County of Armstrong
Department of Planning and Development

Richard L. Palilla, Executive Director

402 Market Street, Kittanning, PA 16201
724.548.3223 Phone | 724.545.7050 Fax
email: planning@co.armstrong.pa.us

May 26, 2011

David C. Hart, P.E., Manager
Rail Safety Division
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

RE: Armstrong County NBIS Bridge Inspection Report
South Buffalo Township Bridge #3

Dear Mr. Hart,

Please find enclosed a NBIS Bridge Inspection Report for South Buffalo Township Bridge #3 prepared by the County's engineer, Senate Engineering Company. The structure carries T-881 over the Buffalo & Pittsburgh Railroad in South Buffalo Township, Armstrong County. We are submitting this inspection report in compliance with the PUC order dated April 21, 2009, at C-20030388.

If you have any questions please do not hesitate to contact me at (724) 548-3223.

Sincerely,

Darin Alviano
Planning Coordinator

SENATE ENGINEERING COMPANY

U-PARC, 420 William Pitt Way
Pittsburgh, PA 15238-1330
Telephone (412) 826-5454
Fax (412) 826-5458
senate@senateengineering.com
www.senateengineering.com

30 South Main Street, Suite 202
Washington, PA 15301
Telephone (724) 228-6446

250 South Jefferson Street
Kittanning, PA 16201
Telephone (724) 548-1770

500 Fifth Avenue, Suite 502
McKeesport, PA 15132
Telephone (412) 664-7125

STRUCTURE B.M.S. NUMBER:	03 7223 0881 0003 (NORTH CLINTON Bridge)
BRIDGE NAME:	T-881 Clinton Road over Buffalo and Pittsburgh Railroad
LOCATION:	South Buffalo Township
	Armstrong County
INSPECTION DATE:	April 27, 2011
INSPECTION BY:	Senate Engineering Company
	Nathan Guntrum, C.B.I.
	Matthew Pitsch, E.I.T.
PREPARED FOR:	Armstrong County
	Via
	Pennsylvania Department
	of Transportation District 10-0
PREPARED BY:	Senate Engineering Company
	Written by: N. Guntrum, CBI
	Reviewed by: W.F.Braun, P.E.
	Phone no. (412) 826-5454
OWNER OF BRIDGE:	BUFFALO AND PITTSBURGH RAILROAD/SOUTH BUFFALO TOWNSHIP
BRIDGE POSTING:	10 TONS

5-18-11

WILLIAM F. BRAUN P.E.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
WILLIAM F. BRAUN
ENGINEER No. PE-044230-E

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LOCATION MAP

SOUTH BUFFALO TOWNSHIP, ARMSTRONG COUNTY

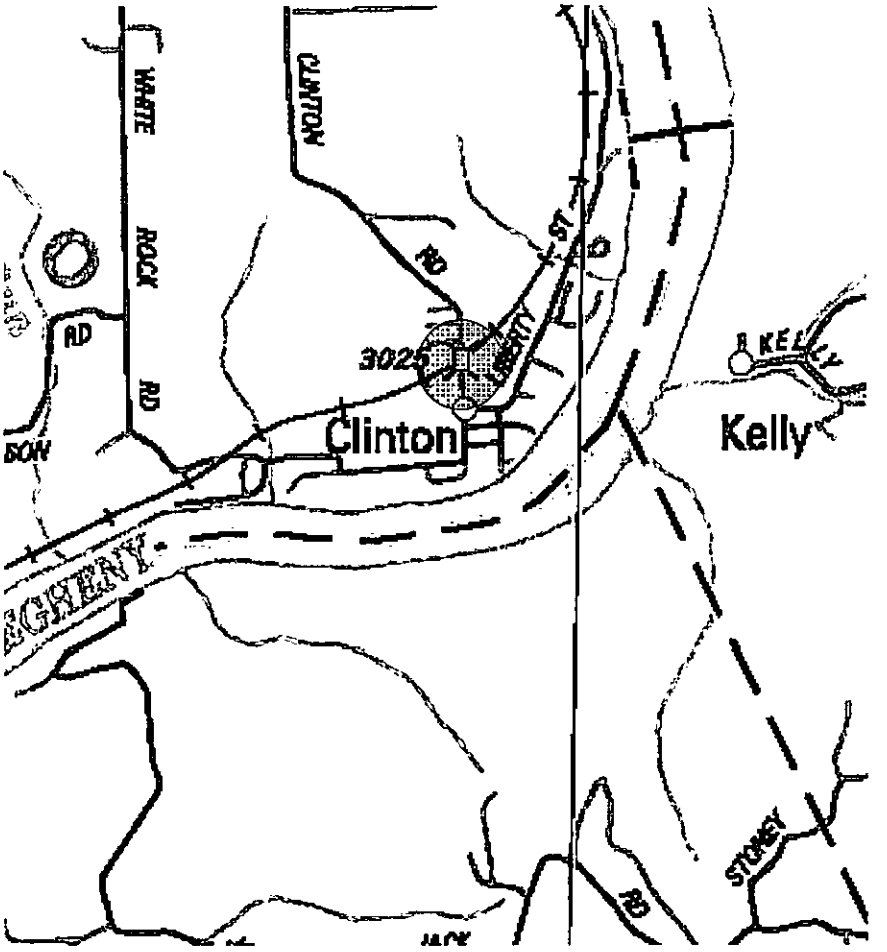


Figure 1 SOUTH BUFFALO TOWNSHIP BRIDGE #3 CARRIES T-881 (CLINTON ROAD) OVER BUFFALO AND PITTSBURGH RAILROAD

GENERAL INFORMATION

PURPOSE OF REPORT

The preparation of this bridge Inspection and analysis report was authorized by the Armstrong county commissioners for the purpose of performing an inspection to establish the present physical condition of the structure and to use these findings to perform a complete bridge rating analysis. The inspection was performed in accordance with the 1990 AASHTO "manual of Maintenance Inspection of Bridges," the 1993 AASHTO "Standard Specifications for Highway Bridges" including the interim specifications, and "National Bridge Inspection Standards" (Title 23), Code of Federal Regulations, Part 650-307, "Qualification of Personnel" along with the Bureau of Design, BMS2, Coding Manual, Publication 100A. An outline of recommended maintenance, repair and reconstruction needs are identified as part of the "Conclusions and Recommendations" section of this report in order to promote the extended service life of this bridge.

