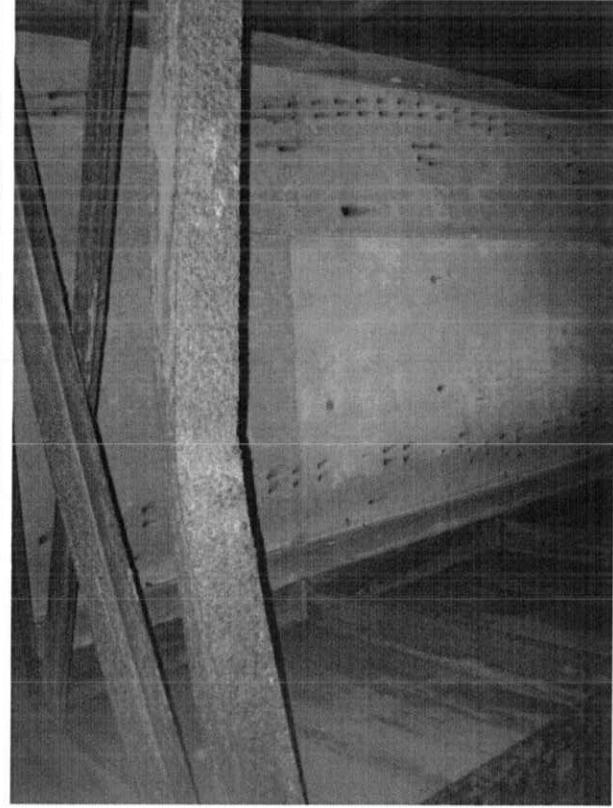


**Photo #34 :**  
Span 1, girder 6 shiplap. Note the laminated rust and section loss at the base of the web and flanges. Also note the rusted bearing.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #35 :**  
Span 1, bay 2: Bent diaphragm member.



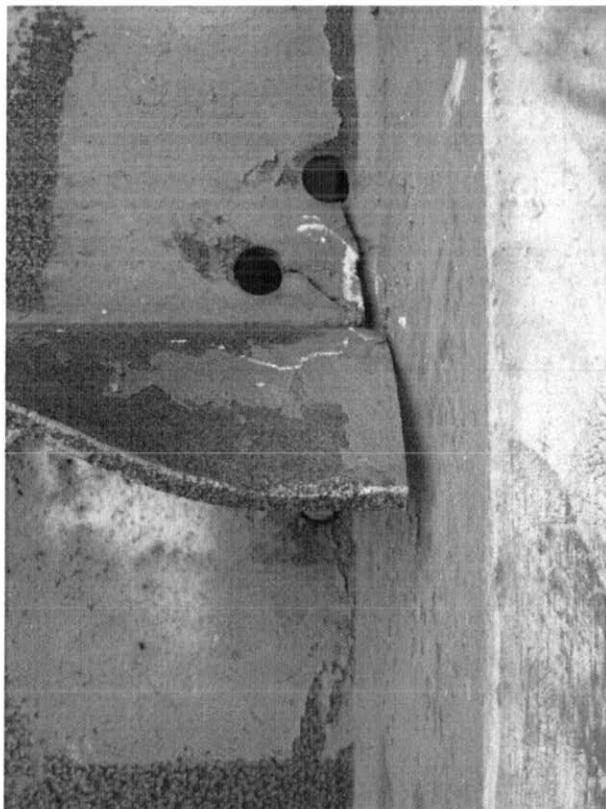
**Photo #36 :**  
Span 1, girder 1 at intermediate stiffener 15: Stop holes with cracks; note that the crack at the left side of the photo is new this inspection.

*BMM ISSUED THIS INSPECTION 10-13-11*

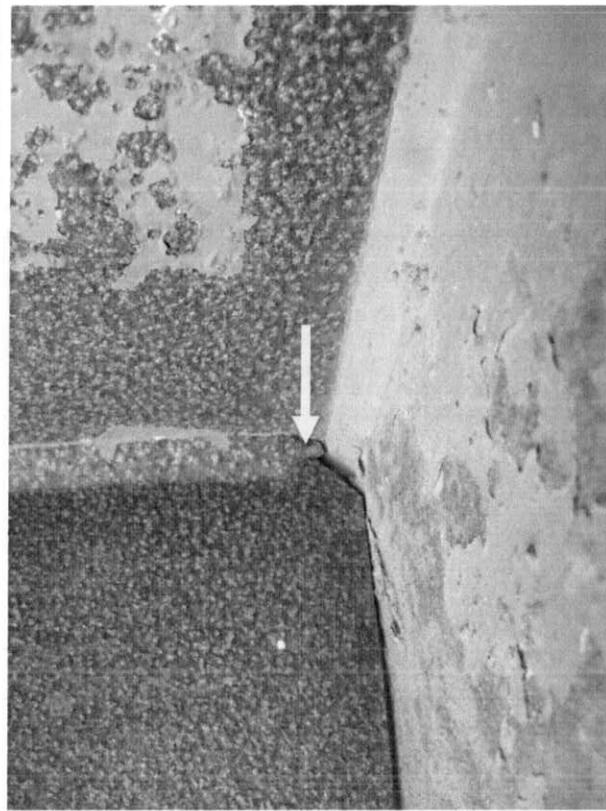
Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #37 :**  
Span 1, girder 1 at intermediate stiffener 14: Cracks with stop holes at the base of the web.  
*BMM ISSUED THIS INSPECTION 10 1-31-12*



**Photo #38 :**  
Span 1, girder 1 at intermediate stiffener 13: Crack at the toe of the stiffener weld, ±3/8" long. Crack is new this inspection.

Prepared by:

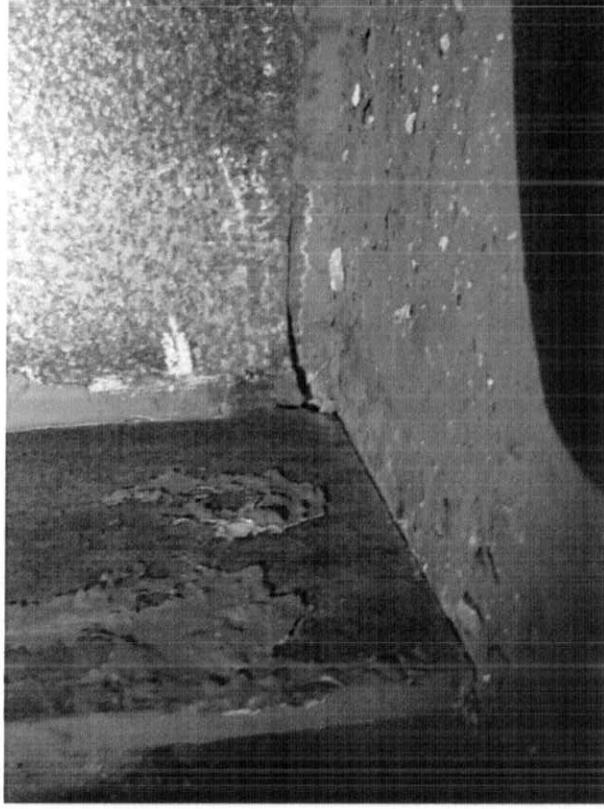
**Baker**

Bridge No.	01748	Inspected by:	M. Orlovsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #39 :**  
Span 1, girder 1 at the third intermediate diaphragm, west elevation with cracks at the base of the web. Cracks are new this inspection.

*BMM ISSUE THIS INSPECTION.*



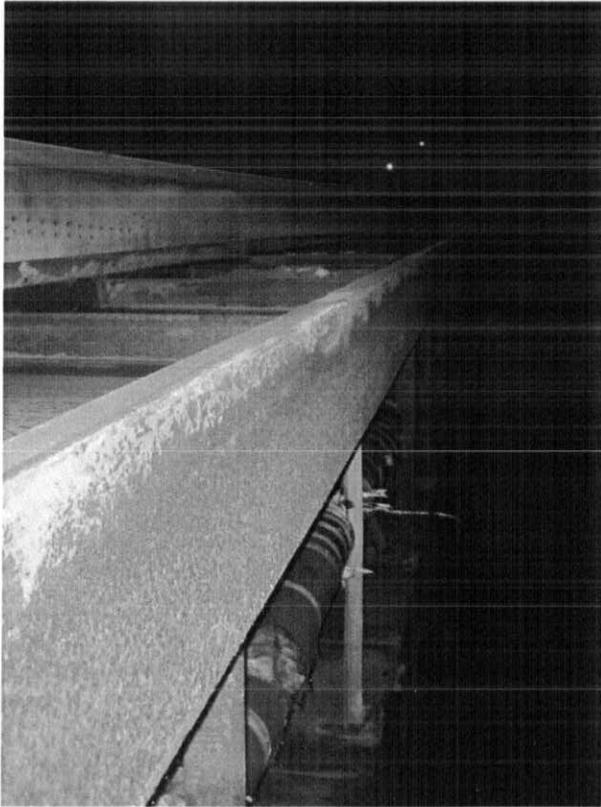
**Photo #40 :**  
Same as photo 39, but looking from right side of the stiffener.