BRIDGE DESCRIPTION

Township Bridge No. 3 carries T-881 over Buffalo and Pittsburgh Railroad in South Buffalo Township, Armstrong County. The deck comprised of 2 x 4 lumber on edge, placed a 45 degree angle with a 3" bituminous wearing surface. The laminated deck is supported by wooden timbers (8" x 15.5") placed at 21" on center. The timber beams are supported by 4 timber bents and 2 timber abutments. The railing consists of 6" x 6" timber posts and treated 2 x 6 side rails. The structure length is 113'-8" and the clear distance between the deck railing is 19'-6" and curb to curb is 18'6". This bridge was built in 1910.

POSTING

10 TONS

INSPECTION DATE AND PERSONNEL

Nathan Guntrum, C.B.I. and Matthew Pitsch, E.I.T. inspected bridge #3 April 27, 2011.

FIELD INSPECTION RESULTS

GENERAL

CONDITION RATINGS ARE USED IN THIS REPORT TO DESCRIBE THE EXISTING, IN-PLACE BRIDGE AS COMPARED TO THE AS-BUILT CONDITION.

Condition codes provide an overall characterization of the general condition of the entire component being rated. Assignment of a condition code must, therefore, consider both the severity of the deterioration or disrepair and the extent to which it is widespread throughout the component being rated. The load-carrying capacity is not used in evaluating condition items.

The determination as to which of the ratings apply to each of the items will be based on an evaluation of all relevant factors and information that are included in the report. The rating chosen for each of these items will be a composite of all of the relevant factors. It should be recognized that this will require judgment, particularly for those items where the ratings seem not to apply.

The bituminous approach roadway has medium tire abrasion and wheel rutting, randomly with random longitudinal and transverse cracking. The near and far approaches are sunken slightly at the abutments. There is a large bituminous cold patch area at the near abutment right and center. The deck consists of a 3" thick bituminous overlay on top of a 2 x 4 laminated timber deck. There are medium sized bumps above the piers, several areas of heavy transverse and map cracking (w/potholes starting.) There are random longitudinal cracks, a 2' diameter cold patch area @ midspan #3 right side. There is moderate to heavy water leakage and staining with random splitting and cracking.

In span 1 there are 10 solid beams with random cracking and splitting with areas of moderate water staining and medium deterioration areas. There are medium hairline to 1/8" longitudinal shear cracks at neutral axis @ left and right sides with the tops displaced towards right side. The tops of all beams are rotating towards the right 5/8".

In spans 2-4 there are 10 timber beams in each span. Random beams have longitudinal shear cracks along the neutral axis with the tops rotating. There is moderate decay at the near side ends of beams 1,2,3,8,9,10. Span 3 has 3/8" longitudinal cracks at near and far underside of beam 10 of span 2. There are ¼" longitudinal cracks at near underside of beam 1 at span 2. There is a ¼" longitudinal crack at the far underside of beam 1 at span 3. There is a ¼" longitudinal crack at nearside of beam 10 at span 3.

In span 5 there are 10 timber beams with the tops rotating towards the left ½". The beams at the far abutment are pushing the backwall ahead. The entire structure is migrating and twisting. Many beams are in the early stages of crushing (ends of many beams are crushing up to 3/16" at bearing areas.

The near timber abutment back wall has random splitting and cracking with deterioration and decay with the top 2 timbers on the right side are loose. The far timber abutment back wall has random splitting and cracking with deterioration and decay with the top 2 timbers on the left side are loose.

LOAD RATING SUMMARY

LOAD RATING TABLE

LOAD CASE	INVENTORY RATING (TONS)	OPERATING RATING (TONS)
H20	8	10
HS20	8	10
ML80	8	10

CONCLUSIONS AND RECOMMENDATIONS

The overall condition of the bridge is poor, based on the condition ratings. Therefore, we only have a few recommendations to make at this time.

0) CRITICAL (WITHIN 7 DAYS)

NONE

1) HIGH PRIORITY (WITHIN 6 MONTHS)

RECONNECT GUIDERAIL TO BRIDGE

REPAIR RAILING

2) PRIORITY (RE-PRIORITIZE SCHEDULE)

REPAIR/REPLACE TIMBERS

REPAIR ABUTMENT/BACKWALL

REPAIR TIMBER DECK

REPAIR PIERS (SEE FORM D)

3) SCHEDULE (ADD TO SCHEDULED WORK)

REPAIR BIT. WEARING SURFACE

4) PROGRAM (ADD TO PROGRAMMED WORK WHEN FUNDS ARE AVAILIABLE)

5) ROUTINE (WITHIN NEXT WORK CYCLE)

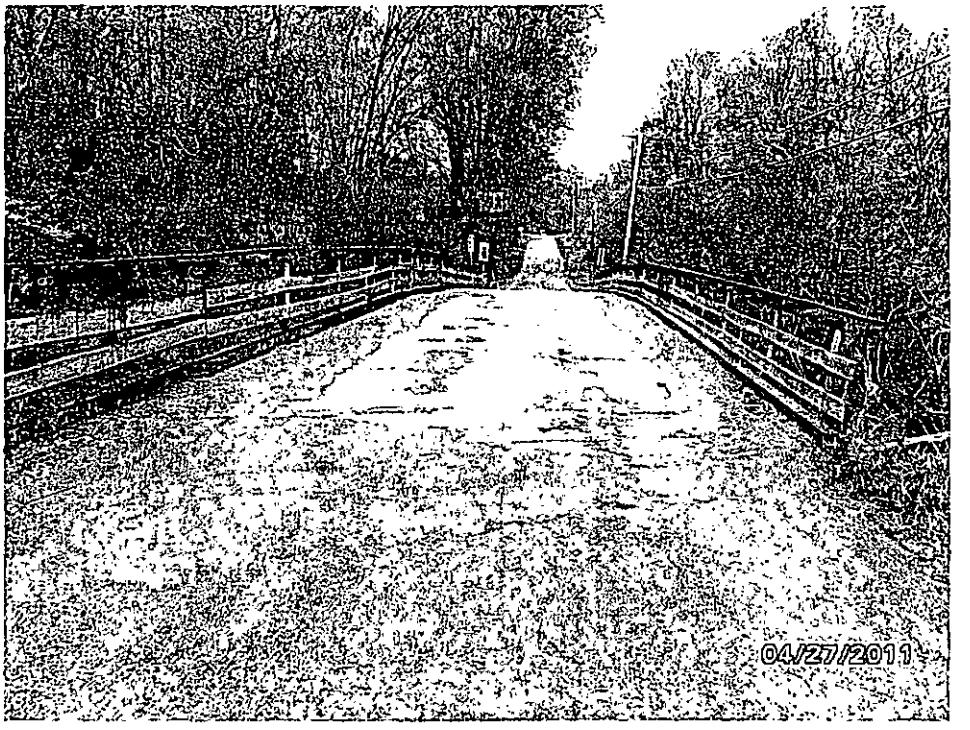


PHOTO 1 NEAR APPROACH/TYPICAL WEARING SURFACE

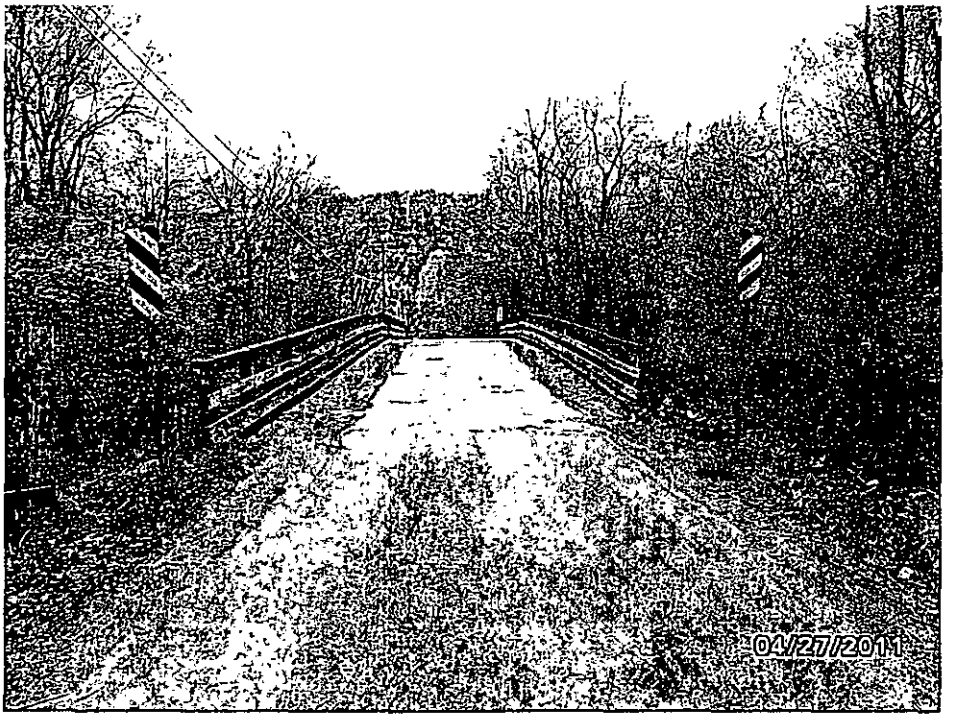


PHOTO 2 FAR APPROACH

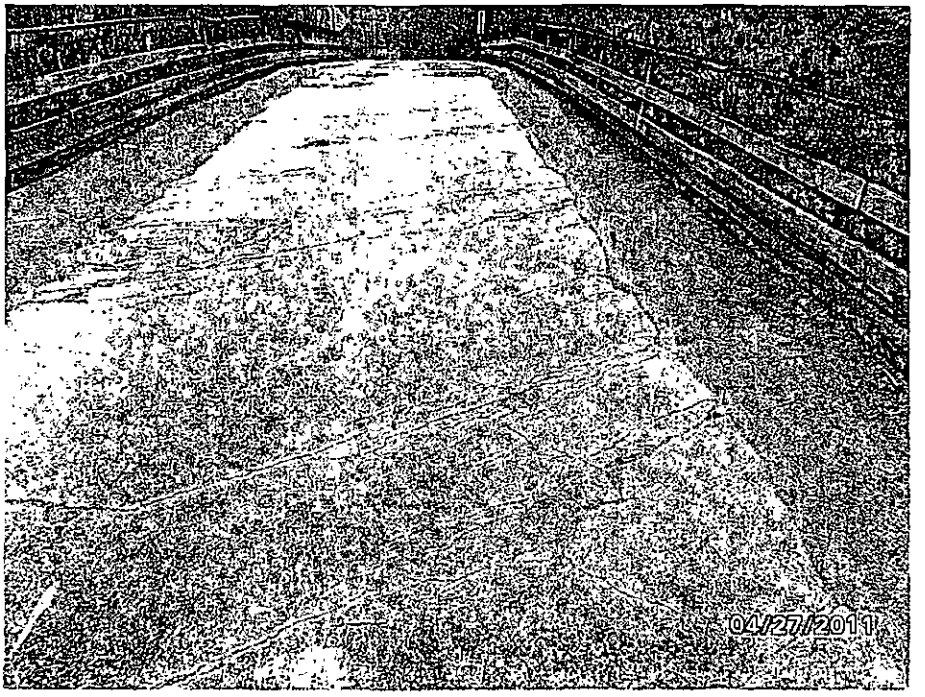