*DO 1-31-12*

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



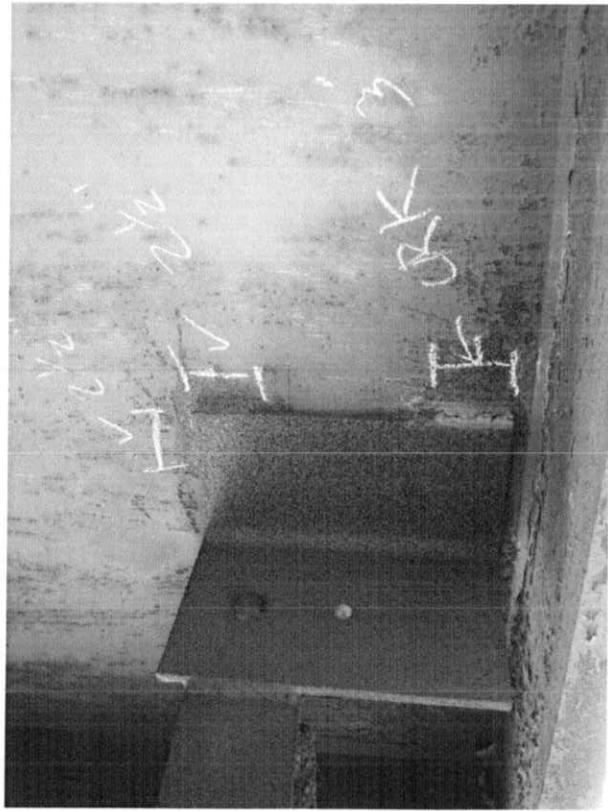
**Photo #41 :**  
Span 1, girder 1: Gouges not ground smooth along the edge of the bottom flange.  
*BMM ISSUED THIS INSPECTION 20 12-11-12*



**Photo #42 :**  
Span 1, girder 1 out of plumb at area with impact damage.

Prepared by:  
**Baker**

Bridge No.	01748	Inspected by:	M. Orlowsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #43 :**  
Span 2, girder 7. Weld at lower right of OHSS base plate is broken.

*BMM ISSUED THIS INSPECTION 10/13/12*



**Photo #44 :**  
Typical missing overhead weld along the underside of the diaphragm lower struts.

Prepared by:

**Baker**

<b>Bridge No.</b>	01748	<b>Inspected by:</b>	M. Orłowski
<b>Town:</b>	West Hartford	<b>Inspected by:</b>	B. Howlett
<b>Feature Carried:</b>	Mayflower Street	<b>Date Inspected:</b>	September 21, 2011
<b>Feature Crossed:</b>	Interstate 84	<b>Project No.:</b>	170-3013



**Photo #45 :**  
Span 2, girder 5 at the north abutment: Only 1/8" gap between the bottom flange end and the backwall.

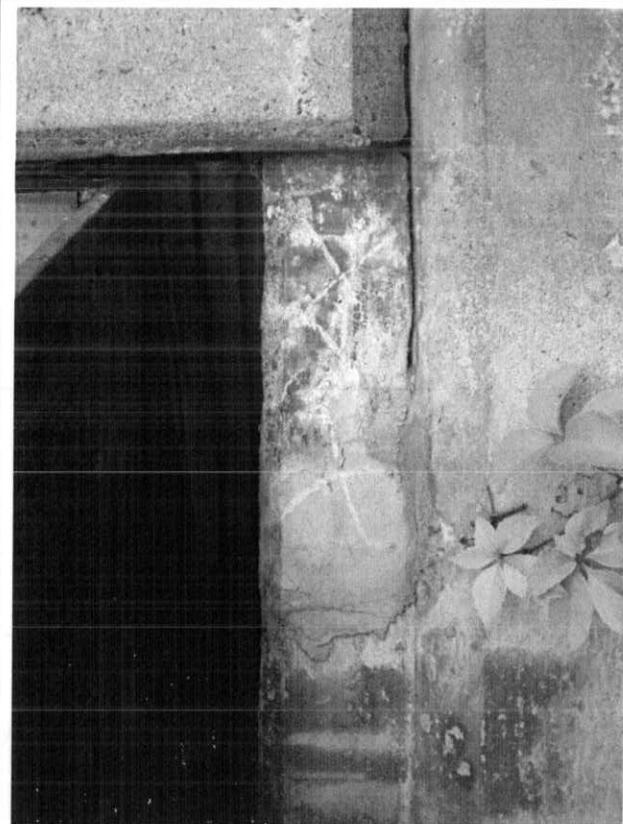


**Photo #46 :**  
South abutment, typical.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #47 :**  
North abutment, girder 7 pedestal with hollow concrete and concrete patch.



**Photo #48 :**  
South abutment backwall, bay 3: Backwall with map cracking, efflorescence, rust staining, hollow area, and up to 1" deep scaling.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orlovsky
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #49 :**  
Northwest wingwall, typical.

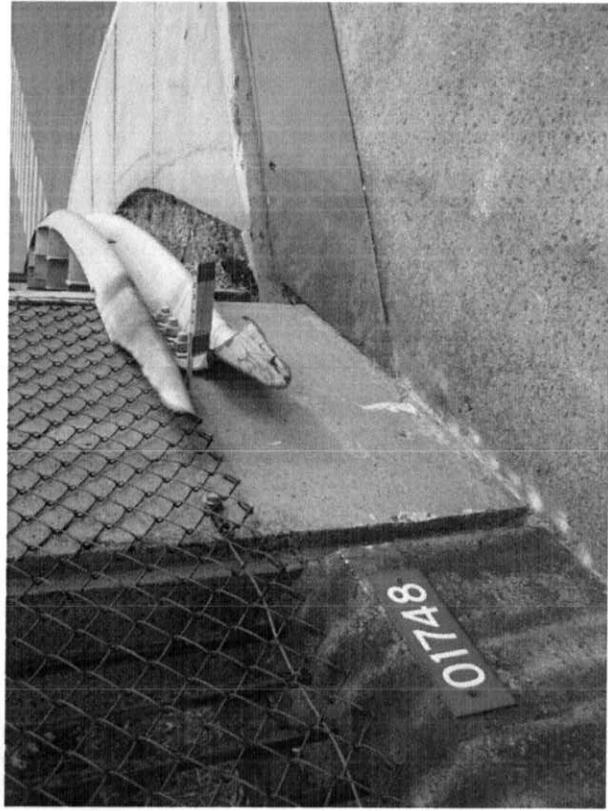


**Photo #50 :**  
South elevation of pier, typical.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #51 :**  
 Southeast guide rail transition is damaged and protrudes into the roadway. Note that there is no rub rail. Also note the steel blockouts.

*BMM ISSUED THIS INSPECTION 9/21/11*



**Photo #52 :**  
 Cracking in the south approach pavement.

Prepared by:

**Baker**

Bridge No.	01748	Inspected by:	M. Orłowski
Town:	West Hartford	Inspected by:	B. Howlett
Feature Carried:	Mayflower Street	Date Inspected:	September 21, 2011
Feature Crossed:	Interstate 84	Project No.:	170-3013



**Photo #53 :**  
Settlement of the south approach pavement at the east end of the south abutment finger joint.



**Photo #54 :**  
Advance warning vertical clearance posting sign at the I-84 Eastbound exit 41 on-ramp (South Main Street). There is a similar sign on I-84 Eastbound between exits 40 & 41, prior to the bridge.

Prepared by:

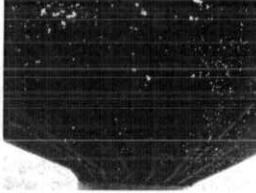
**Baker**

ID S.ABUT



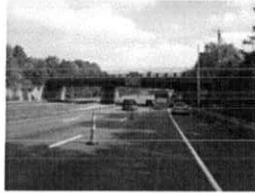
001.jpg

TYP U/S SPAN 1



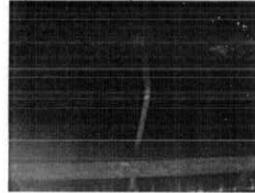
002.jpg

W. ELEV



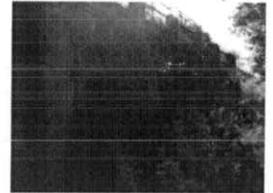
003.jpg

SPI BAY 2, 3RD INT DIAPH



004.jpg

SW WW 6/7/69



005.jpg

S. ABUT



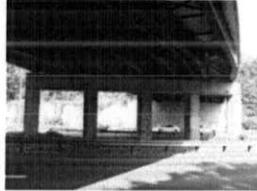
006.jpg

SE WW



007.jpg

PIER S. ELEV



008.jpg

E. ELEV



009.jpg

NW WW



010.jpg

N. ABUT



011.jpg

PIER N. ELEV



012.jpg

TYP U/S SPAN 2



013.jpg

NE WW



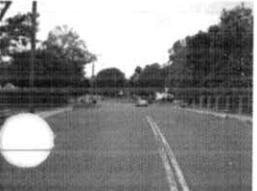
014.jpg

BR FR S. APPR



015.jpg

N. APPR FR BR



016.jpg

N. ABUT ST



017.jpg

BR FR N



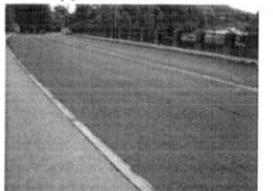
018.jpg

N. ABUT ST



019.jpg

TYP TOD



020.jpg

TYP S/W (EAST)



021.jpg

SHIP LAP ST



022.jpg

ID (SE PPT)



023.jpg

S. APPR FR BR



024.jpg

S. ABUT ST



025.jpg

S. ABUT ST



026.jpg

HCP RAMP @ SW APPR SW



027.jpg

PPT SPALL ABUT HCP RAMP @ SW APPR



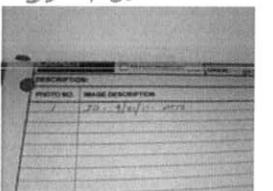
028.jpg

SCALE AT SW APPR SW



029.jpg

ID - MSD



030.jpg

SPI, GI @ S. ABUT



031.jpg

SPI, GI, STIFF 15



032.jpg

SPI, GI, STIFF 14



033.jpg

SPI, GI, STIFF 14



034.jpg

SPI, GI, STIFF 13



035.jpg

NW SR

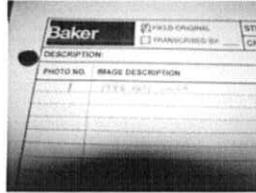


071.jpg



072.jpg

ID (NIGHT)