PHOTO 3 TYPICAL WEARING SURFACE LOOKING TOWARDS NEAR

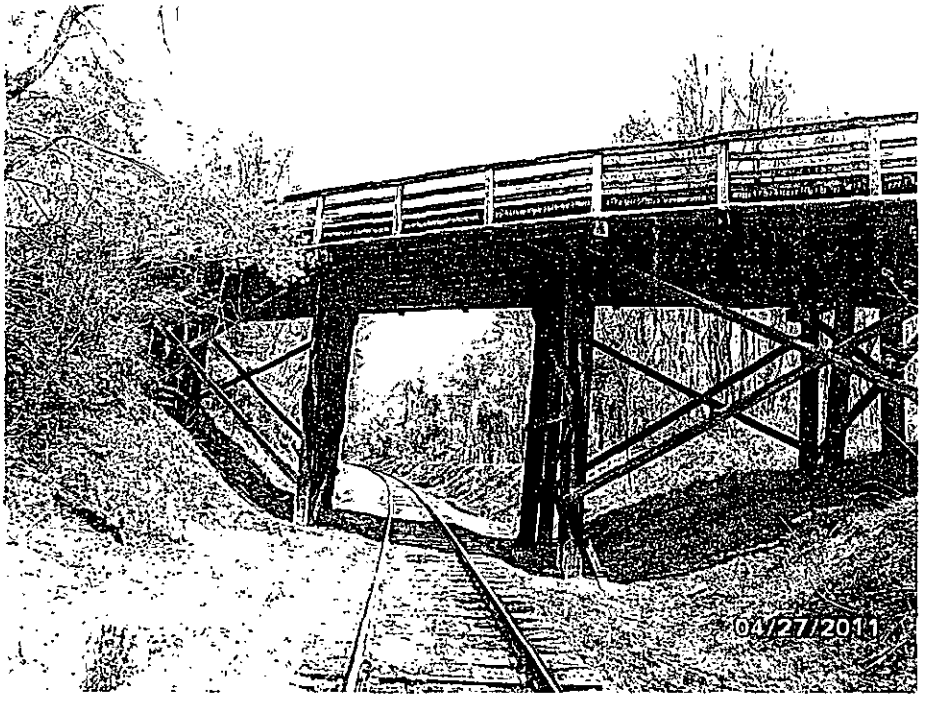


PHOTO 4 LEFT ELEVATION

PHOTO 5 RIGHT ELEVATION

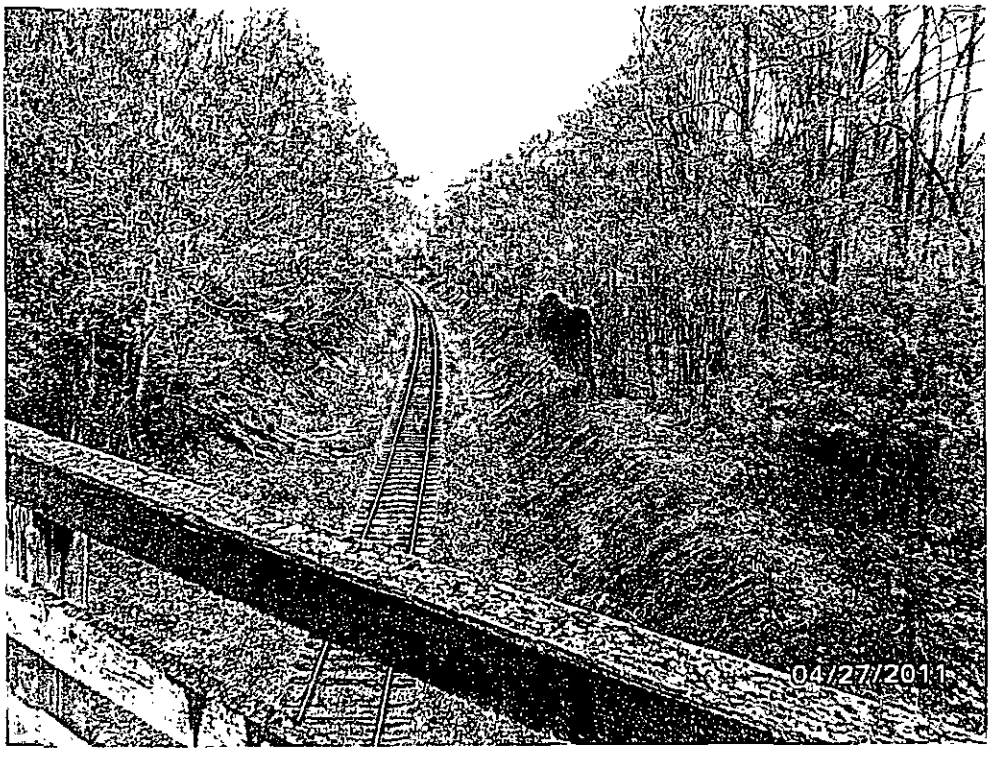


PHOTO 6 LOOKING NORTHEAST

PHOTO 7 LOOKING SOUTHWEST

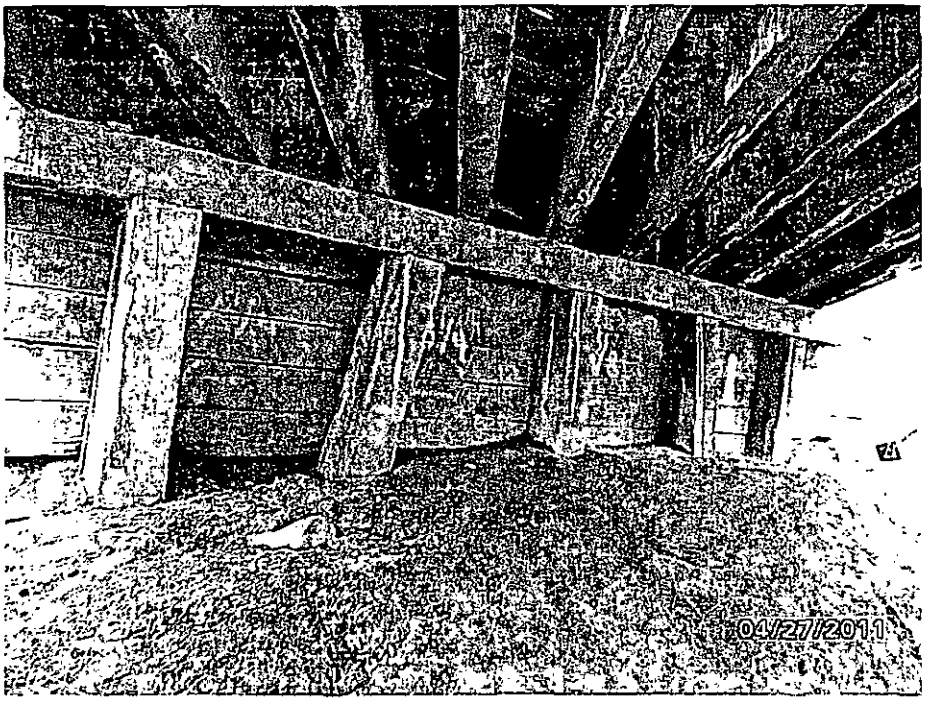


PHOTO 8 NEAR ABUTMENT

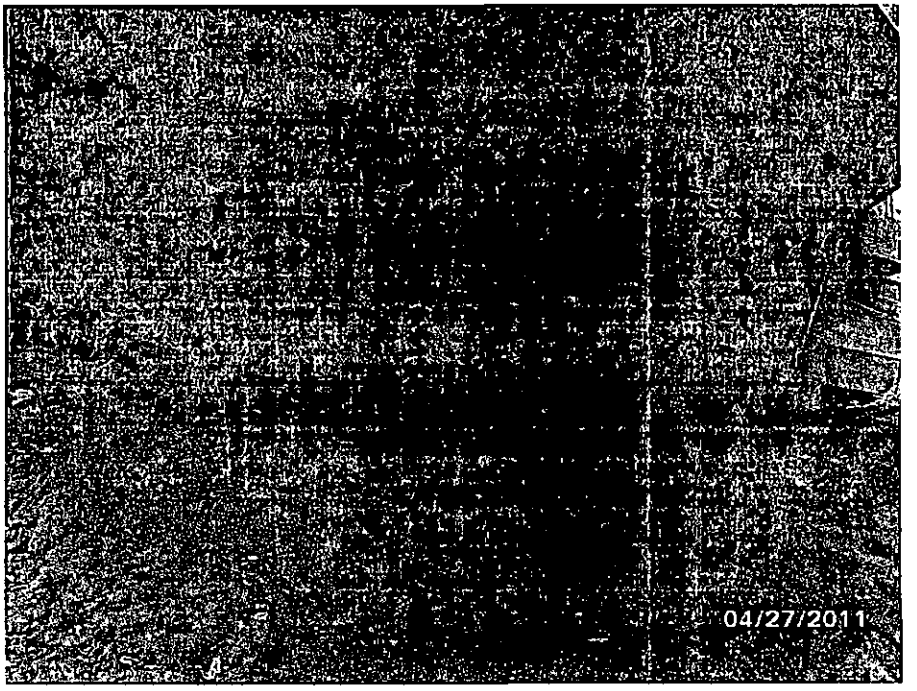


PHOTO 9 FAR ABUTMENT

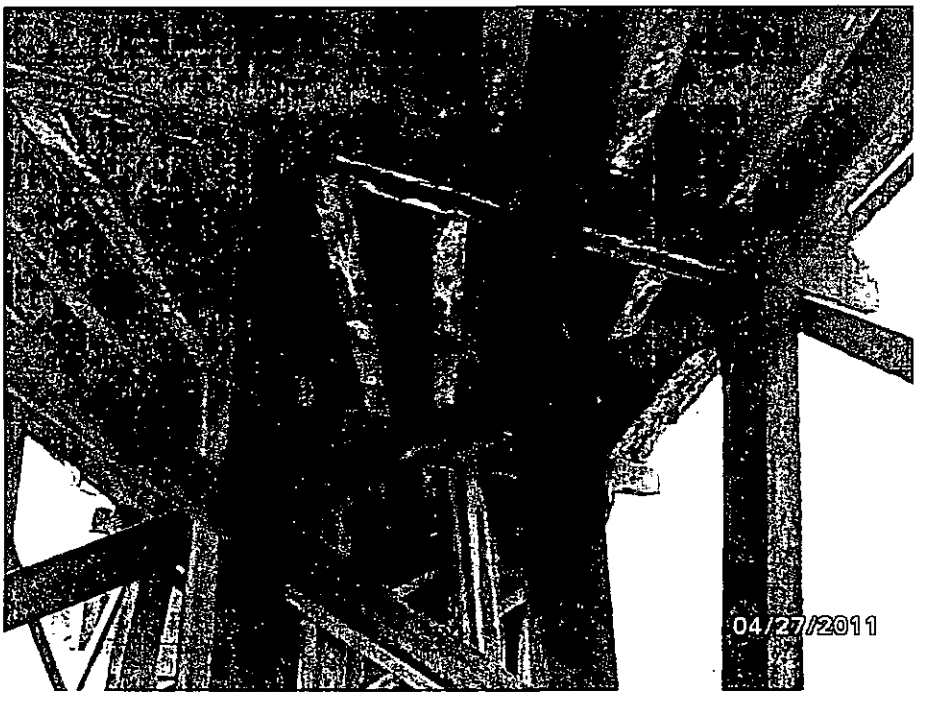


PHOTO 10 TYPICAL SUPERSTRUCTURE