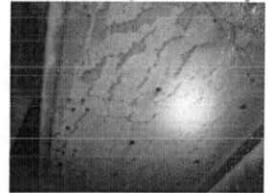
073.jpg

SP1, G7, DULL HAUNCH



074.jpg

SP2 BAY 5 SF 68/69



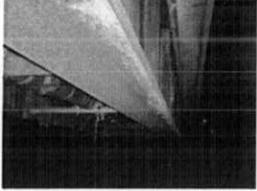
075.jpg

G7 FIXED @ PIER



076.jpg

SP1, G1, DF, SCARPE @ CUR LANE



077.jpg

SP1, G1, WEB @ IMPACT 3RD DRAIN



078.jpg

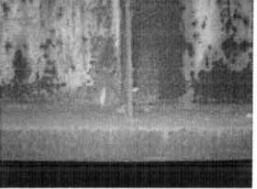


079.jpg



080.jpg

SP1, G1, WEB @ IMPACT 3RD DRAIN



081.jpg

SP1, BAY 1, 7th UTIL SUPPORT BEAM



082.jpg

SP1, G1, OUT OF PLUMB



083.jpg

SP1, BAY 2 BENT DIAPHR



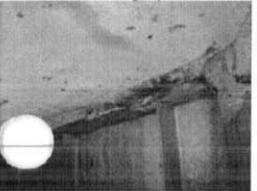
084.jpg

TYP PILING



085.jpg

SP1, G1, HAUNCH @ N. OF LAP



086.jpg

SP1, TYP @ U/S OF LAP ST

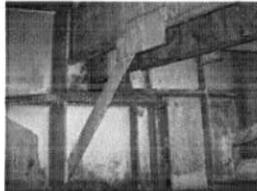


087.jpg

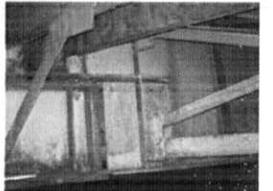
G4 SHIP LAP



088.jpg

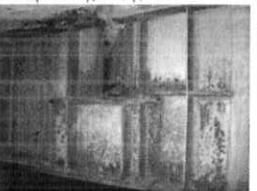


089.jpg



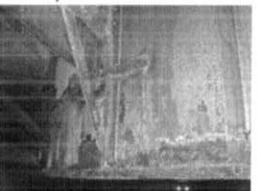
090.jpg

G1 SHIP LAP



091.jpg

G1 SHIP LAP

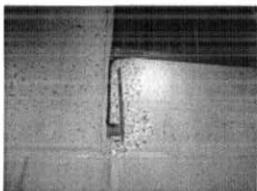


092.jpg

E. PT @ SHIP LAP



093.jpg



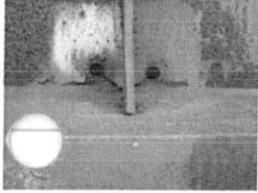
094.jpg

G6 SHIP LAP



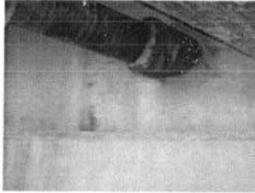
095.jpg

SP1, G1, STIFF IR

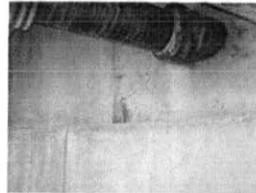


036.jpg

B/W S. ABUT BAY 6

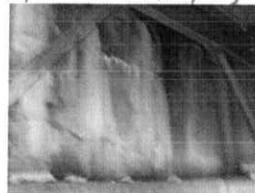


037.jpg



038.jpg

B/W S. ABUT BAY 3



039.jpg



040.jpg

6/16/99

03, 047 S. ABUT



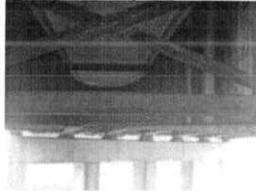
041.jpg

TYP NBS OH WELD



042.jpg

SP1, GAY 2, DIAPHT



043.jpg

SP1, BAY @ S. ABUT W.



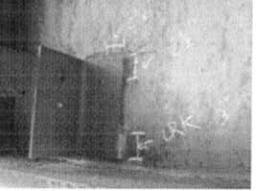
044.jpg

06 @ S. ABUT



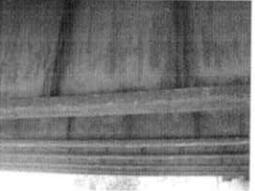
045.jpg

SP2, G7 OHSS BAY PR WELD



046.jpg

TYP LR



047.jpg

05 @ N. ABUT - TR & AB



048.jpg

SP2, G5, 1/8" BF TO BS



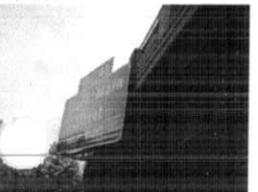
049.jpg

G7 PR @ N. ABUT



050.jpg

OHSS



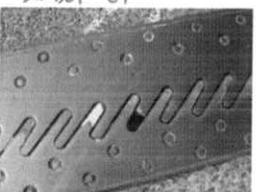
051.jpg

01 @ N. ABUT



052.jpg

S. ABUT JT



053.jpg

S/W @ SE APPR



054.jpg

SE TRANSITION TRANS.



055.jpg

JT @ SW



056.jpg

SP1 SW POT HOLE



057.jpg

SEWBROWD BIT NEAR SHIP LAP



058.jpg

E. S/W SHIP LAP JT



059.jpg

SHIP LAP JT



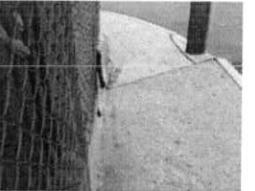
060.jpg

SP2, NW, FENCE REPAIR



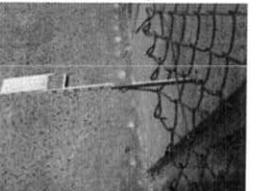
061.jpg

NW TRANS PROTRUSERS 3/4"



062.jpg

E. FENCE SP2



063.jpg

NE CONC RAMP



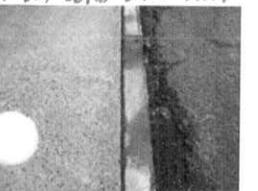
064.jpg

?



065.jpg

TYP DEF CURB SEAL EAST



066.jpg

SW - UPPER HOVRZ RAIL DISCON



067.jpg

SW, TRANS RAMP, CAR'S II PROTRUSING UP



068.jpg

S APPR RAMP



069.jpg

SE APPR @ JT



070.jpg

**MICHAEL BAKER ENGINEERING, INC.**

**BRIDGE # 01748**

**ADDITIONAL FIELD NOTES**

**(BACK-UP MATERIAL)**

**DATE: September 21, 2011**



**Baker** FIELD ORIGINAL TRANSCRIBED BY: \_\_\_\_\_

STRUCTURE: 01748

DATE: Various

CREW: Various

SHEET:

## DESCRIPTION:

PHOTO NO.	IMAGE DESCRIPTION
1	ID - 9/21/11 - MTD
2	SP #1, G1 e S. ABUT - WEB, STIFF, BF e AD SHEAR, BRU RUST
3	" " STIFF IS
4,5	" " 14
6	13
7	12
8,9	BW (S. ABUT) BAY 6
10,11	" " " 3
12	G3 BRU e S. ABUT
13	Typ M.CS e. H. H. WELD
14	SP #1, BAY 2 DIMPH
15	JO #1, BAY e S. ABUT WI
16	G6 e S. ABUT
17	SP #2, G7 OHSS BAS e WELD
18	Typ LF
19	G5 e N. ABUT - JK e AB
20	SP #2 G5 - 1/8" FRAM BF TO BR
21	G7 PED e N. ABUT
22	OHSS
23	G1 e N. ABUT
24	S. ABUT JT - TOOTH; ALMOULT TOUCHING
25	SIDEWALK APR e SB
26	SB CR TRANS
27	JT e SW
28	SP #1 SW PH.
29	S/D BIT NEAR SHIP LAP
30	E. SIDEWALK SHIP LAP STS
31	SHIP LAP SIS
32	SP #2 NW FENCE REP
33	NW TRANS PROTRUS 3 3/4"
34	E. FENCE SP #2
35	NB CONC RAMP
36	Typ DET WARD SEAL, EMT
37	SW - UPPER HORIZ RAC DISCONN
38	SW TRANS RAMP CRK'D, D, DEBRIS AT
39	S. MPRA PHOTO
40	SE APP PHOTO
41,42	NW CR



# Baker

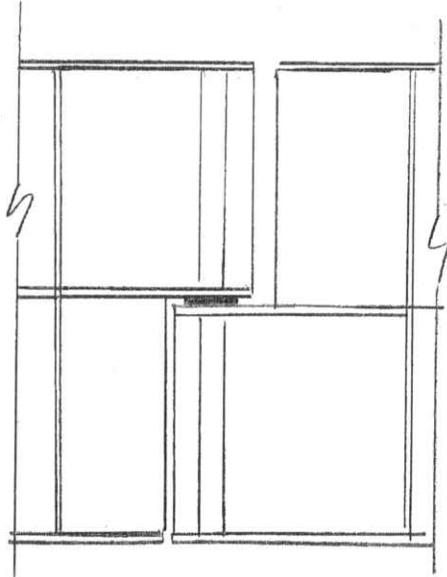
Bridge No.