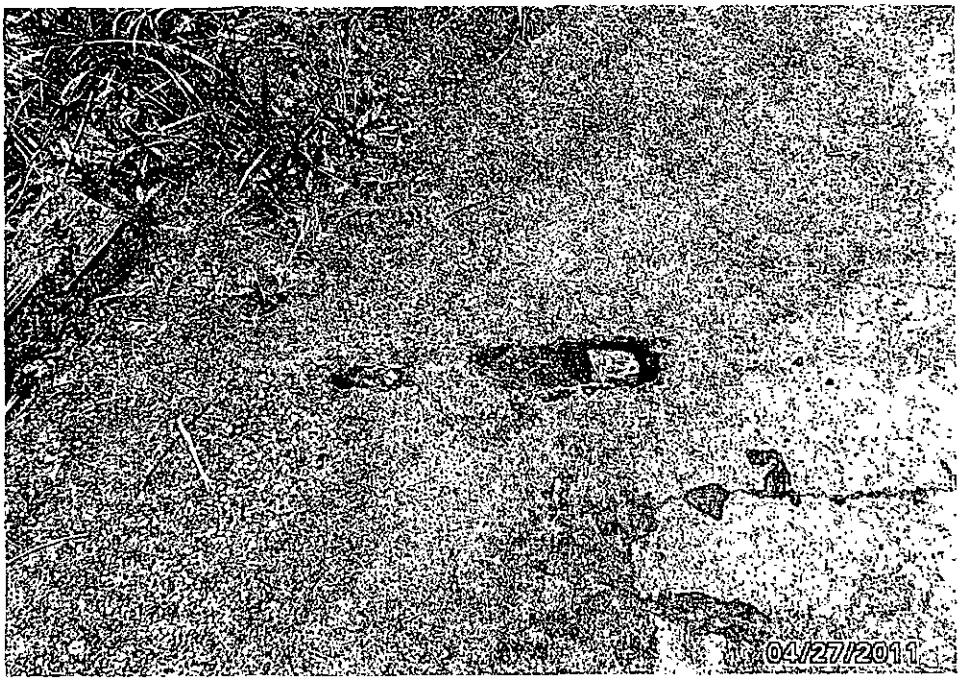


PHOTO 11 HOLE AT NEAR RIGHT

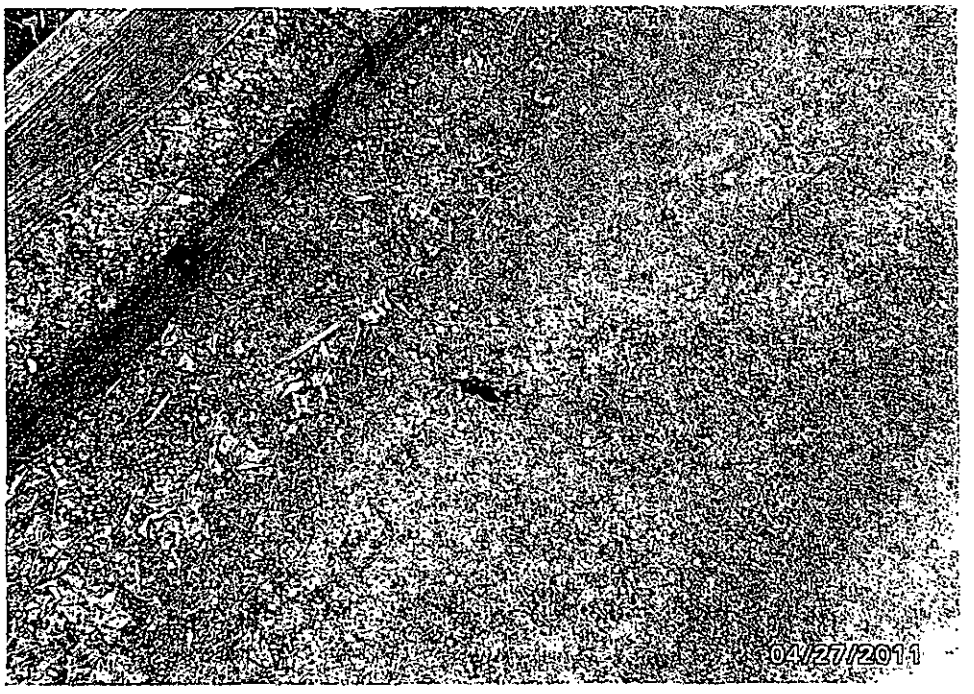
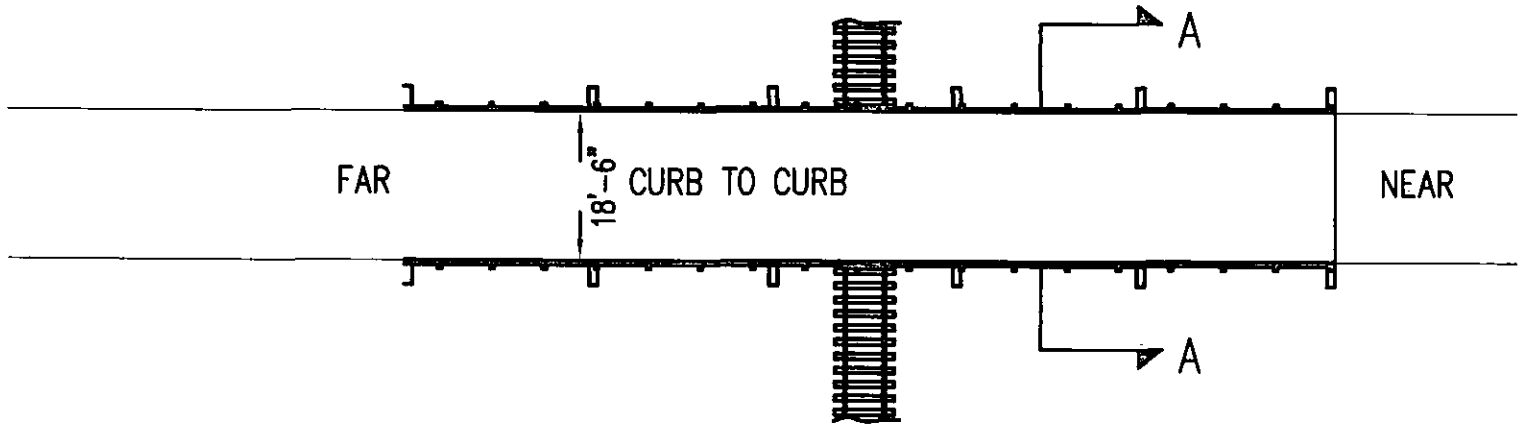
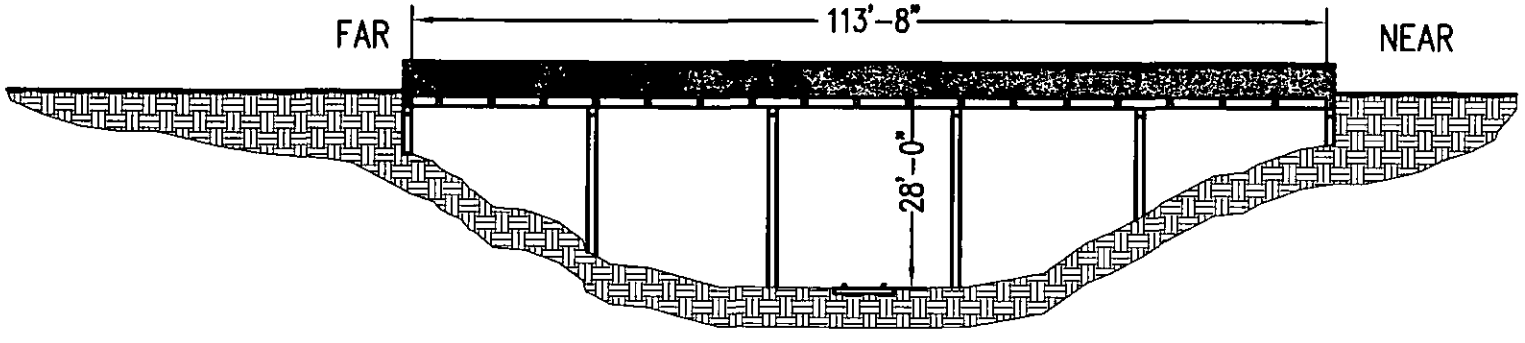


PHOTO 12 HOLE IN FAR RIGHT WEARING SURFACE



PLAN VIEW



LEFT ELEVATION

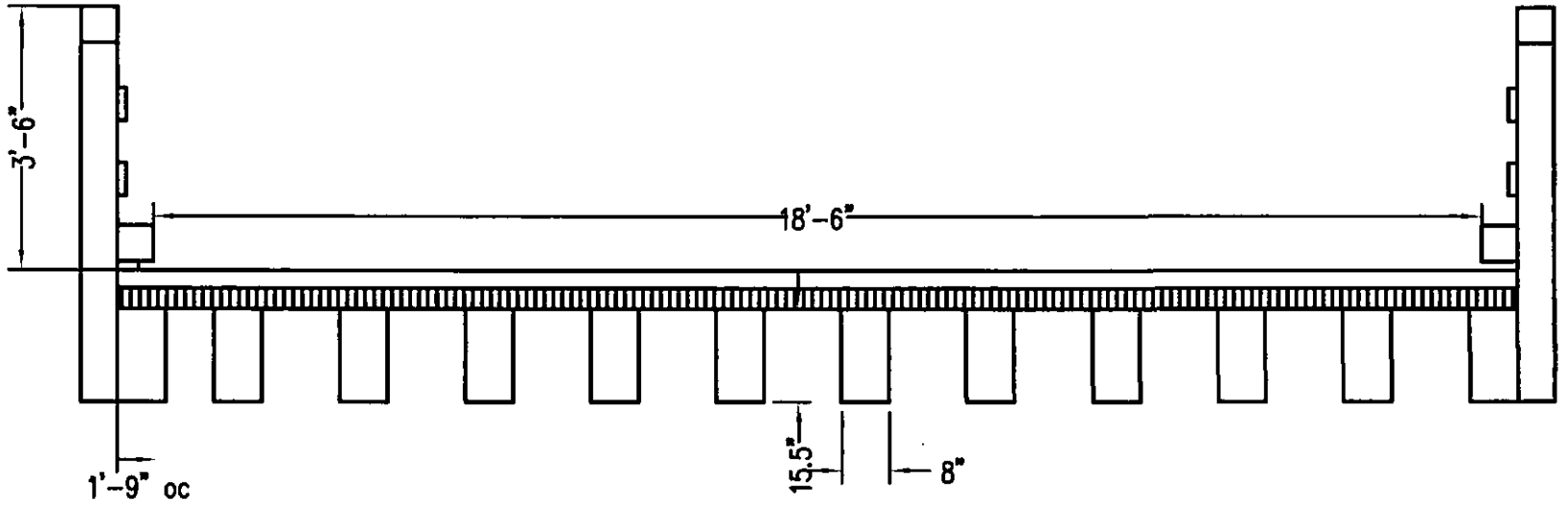
NORTH CLINTON BRIDGE
BMS # 03 7223 0881 0003

SITUATE IN: SOUTH BUFFALO TOWNSHIP
ARMSTRONG COUNTY, PA

PREPARED FOR: PA DEPT. OF TRANSPORTATION
ENGINEERING DISTRICT 10-0

SENATE ENGINEERING COMPANY
ENGINEERS – PLANNERS – SURVEYORS
UNIVERSITY OF PITTSBURGH
APPLIED RESEARCH CENTER
420 WILLIAM PITT WAY, PITTSBURGH, PA. 15238
PHONE (412) 826-5454
FAX (412) 826-5458

DRAWN BY:	CHECKED BY:	DATE:	SCALE:
N.G.		5/16/11	
JOB NUMBER	DRAWING NUMBER		
9245			____ OF ____



SECTION A-A

NORTH CLINTON BRIDGE
BMS # 03 7223 0881 0003

SITUATE IN: SOUTH BUFFALO TOWNSHIP
ARMSTRONG COUNTY, PA

PREPARED FOR: PA DEPT. OF TRANSPORTATION
ENGINEERING DISTRICT 10-0

SENATE ENGINEERING COMPANY
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DRAWN BY:	CHECKED BY:	DATE:	SCALE:
N.G.		5/16/11	
JOB NUMBER	DRAWING NUMBER		
9245			____ OF ____

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

7A09 Inspection Status: 2 - Submitted

7A02 Team Leader: 1685 Senate Engineering C Guntrum

7A03 Inspection Type: R - Regular (routine)

7A05 Inspected By: 8 - Consulting Firm

Structure Description

5A08 FHWA Facility Carried: T-881

5A07 Features Intersected: BUFFALO & PITTSBURG RR

5A09 Location: TWP #3 NORTH CLINTON RR

5C01 Roadway Name: T-881

5A06 City / Borough Name: 03/223 - SOUTH BUFFALO

Structure Type

Main

6A26 Material Makeup: 5 - Timber

6A27 Physical Makeup: 9 - Other or none

6A28 Span Interaction: 1 - Simple, non-comp

6A29 Structural Config: 36 - Solid timber beams

Approach

6A26 Material Makeup:

6A27 Physical Makeup:

6A28 Span Interaction:

6A29 Structural Config:

pennsylvania
DEPARTMENT OF TRANSPORTATION

SITE DATA
Form A

Form D-450A

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Sign Information

ID01 Type of Sign	ID02 Sign Needed	ID03 Sign Message	ID06 Near Adv	ID04 Bridge Near	ID07 Bridge Far	ID05 Far Adv	Comments
0 - Bridge	Yes		G	G	G	G	
1 - Bridge Weight Limit	Yes	10	G	G	G	G	
2 - Except Combinations	No	N/A					_
3 - One Truck at a Time	No						_
4 - Vertical Clearance On	No						_
5 - Vertical Clearance Under	No	_					_
6 - One Lane Bridge	Yes		G	N	N	G	_
7 - Narrow Bridge	No						_
8 - Hazardous Clearance	Yes		N	G	G	N	_
9 - Other	Yes	_	G	N	N	G	BRIDGE MAY BE ICY

Features Intersected

6C02 SR ID SR	6C02 SR ID Seg	5C03 On/ Under	5B09 Skew Angle	5C06 Dir	5C29 NHS	4A20 Min Lat Cl Left	4A19 Min Lat Cl Right	6C18 Tot Hor Cl Left	6C19 Tot Hor Cl Right	6C20 Min Vrt Cl Left	6C21 Rdwys Vrt Cl Right	6C22 Over 10ft Left	6C23 Over 10ft Right	6C24 VT Sign	6B17 ADT
_	_	1	45		0 - Not on NHS	0.0	28.2	-1.0	18.3	-1.0	99.9	-1.0	-1.0	0	0
_	_	A	0	N/A	0 - Not on NHS	0.0	28.2	-1.0	-1.0	-1.0	20.6	-1.0	-1.0	0	0

7A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

6B15 Design Exceptions:

6A50 Sup Latent Problem: _

6A51 Sub Latent Problem: _

Deck Geometry

Table Used for Appraisal: 1 - 2A/2B

Controlling Values

5C10 ADT:

5C27 Bridge Road Width: 18.3

4A10 Appraisal: 3 - Intolerable-Correct

Notes:

4A11 Undercir Appr: 4 - Tolerable

6B13 Controlling Vertical: 21.1 FT

Controlling Lateral: LAT = 8'-6" = (4)