Date:

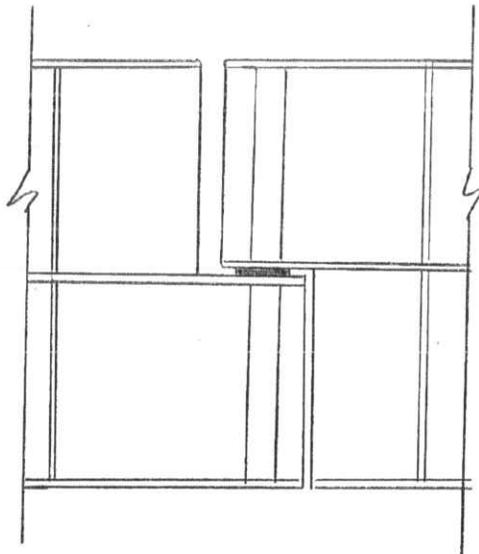
Crew:

Sheet

Description: Ship Lap Notes



Span 1, Girder \_\_\_\_\_, East Elevation.



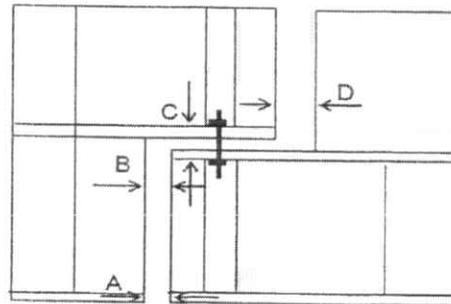
Span 1, Girder \_\_\_\_\_, West Elevation

Span 1 - Ship Lap Joint Measurement Sheet

Beam	A	B	C-West	C-East	D	Temp	Date	Comments
1								
2								
3								
4								
5								
6								
7								

Measurement Locations:

- A - West edge of bottom flange.
- B - West side of web.
- C - Edge of bottom flange, as noted.
- D - West side of web.



General Notes:

Revision    Date    Crew

**SUPPLEMENTAL SHEET**

PROJECT NO. 170-1965

FIELD ORIGINAL  TRANSCRIBED BY: ET

BRIDGE NO. 01748

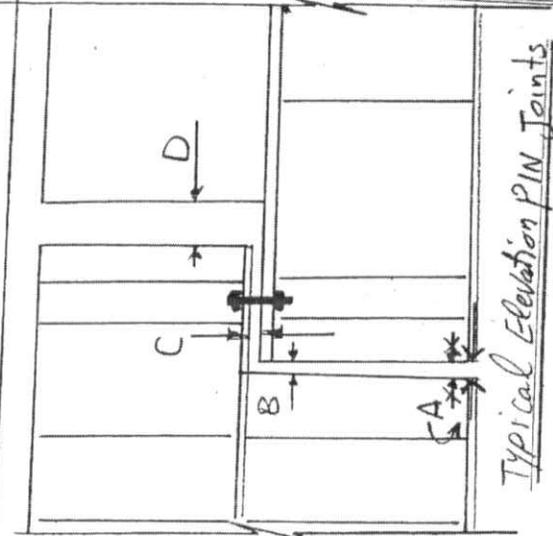
SHEET **Δ10** OF **69**

DESCRIPTION: Fixed Hanger Data details at span 1.

CREW: V.O., E.T. & J.M.

DATE: 01/17/2001

Beam No.	Fixed Hanger data sheet				Temp. °F	Date	Comments
	A	B	C-West	C-East			
1	13/16"	1 1/16"	1 3/4"	1 1/16"	45°	11/16/96	Heavy Laminar rust with minor section loss at beam ends at joints. DUE TO 7/8" IR UNDER BRG. P'S ΔEVID. LKC.
1'	13/16"	1 3/16"	1 3/4"	1 1/2"	39°	01/17/01	
2	1 5/16"	1 1/2"	1 13/16"	1 3/4"	45°	11/16/96	
3	1 9/16"	1 1/16"	1 15/16"	1 3/4"	39°	01/17/01	
3	1 3/8"	1 3/4"	2.0"	1 13/16"	45°	11/16/96	
4	1 5/8"	1 7/8"	2.0"	1 13/16"	39°	01/17/01	
4	1 5/16"	1 1/4"	1 15/16"	1 3/4"	45°	11/16/96	
5	1 7/8"	2 3/16"	1 7/16"	2.0"	39°	01/17/01	
5	2.0"	2 1/4"	1 15/16"	1 3/4"	45°	11/16/96	
6	7/8"	1 3/16"	1 15/16"	1 3/4"	39°	01/17/01	
6	1.0"	1 1/8"	2.0"	1 15/16"	45°	11/16/96	
7	7/16"	1"	1 7/8"	1 7/8"	39°	01/17/01	
7	1.0"	1 1/8"	1 5/8"	1 3/4"	45°	11/16/96	
Δ 1	3/4	1 1/8	1 3/4	1 3/4	65°	6/14/05	
Δ 2	1/4	1 5/8	1 9/8	1 5/8	65°	6/14/05	
Δ 3	1 5/8	1 1/2	2 1/2	7/8	70°	6/22/05	
Δ 4	1 5/16	1 3/16	1 5/16	2			
Δ 5	1 3/4	2	2	1 3/4			
Δ 6	7/8	1 1/8	1 3/4	1 3/4			
Δ 7	5/8	1 5/16	1 3/4	1 3/4			

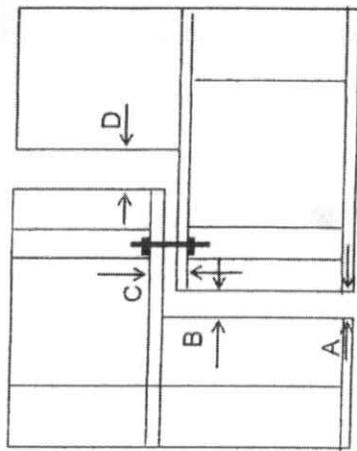


**NOTES:**  
 1. - MEASUREMENTS WERE TAKEN USING CALIPERS AND SIDE RULER  
 2. - DIFFERENCES FROM PREVIOUS MEASUREMENTS NOTED AT ALL BEAMS

Typical Elevation Pin Joints

FIXED HANGER DATA SHEET - BRIDGE NO. 01748 - MAYFLOWER ST. #1 OVER I-84, WEST HARTFORD

Beam No.	A	B	D	C (West)	C (East)	Temp (F)	Date	Comments
1	1 1/16"	1 3/16"	7 1/16"	1 5/16"	1 3/8"	73°	06-20-07	MEMPHIS TO KING LEONARD POST
	1 1/16"	1 3/16"	7 1/16"	1 5/16"	1 7/8"	63°	6-5-08	W/PAUSE SECOND LOSS AT BEAM ENDS AT JOINTS.
2	1 1/4"	1 1/8"	8 3/8"	2"	1 9/16"	73°	06-20-07	
	1 1/4"	1 1/8"	8 3/8"	2 1/16"	1 1/16"	63°	6-5-09	MINOR SECOND LOSS AT BEAM ENDS
3	1 9/16"	1 3/16"	8 1/4"	2 1/16"	1 3/8"	73°	06-20-07	MINOR SECOND LOSS AT BEAM ENDS
	1 9/16"	1 1/16"	8 3/8"	2 1/16"	1 3/4"	63°	6-5-09	MINOR SECOND LOSS AT BEAM ENDS
4	1 7/16"	1 3/16"	7 3/8"	1 3/8"	1 5/8"	73°	06-20-07	MINOR SECOND LOSS AT BEAM ENDS
	1 3/16"	1 1/16"	7 3/8"	1 5/16"	1 1/16"	63°	6-5-09	MINOR SECOND LOSS AT BEAM ENDS
5	1 3/4"	2 1/16"	8 3/8"	1 5/8"	1 3/4"	73°	06-20-07	MINOR SECOND LOSS AT BEAM ENDS
	1 3/4"	2 1/16"	8 3/8"	1 5/8"	1 3/4"	63°	6-5-09	MINOR SECOND LOSS AT BEAM ENDS
6	3/8"	1 1/8"	7 5/8"	1 1/16"	1 7/8"	73°	06-20-07	MINOR SECOND LOSS AT BEAM ENDS
	13/16"	1 1/8"	7 3/8"	1 1/16"	1 7/8"	63°	6-5-09	MINOR SECOND LOSS AT BEAM ENDS
7	5/8"	1"	7 5/8"	1 1/16"	1 5/8"	73°	06-20-07	MINOR SECOND LOSS AT BEAM ENDS
	1 1/16"	1"	7 1/4"	1 1/16"	1 1/16"	63°	6-5-09	MINOR SECOND LOSS AT BEAM ENDS



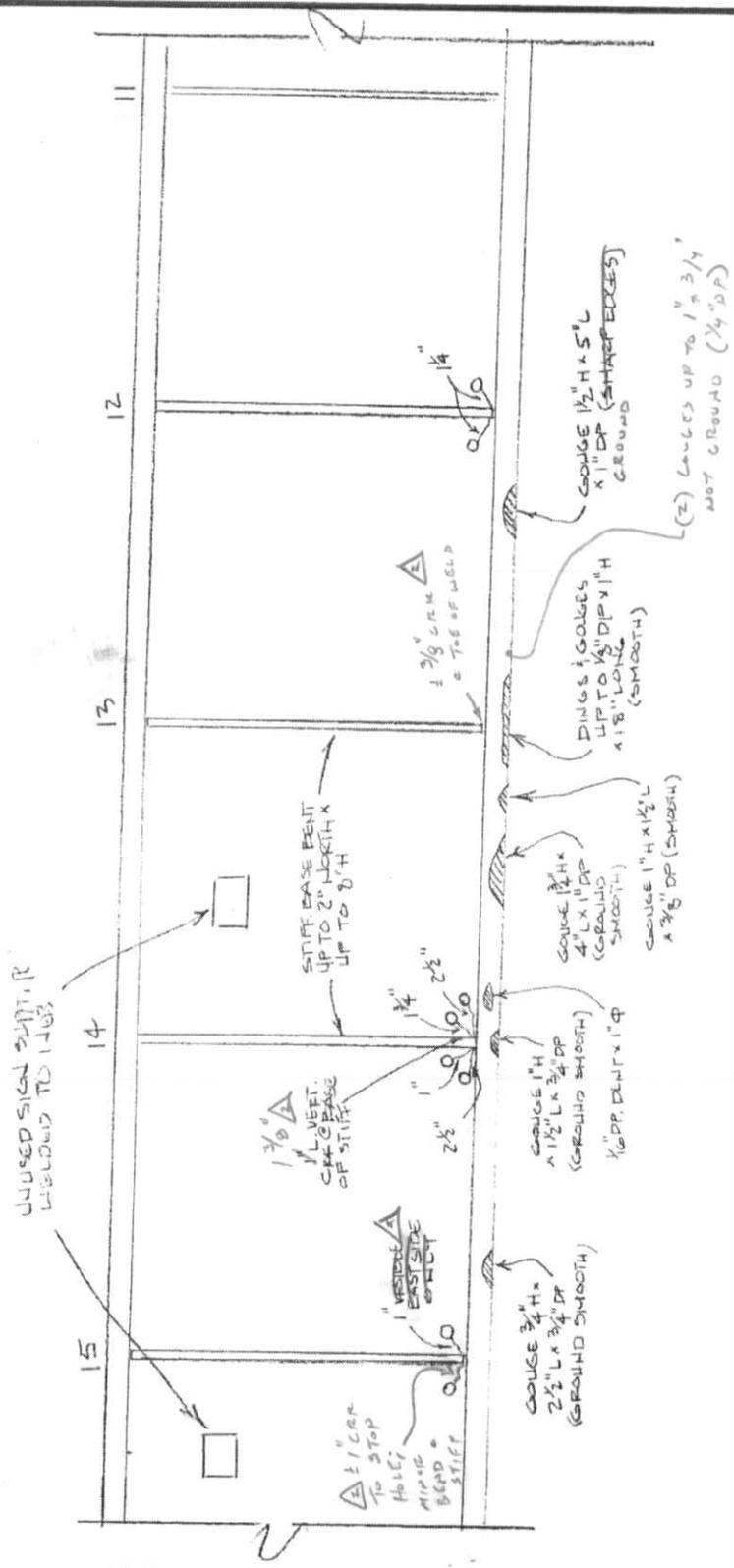
A - Measurement taken at west edge of bottom flange

B & D - Measurement taken on west side of web

C - Measurements taken on both sides of bottom flange.



PROJECT NO 2340 BRIDGE NO 01748  
DATE 6/16/05 SHEET 13/17  
CREW RB/PHH



- STIFFENERS NUMBERED FROM 1<sup>st</sup> INTERMEDIATE STIFF. FROM SOUTH ABUT. (SEE SHIT 23)
- STOP HOLES = 1" Ø
- ALL CRK'S VISIBLE ON OPP. SIDE WEB EXCEPT STIFF 15
- NO CRK. PROPAGATION BEYOND STOP HOLES
- SMALL DINGS & SCRAFES < 1/16" DP (SMOOTH) LOWER EDGE BF. RANDOM LOGS. BTLH STIFFS 12 & 15

W. ELEV. GIRDER 1, SPAN 1 OVER PGT. W. I 84 EB

REVISION <b>1</b>	DATE <u>6/3/09</u>	CREW <u>TEAM 2</u>	REVISION <b>2</b>	DATE <u>1/21/11</u>	CREW <u>PHH, RB</u>
REVISION <b>3</b>	DATE	CREW	REVISION <b>4</b>	DATE	CREW

## Orlowsky, Michael

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**From:** Kristoff, William  
**Sent:** Thursday, September 22, 2011 9:51 AM  
**To:** Lomotey, Sowatei K.; Brako Frempong, Barak  
**Cc:** Phillips, Ralph A.; Jakiel, Michael; McGuinness, Paul; Jakiel, Michael; Orlowsky, Michael; Kristoff, William  
**Subject:** FW: Bridge No. 01748 (Mayflower Street over I-84)  
**Attachments:** 0 027.jpg; 035.jpg; 046.jpg; 051.jpg; 055.jpg; 058.jpg; 063.jpg

Morning Sowatei,

As we discussed yesterday, the above bridge has numerous potholes (local road). See item 5 below and attached photo 058.jpg.

We also noted two locations of cracked/broken welds: One at a stiffener weld at a previous location of impact damage (see item 1 below and attached photo 035.jpg), and one at the OHSS connection to the fascia girder web (see item 2 below and attached photos 046.jpg and 051.jpg). There was no ID number on this sign, and it's not on our assignment list to inspect. We plan on making these priority C BMM items to be submitted with the report, unless you want us to submit these in advance.

The other items are potential safety items that we will address as C/D items on a BMM when submitting the final report.

Please call/email with any questions or concerns with these items.

Thanks,

Bill

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**From:** Orlowsky, Michael  
**Sent:** Thursday, September 22, 2011 7:26 AM  
**To:** Kristoff, William  
**Subject:** Bridge No. 01748 (Mayflower Street over I-84)

William per our discussions for the above noted bridge:

1. Span 1, girder 1 west elevation: 3/8" crack in stiffener 13 weld base on web side (stiffener was previously bent) over right lane EB (photo 035.jpg).
2. Span 2, girder 7, east elevation: One of six welds is broken at the north OHSS base plate connection to girder web (over right lane) WB (photos 046.jpg and 051.jpg).
3. Southeast approach: Guide rail transition damaged and protrudes up to 8.5" into sidewalk area (photo 055.jpg).
4. Chainlink fence at east: Random damage to bottom causes it to protrude up to 6.5" into sidewalk area (photo 063.jpg).
5. Overlay: Up to 30 square feet of potholes, typically 1" deep, but up to 2.5" deep in small area near scupper (photo 058.jpg).
6. Approach sidewalks with scaling up to 4" deep, but filled in with deteriorated concrete (photo 0027.jpg).

Note that I kept some "C" items in here. It's up to you to delete them.

1JO

## Orlowsky, Michael

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**From:** Kristoff, William  
**Sent:** Thursday, November 10, 2011 10:44 AM  
**To:** Orlowsky, Michael  
**Cc:** Jakiel, Michael; McGuinness, Paul  
**Subject:** FW: Bridge No. 01748 (Mayflower Street over I-84)

Talked to Sowatei. Do as an advanced C and combine with HA's

---

**From:** Lomotey, Sowatei K. [<mailto:Sowatei.Lomotey@ct.gov>]  
**Sent:** Thursday, November 10, 2011 10:35 AM  
**To:** Kristoff, William  
**Cc:** Phillips, Ralph A.; McGuinness, Paul; Jakiel, Michael; Orlowsky, Michael; Brako Frempong, Barak  
**Subject:** RE: Bridge No. 01748 (Mayflower Street over I-84)

Bill,  
Are these cracks visible on both faces of Girder web?

---

**From:** Kristoff, William [<mailto:wkristoff@mbakercorp.com>]  
**Sent:** Thursday, November 10, 2011 9:11 AM  
**To:** Lomotey, Sowatei K.; Brako Frempong, Barak  
**Cc:** Phillips, Ralph A.; McGuinness, Paul; Jakiel, Michael; Orlowsky, Michael; Kristoff, William  
**Subject:** FW: Bridge No. 01748 (Mayflower Street over I-84)  
**Importance:** High

Good Morning Sowatei,

Our crew last night noted additional cracks in the fascia girder 1 web in span 1 over I-84EB. See the below email, attached photos and field sketches of area.

We will send a priority B BMM later today.

Thanks.

Bill

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**From:** Orlowsky, Michael  
**Sent:** Thursday, November 10, 2011 6:18 AM  
**To:** Kristoff, William  
**Subject:** Bridge No. 01748 (Mayflower Street over I-84)

William,

The west fascia girder in span 1 has several locations with cracks at the base of the web with stop holes over the right lane of I-84 eastbound, previously noted.

A new location was found last night and is as follows: In span 1, the west fascia girder at the third intermediate diaphragm has two cracks in the lower web. One web crack is located just above the bottom flange fillet weld and is approximately 5-1/8" long and makes a slight turn upward at the south end of the crack. The web base also has a 2.5" long diagonal crack that extends from the stiffener base at this location. Finally, there are two

cracks adjacent to the stiffener weld at the outside face of the girder; one of which is 1.25" long (along the toe of the weld adjacent to the web) and the other crack is 3/8" (along the toe adjacent to the stiffener). Note that there are no stop holes at the ends of the web or stiffener weld cracks. It appears that this is either a new condition or a condition missed due to lack of center lane closures. This damage appears to have been caused by impact damage, driving the diaphragm through the web (web is bulged at this area). Note that the adjacent utility support is also damaged (previous condition). I'm thinking Priority B. I have sketches of this in the report folder on my chair.

Also of note are dull/hollow haunches over the travel lanes and shoulders. These areas were intact and did not show any imminent signs of spalling any time soon (no longitudinal cracks at the deck interface, etc). I plan on making that priority C.

MJO.

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

Subject: BMM No. 09-416  
Bridge No. 01748  
Mayflower Street over Interstate 84  
West Hartford

MEMORANDUM

date: 8/11/09

to: Mr. Robert P. Mongillo  
Trans. Maintenance Administrator  
Bureau of Highway Operations

from: Theodore D. Lapierre  
Trans. Supervising Engineer  
Bureau of Engineering and Construction

Attached is one copy of our most recent inspection report for the subject structure that indicates the location of the following deficiencies:

- PROV REP'D  
NEW ITEM  
FOR ALL  
APPR SWHS
1. The bituminous sidewalk ramps at the northeast and northwest corners of the bridge are breaking up and are up to two inches higher than the approach sidewalks.
  2. The beam rail terminal element at the southeast corner of the bridge is bent outward from the parapet.
  3. The seal in the sawn joint over the north abutment is cracked and separated up to one inch, with active leakage noted.
- STILL TRUE,  
ALSO C/W

Please direct persons under your jurisdiction to:

1. Repair the bituminous ramps.
  2. Replace the beam rail terminal element.
  3. Repair the joint.
- STILL TRUE  
(NO AB DUE TO  
LEAK OF RAIN)
- FIXED PER  
NOV 2009 MEMO  
∴ NEW ITEM

All repairs shall be performed utilizing appropriate approved materials and tried and proven methods unless otherwise specified.

Items No. 1 and 2 should be considered Priority C. Item No. 3 should be considered Priority D. There are also other deficiencies that are considered routine maintenance that should be corrected.

If you have any further questions concerning these repairs, please contact me at 594-3172. Please notify this section when the work has been completed.

Attachments

John L. Daigle/jld  
cc: Joseph J. Obara  
Robert P. Zaffetti – Theodore D. Lapierre – John L. Daigle

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

Subject: BMM No. 09-416  
Bridge No. 01748  
Mayflower Street over Interstate 84  
West Hartford

MEMORANDUM

date: 8/11/09

to: Mr. Robert P. Mongillo  
Trans. Maintenance Administrator  
Bureau of Highway Operations

*new*

from: Theodore D. Lapierre  
Trans. Supervising Engineer  
Bureau of Engineering and Construction

Attached is one copy of our most recent inspection report for the subject structure that indicates the location of the following deficiencies:

*BS/KE  
As fixed  
TOWR  
MM  
8/12/2009*

- ~~The bituminous sidewalk ramps at the northeast and northwest corners of the bridge are breaking up and are up to two inches higher than the approach sidewalks.~~
- The beam rail terminal element at the southeast corner of the bridge is bent outward from the parapet.
- The seal in the sawn joint over the north abutment is cracked and separated up to one inch, with active leakage noted.

Please direct persons under your jurisdiction to:

- ~~Repair the bituminous ramps.~~
- Replace the beam rail terminal element.
- Repair the joint.

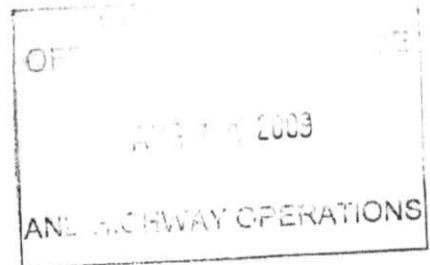
All repairs shall be performed utilizing appropriate approved materials and tried and proven methods unless otherwise specified.

Items No. 1 and 2 should be considered Priority C. Item No. 3 should be considered Priority D. There are also other deficiencies that are considered routine maintenance that should be corrected.

If you have any further questions concerning these repairs, please contact me at 594-3172. Please notify this section when the work has been completed.

Attachments

John L. Daigle/jld  
cc: Joseph J. Obara  
Robert P. Zaffetti – Theodore D. Lapierre – John L. Daigle



STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

subject: BRIDGE COMMITMENTS  
BRIDGE NUMBER: 1748  
BRIDGE MAINT. MEMO: 09-416

memorandum

date: November 12, 2009

to: Mr. Robert P. Mongillo  
Trans. Maintenance Administrator  
Bureau of Highway Operations

from:   
Ronald P. Cormier  
Trans. Maintenance Director  
Bureau of Highway Operations

The following information is provided to you as requested:

BRIDGE NUMBER: 1748

ROUTE CROSSING: Mayflower Street; (O) I-84

TOWN: West Hartford

B.M.M. NO./DATE: 09-416 / August 11, 2009

STAFF MEMO DATE: August 12, 2009

REQUIRED REPAIR(S) & PRIORITY(S):

1. BS&E MEMO TO TOWN OF WEST HARTFORD.
2. Replace the beam rail terminal element - Priority Code "C"
3. Repair the joint - Priority Code "D"

ANTICIPATED START DATE:

1. BS&E MEMO TO TOWN OF WEST HARTFORD.
2. October 2009
3. February 2010

REMARKS: Per James R. Bedard:

2. Repair bent terminal end or refer to Highway Maintenance. This item has been addressed to Farmington Maintenance. Please notify Paul T. Rizzo, in writing, upon completion of assigned line item.
3. Seal with hot tar.

DATE TOTAL COMMITMENT COMPLETED: October 11, 2009

1. Removed August 12, 2009 - BS&E memo to town of West Hartford.
2. Completed September 3, 2009 - Farmington Maintenance.
3. Completed October 11, 2009 - Bridge Maintenance.

 Paul T. Rizzo/mcs  
cc: Paul T. Rizzo - District File  
Richard Reagan - Jack Tine (Farmington Maintenance)  
William E. Morrison - Alan Ference - Bridge File  
Completed File

Town: WEST HARTFORD

Bridge: 01748

MAYFLOWER STREET 1 over INTERSTATE-84

Prepared By: L-C Associates Date 03/13/2001

Checked By: David Pawlikowski Date 04/12/2001

Structure Type: Two Span Continuous Multiple Steel Plate Girders with Pin Joint..

Deck Width Curb to Curb: 40.00 feet

Deck Width Out to Out: 53.70 feet

Deck Type: Concrete Deck Thickness 8 inches..

Wearing Surface 2 1/2 inches of Bituminous Concrete Wearing Surface..

Year Built: 1965

Year Rehab:

Allowable Stresses: Steel Plate Girders..

Structural Steel ASTM A373 Fy= 33.00 ksi..

Concrete Deck..

Steel Reinforcement {unknown steel after 1954} Fy= 40.00 ksi..

Concrete Compression Strength {prior to 1959} f'c= 3.00 ksi..

Non-Composite Construction in the Negative Moment Region..

Composite Construction in the Positive Moment Region..

Coded: INV 31.3 OP 52.2 L 2001

Span #	Type of Member Analyzed	Member	Member Span Length (Ft)	Beam Spacing (Ft)	Analysis Type	Vehicle Type	Inventory Rating	Inventory Gross Tonnage	Operating Rating	Operating Gross Tonnage
1	Plate Girder	Fascia	130.19	8.00	LF	HS20	32.2	57.9	53.8	96.8
Comments: Analysis for Span #1 Fascia Plate Girder #7.. Load Factor "Ultimate Strength" Analysis for Bending {Positive Moment Region} at Approximately 87.07 feet from Centerline of Bearing Abutment Stem #1.. Plate Girder is Braced and Non-Compact..										
2	Plate Girder	Fascia	119.16	8.00	LF	HS20	28.2	50.9	45.6	84.8
Comments: Analysis for Span #2 Fascia Plate Girder #7.. Load Factor "Ultimate Strength" Analysis for Bending {Negative Moment Region} at Approximately 13.00 feet from Centerline of Bearing Pier #1.. Plate Girder is Unbraced and Non-Compact..										
2	Plate Girder	Fascia	119.16	8.00	LF	HS20	17.4	31.3	29.0	52.2
Comments: Analysis for Span #2 Fascia Plate Girder #7.. Load Factor "Ultimate Strength" Analysis for Bending {Positive Moment Region} at Approximately 32.00 feet from Centerline of Bearing Pier #1.. Plate Girder is Braced and Non-Compact..										

1	○	Plate Girder	Interior	131.03	8.00	LF	HS20	28.6	51.5	47.8	86.0
---	---	--------------	----------	--------	------	----	------	------	------	------	------

Comments: Analysis for Span #1 Interior Plate Girder #6..  
 Load Factor "Ultimate Strength" Analysis for Moment-Shear Interaction {Positive Moment Region} at Approximately 11.50 feet from Centerline of Bearing Abutment Stem #1..  
 Plate Girder is Braced and Non-Compact..

2	○	Plate Girder	Interior	119.63	8.00	LF	HS20	24.6	44.4	41.2	74.1
---	---	--------------	----------	--------	------	----	------	------	------	------	------

Comments: Analysis for Span #2 Interior Plate Girder #6..  
 Load Factor "Ultimate Strength" Analysis for Bending {Negative Moment Region} at Approximately 13.00 feet from Centerline of Bearing Pier #1..  
 Plate Girder is Braced and Non-Compact..

2	○	Plate Girder	Interior	119.63	8.00	LF	HS20	19.2	34.6	32.2	57.9
---	---	--------------	----------	--------	------	----	------	------	------	------	------

Comments: Analysis for Span #2 Interior Plate Girder #6..  
 Load Factor "Ultimate Strength" Analysis for Bending {Positive Moment Region} at Approximately 29.00 feet from Centerline of Bearing Pier #1..  
 Plate Girder is Braced and Non-Compact..

Comments

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

*subject:* **BMM No.**  
Bridge No. 01748  
Mayflower Street over Interstate 84  
West Hartford

**MEMORANDUM**

*date:*

*to:* Transportation Maintenance Administrator  
Bureau of Highway Operations

*from:* Ralph Phillips  
Transportation Supervising Engineer  
Bridge Safety and Evaluation  
Bureau of Engineering and Construction

We are in receipt of the most recent inspection report for the subject structure which indicates the location of the following deficiency:

1. The girder 1 and girder 7 deck haunches are dull over the center lane, left lane and left shoulder of Interstate 84 Eastbound and Westbound. See attached photo 1.
2. The base of the span 1 girder 1 web has a 5-1/8 inch long horizontal crack just above the bottom flange fillet weld at the third intermediate diaphragm from the south abutment. There is a 2.5 inch long diagonal crack in the girder 1 web which extends from this horizontal crack at the north side of stiffener. Also, along the base of the vertical stiffener fillet weld at this location, there is a 1.25 inch crack along the web and a 3/8 inch crack along the stiffener. There are currently no stop holes at these crack locations. See the attached field sheets and photos 2 and 3.

Please direct persons under your jurisdiction to:

1. Remove dull haunches over I-84 ( $\pm 150$  linear feet).
2. Drill stop holes and/or repair cracks, as required.

EMAILED  
AS 12/7/11

Both these items are considered to be **Priority C**. All repairs shall be performed utilizing appropriate, approved materials and tried and proven methods unless otherwise specified.

This report is currently under review by Bridge Safety staff. Additional items may be forwarded with copies of the approved inspection report.

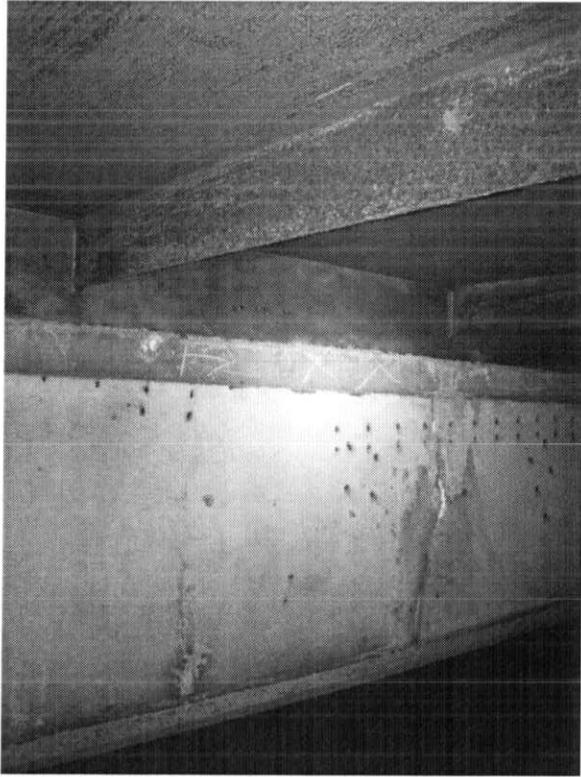
If you have any questions concerning this matter, please contact me at (860) 594-3159. Please notify this office when the work has been completed.

Attachment – 3 photos

Michael Orlowsky / pb

cc: Scott A. Hill - Robert P. Zaffetti - Ralph Phillips - Sowatei Lomotey - Barak Brako Frempong  
Michael Baker Engineering, Inc.

<b>Bridge No.</b>	01748	<b>Inspected by:</b>	M. Orlovsky
<b>Town:</b>	West Hartford	<b>Inspected by:</b>	B. Howlett
<b>Feature Carried:</b>	Mayflower Street	<b>Date Inspected:</b>	September 21, 2011
<b>Feature Crossed:</b>	Interstate 84	<b>Project No.:</b>	170-3013



**Photo #1 :**  
Span 1, girder 7: Dull haunch.

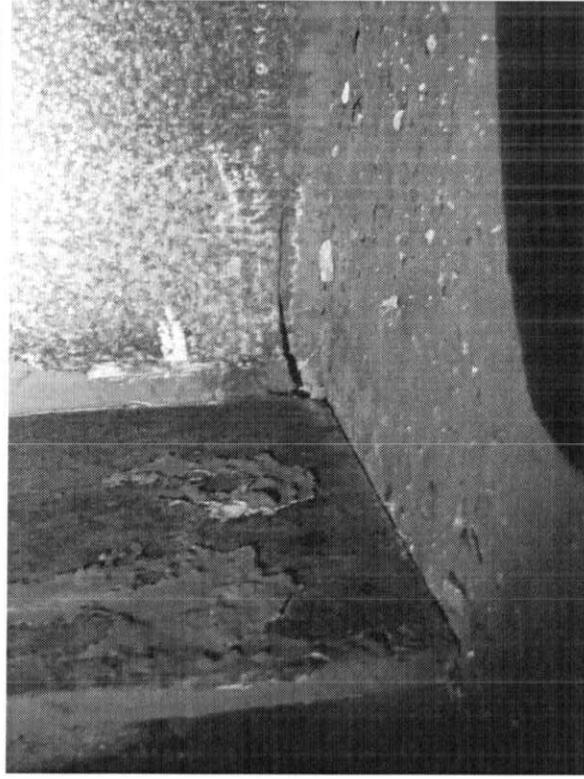


**Photo #2 :**  
Span 1, girder 1 at the third intermediate diaphragm, west elevation with cracks at the base of the web. Cracks are new this inspection

Prepared by:

**Baker**

<b>Bridge No.</b>	01748	<b>Inspected by:</b>	M. Orlovsky
<b>Town:</b>	West Hartford	<b>Inspected by:</b>	B. Howlett
<b>Feature Carried:</b>	Mayflower Street	<b>Date Inspected:</b>	September 21, 2011
<b>Feature Crossed:</b>	Interstate 84	<b>Project No.:</b>	170-3013



**Photo #3 :**  
Same as photo 2, but looking from right side of the stiffener.

**CELL LEFT INTENTIONALLY BLANK**

Prepared by:  
**Baker**



**Baker**

FIELD ORIGINAL

TRANSCRIBED BY: \_\_\_\_\_

STRUCTURE: 1748

DATE: 11/10/11

CREW: MD, BH

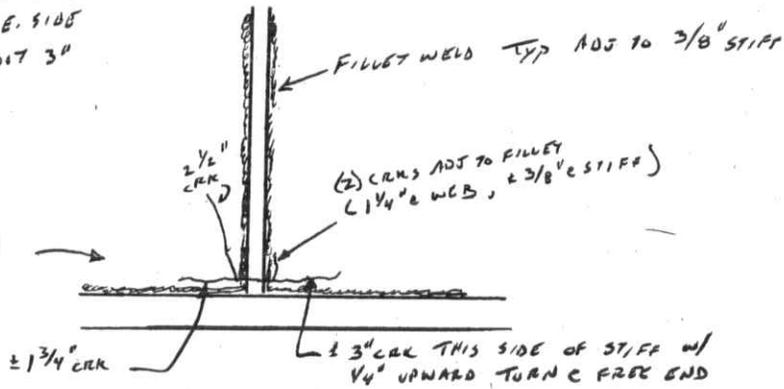
SHEET: \_\_\_\_\_

DESCRIPTION:

NOTES

- BOT PORTION OF WEB BULGED ± 5/8"
- DIAPH "PUSHED THRU" WEB
- DIAPH LOWN R & E. SIDE W/ MINOR BEND & HIT 3"

CRK =  $1\frac{3}{4} + \frac{3}{8} + 3 = \underline{\underline{5\frac{1}{8} \pm}}$



SP #1, GIRDER I @ 3<sup>RD</sup> INT DIAPH, W. ELEV  
(LOWER J-84 E/B CENTER LN)

LEGEND

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- HAIRLINE CRACK (M/C) OR HAIRLINE MAP CRACKS (M/L/C)
- HAIRLINE CRACK (M/L) OR CRACK (CRK)
- HONEY COMB AREA
- SCALE AREA (N/Y, MED OR LT)
- WITH EF FLUORESCENCE

REV. NO:	DATE:	COMPANY:	CREW:
△			
△			
△			
△			





BRIDGE NUMBER	TOWN NAME	NBIS BRG LGTH
01748	WEST HARTFORD	True 260
FACILITY CARRIED	FEATURE CROSSED	
MAYFLOWER STREET	INTERSTATE-84	

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF BRIDGE SAFETY EVALUATION

INVENTORY ROUTE  
UNDER STRUCTURE EVALUATION

FORM BRI-25 REV 10/00

INSPECTED BY: M. Opatowsky

B. HUBERTS

REVIEWED BY: [Signature]

DATE: 13/1/12

SHEET \_\_\_\_\_ OF \_\_\_\_\_ (INSP. REPORT)

DESCRIPTION:

5) INVENTORY ROUTE:

- A) RECORD TYPE  2
- B) ROUTE SIGNING PREFIX  1 Interstate Highway
- C) DESIGNATED LEVEL OF SERVICE  1 Mainline
- D) ROUTE NO.  00084
- 1) MILE POINT (INV. RTE)  57.54

IDENTIFICATION

CLASSIFICATION

- 26) INV. RTE. FUNCT CLASSIFICATION  11 Urban Principal Arterial - I
- 100) DEFENSE HIGHWAY DESIGNATION  1 Route is on a Interstate S
- \*\* 102) DIRECTION OF TRAFFIC  2 2-way traffic
- 104) HIGHWAY SYSTEM OF INV. ROUTE  1 On System
- 110) DESIGNATED NATIONAL NETWORK  1 On national network

AGE & SERVICE

POSTED SIGNS

- + 28B) NUMBER OF INV. ROUTE LANES  6
- \* 29) ADT (INV. RTE)  123500
- \* 109) TRUCK ADT % (INV. RTE)  14
- \* 30) YEAR OF ADT (INV. RTE)  2007
- \* 41) INV ROUTE OPERATIONAL STATUS  A Open, no restriction
- 19) BYPASS DETOUR LENGTH  7 Miles

+ POSTED VERT. CLR UNDER BRIDGE  13ft  9in  ft  in

COMMENTS:

GEOMETRIC DATA

- + 10) INV. RTE. MIN. VERT. CLEARANCE  20 ft  8 in  20 ft  11 in
- + 47) LOG INV. RTE. TOTAL HORIZ CLR.  96.3 ft  96.8 ft
- + 47) RLOG INV. RTE. TOTAL HORIZ CLR.  ft  97.9 ft
- + LOG MIN VERT CLR OVER INV ROUTE  14 ft  0 in  ft  in
- + RLOG MIN VERT CLR OVER INV ROUTE  20 ft  0 in  ft  in
- + 55) MIN LAT UNDERCLR ON RIGHT  H  25.3 ft  27.2 ft
- + 56) MIN LAT UNDERCLR ON LEFT  32.4 ft  31.8 ft

\* FILL OUT ON EVERY INSPECTION 29, 109, 30, 41  
+ VERIFY EVERY INSPECTION 28B, 10, 47, 53, 55, 56 & POSTED VERT CLEARANCE UNDER THE BRIDGE  
\*\* MUST BE FILLED OUT OR VERIFIED ON THE FIRST INSPECTION MADE BASED ON THE NEW FHWA GUIDE 102

# Structure Inventory and Appraisal Sheet (English Units)

Bridge Key: 01748

Agency ID: 01748

Sufficiency Rating: 80.0

### IDENTIFICATION

State 1: 09 Connecticut      Struc Num 8: 01748  
 Facility Carried 7: MAYFLOWER STREET 1      Location 9: BETWEEN EXITS 41 & 43 I84  
 Rte.(On/Under)5A: Route On Structure      Rte. 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: 01      County Code 3: Hartford  
 Place Code 4: WEST HARTFORD      Mile Post 11: 58.250 mi  
 Feature Intersected 6: INTERSTATE-84  
 Latitude 16: 41d 44' 30"      Longitude 17: 072d 44' 18"  
 Border Bridge Code 98: Unknown (P)  
 Border Bridge Number 99: NA

### INSPECTION

Frequency 91: 24 months      Inspection Date 90: 9/21/2011      Next Inspection: 09/21/2013  
 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: 24 months      SI Date 93C: 9/21/2011      Next SI: 9/21/2013  
 Element Frequency: 24 months      Element Inspection Date: 09/21/2011      Next Elem. Insp. Due: 09/21/2013

### CLASSIFICATION

Defense Highway 100: 0 Not a STRAHNET hwy      Parallel Structure 101: No || bridge exists  
 Direction of Traffic 102: 2 2-way traffic      Temporary Structure 103: Unknown (NBI)  
 Highway System 104: 0 Not on NHS      NBIS Length 112: Long Enough  
 Toll Facility 20: 3 On free road      Functional Class 26: 17 Urban Collector  
 Historical Significance 37: 5 Not eligible for NRHP  
 Owner 22: 01 State Highway Agency  
 Custodian 21: 01 State Highway Agency

### STRUCTURE TYPE AND MATERIALS

Number of Approach Spans 46: 0      Number of Spans Main Unit 45: 2  
 Main Span Material/Design 43A/B:  
 4 Steel Continuous      02  
 Deck Type 107: 1 Concrete-Cast-in-Place  
 Wearing Surface 108A: 6 Bituminous  
 Membrane 108B: 2 Preformed Fabric  
 Deck Protection 108C: None

### CONDITION

Deck 58: 6 Satisfactory      Super 59: 4 Poor      Sub 60: 6 Satisfactory  
 Culvert 62: N N/A (NBI)      Channel/Channel Protection 61: N N/A (NBI)

### LOAD RATING AND POSTING

Inventory Rating Method 65: 1 LF Load Factor      Operating Rating Method 63: 1 LF Load Factor  
 Inventory Rating 66: HS17.4      Operating Rating 64: HS29.0  
 Design Load 31: 5 MS 18 (HS 20)      Posting 70: 5 A/Above Legal Loads  
 Posting status 41: A Open, no restriction

### AGE AND SERVICE

Year Built 27: 1965      Year Reconstructed 106: Unknown  
 Type of Service on 42A: 5 Highway-pedestrian  
 Type of Service under 42B: 1 Highway  
 Lanes on 28A: 2      Lanes Under 28B: 6      Detour Length 19: 1.2 mi  
 ADT 29: 3,600      Truck ADT 109: 4 %      Year of ADT 30: 2011

### APPRAISAL

Bridge Rail 36A: 0 Substandard      Approach Rail 36C: 0 Substandard  
 Transition 36B: 0 Substandard      Approach Rail Ends 36D: 1 Meets Standards  
 Str. Evaluation 67: 5      Deck Geometry 68: 6 Equal Min Criteria  
 Underclearance, Vertical and Horizontal 69: 3 Intolerable - Correct  
 Waterway Adequacy 71: N Not applicable      Approach Alignment 72: 7 Above Min Criteria  
 Scour Critical 113: N Not Over Waterway

### GEOMETRIC DATA

Length Max Span 48: 134.0 ft      Structure Length 49: 260.0 ft  
 Curb/Sdwk Width L 50A: 5.6 ft      Curb/Sidewalk Width R 50B: 5.6 ft  
 Width Curb to Curb 51: 40.0 ft      Width Out to Out 52: 53.7 ft  
 Approach Roadway Width 32: 40.0 ft      Median 33: 0 No median (w/ shoulders)  
 Deck Area: 13,962 sq. ft  
 Skew 34: 38.00 °      Structure Flared 35: 0 No flare  
 Minimum Vertical Clearance Over Bridge 53: 328.1 ft  
 Minimum Vertical Underclearance Reference 54A: H Hwy beneath struct  
 Minimum Vertical Underclearance 54B: 14.0 ft  
 Minimum Lateral Underclearance Reference R 55A: H Hwy beneath struct  
 Minimum Lateral Underclearance R 55: 27.2 ft  
 Minimum Lateral Underclearance L 56: 31.8 ft

### PROPOSED IMPROVEMENTS

Bridge Cost 94: \$ 1,000      Type of Work 75: 38 Other Structural  
 Roadway Cost 95: \$ 1,000      Length of Improvement 76: 0.3 ft  
 Total Cost 96: \$ 2,000      Future ADT 114: 1,600  
 Year of Cost Estimate 97: 2000      Year of Future ADT 115: 2024

### NAVIGATION DATA

Navigation Control 38: N NA-no waterway  
 Vertical Clearance 39: 0.0 ft      Horizontal Clearance 40: 0.0 ft  
 Pier Protection 111: Unknown (NBI)      Lift Bridge Vertical Clearance 116: 0.0 ft

### ELEMENT CONDITION STATE DATA

Str Unit	Elm/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	14/3	P Conc Deck/JAC Ovly	(SF)	13,962	0 %	0	0 %	0	0 %	0	100 %	13,962	0 %	0
UNIT0	56/3	Concrete sidewalk	sq.ft	2,885	100 %	2,885	0 %	0	0 %	0	0 %	0	0 %	0
UNIT0	107/3	Paint Stl Opn Girder	(LF)	1,650	0 %	0	47 %	780	48 %	800	4 %	60	1 %	10
UNIT0	162/3	Painted Steel SHIPLA	(EA)	7	0 %	0	0 %	0	0 %	0	100 %	7	0 %	0
UNIT0	205/3	R/Conc Column	(EA)	5	40 %	2	20 %	1	40 %	2	0 %	0	0 %	0
UNIT0	215/3	R/Conc Abutment	(LF)	135	85 %	115	15 %	20	0 %	0	0 %	0	0 %	0

## Structure Inventory and Appraisal Sheet (English Units)

Str Unit	Elm/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	234/3	R/Conc Cap	(LF)	66	98 %	65	2 %	1	0 %	0	0 %	0	0 %	0
UNIT0	301/3	Pourable Joint Seal	(LF)	121	1 %	1	83 %	100	17 %	20	0 %	0	0 %	0
UNIT0	303/3	Assembly Joint/Seal	(LF)	69	0 %	0	100 %	69	0 %	0	0 %	0	0 %	0
UNIT0	311/3	Moveable Bearing	(EA)	14	0 %	0	50 %	7	50 %	7	0 %	0	0 %	0
UNIT0	313/3	Fixed Bearing	(EA)	14	7 %	1	93 %	13	0 %	0	0 %	0	0 %	0
UNIT0	333/3	Other Bridge Railing	(LF)	640	0 %	0	99 %	634	1 %	6	0 %	0	0 %	0
UNIT0	359/3	Soffit Smart Flag	(EA)	1	0 %	0	0 %	0	100 %	1	0 %	0	0 %	0
UNIT0	362/3	Traf Impact SmFlag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
UNIT0	363/3	Section Loss SmFlag	(EA)	1	0 %	0	0 %	0	100 %	1	0 %	0	0 %	0
UNIT0	370/3	deck drainage system	(LF)	49	100 %	49	0 %	0	0 %	0	0 %	0	0 %	0
UNIT0	371/3	Free Fall Pipes, Scu	(EA)	2	0 %	0	100 %	2	0 %	0	0 %	0	0 %	0