Traffic Safety Features

Feature Type	IA01 Location	IA02 Adequacy Rating	IA03 Description	5C08 Posted Spd Lmt (mph)
1 - Railing		3 - inadeq for cond		-1
Comment: TIMBER POSTS W/ TIMBER RAILS, SOME TIMBERS HAVE BEEN REPAIRED & REPLACED, MANY POSTS & PLANKS HAVE MED CRACKING & ROTTING AREAS, MANY POSTS @ F LT END ARE LOOSE & LEANING TO LT 2" +/- , MANY POSTS @ N RT END ARE LOOSE & LEANING TO RT 1" +/-				
2 - Transition		2 - Req not provided		-1
Comment: NONE @ ALL ENDS				
3 - Approach Guiderail		2 - Req not provided		-1
Comment: NONE @ ALL ENDS				
4 - Approach railend		2 - Req not provided		-1
Comment: NONE @ ALL ENDS				

Approach Alignment

4A02 Code: 5 - Above Tolerable

Comment: LIMITED SIGHT DIST MINOR SPEED REDUCTION (VERT CURVE)

Approach Roadway

6B39 Code: 6 - Satisfactory

Pavement: BIT = MED TIRE ABRASION & WHEEL RUTTING, RANDOM LONGIT & TRANSV CRACKS, NS/FS APPROACHES ARE SUNKEN SLIGHTLY @ NAB & FAB AREAS, LARGE BIT COLD PATCH AREA @ NAB RT & CTR,

Drainage: SATIS

Shoulders: GRAVEL = SATIS COND , MINOR AREAS SUNKEN SLIGHTLY

Approach Slab

6B38 Code: N - N/A

Pavement: NONE

7A01 SR ID: 03722308810003 5A03 BR Key: 3298 7A01 Inspection Date: April 27, 2011

6B04 Bump at Bridge: Bump MINOR TO MED BUMPS @ NAB,P01,P02,P03,P04,FAB, NS/FS APPROACHES ARE SUNKEN SLIGHTLY @ NAB & FAB AREAS, LARGE BIT COLD PATCH AREA @ NAB RT & CTR,

6A39 Relief Joints: 0 - Joints not present 6A41 Number of Joints: 0

Comment: NONE

6B02 New Wearing Surface Under Bridge: No

pennsylvania
DEPARTMENT OF TRANSPORTATION

DECK AND SUPER STRUCTURE DATA

Form B

Form D-450B

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Deck Wearing Surface

Main

5B02 Type of Wearing Surface: 6 - Bituminous
5B03 Type of Memb. Water-Proof: 0 - None
5B04 Deck Corrosion Protection: 0 - None
6A33 Thickness: 3.0
6A34 Date Recorded: 01/01/1901

Approach

6A30 Type of Wearing Surface: _ - Unknown (NBI)
6A31 Type of Memb. Water-Proof: _ - Unknown (NBI)
6A32 Deck Corrosion Protection: _ - Unknown (NBI)
6A33 Thickness: 0.0
6A34 Date Recorded: 01/01/1901

6B40 Condition Rating: 4 - Poor-adv. section loss, deterioration, spalling or scour.

IC02 Dk WS Notes: 3" BIT OVERLAY OF 2"x4" LAMINATED TIMBER DECK = MED TIRE ABRASION & MOD WHEEL RUTTING, HEAVY 1/4"+ DIAG & TRANSV CRACKS, MED BUMPS ABOVE PIERS, SEVERAL AREAS OF HEAVY TRANSV & MAP CRACKS W/ POTHOLES STARTING, RANDOM LONGIT CRACKS, 2' DIA COLD PATCH AREA @ MIDSPAN #3 RT SIDE, ***5'x5' CRACKED / POTHOLE AREAS FORMING @ LT/RT SIDES - MIDSPAN #3, 1' DIA COLD PATCH AREA @ FS SPAN #4 - RT SIDE,

Expansion Joints

6A41 Number of Expansion Joints: 0

Joint Number	VD25 Joint Type	VD26 Movement Class	VD27 Manufacture Code
0			

Deck

1A01 Condition Rating: 4 - Poor-advanced section loss, deterioration, spalling or scour.
[illegible]07 Est. Spall Delamination: 0.00 %
[illegible]10 Est. Chloride Content: 0.00 %
1A07 Unrepaired Spalls: -1.00 SF

6B08 Date: 01/01/1901
6B11 Date: 01/01/1901

Deck Top: 3" BIT OVERLAY OF 2"x4" LAMINATED TIMBER DECK = MED TIRE ABRASION & MOD WHEEL RUTTING, HEAVY 1/4"+ DIAG & TRANSV CRACKS, MED BUMPS ABOVE PIERS, SEVERAL AREAS OF HEAVY TRANSV & MAP CRACKS W/ POTHOLES STARTING, RANDOM LONGIT CRACKS, 2' DIA COLD PATCH AREA @ MIDSPAN #3 RT SIDE, ***5'x5' CRACKED / POTHOLE AREAS FORMING @ LT/RT SIDES - MIDSPAN #3, 1' DIA COLD PATCH AREA @ FS SPAN #4 - RT SIDE,

Deck Underside: LAMINATED 2"x4" TIMBER DECK = FAIR COND, MOD TO HEAVY WATER LEAKAGE & STAINING, RANDOM SPLITTING & CRACKING , MED DET & DECAY AREAS, MANY DECAY / DET AREAS NOTED @ ENDS OF TIMBERS, ***LT/RT ENDS OF 2"x4" LAMINATED TIMBERS ARE LIFTING 1/4" + UP FROM TOP SIDES OF BMS # 1 & 10 @ ALL SPANS DUE TO WHEEL RUTTING & BENDING OF DECK TIMBERS BETW BMS,

Deck Drainage: NONE

Expansion Joints: NONE

Deck Notes:

Superstructure

1A04 Condition Rating: 4 - Poor-adv. section loss, deterioration, spalling or scour.

Narrative: ****UTILITY PIPES RESTING ON LT & RT TOP ENDS OF PIER CAPS

5A01 SR ID: 03722308810003 5A03 BR Key: 3298 7A01 Inspection Date: April 27, 2011

Girders/Beams: (10) SOLID TIMBER BMS . (5) SPANS 119', 59136, (TYP) = MED HL TO 1/8" LONGIT "SHEAR" CRACKS @ NEUTRAL AXIS @ LT & RT SIDES W/ TOPS DISPLACED , RANDOM VERT CRACKS NOTED @ END SIDES OF BMS # P01, P02, P03, P04 BEARING AREAS , ***RANDOM BMS ARE CRUSHING 1/8" TO 1/4" @ VISIBLE @ FACE OF BRIDGE SEATS (BEARING AREAS) OF ALL SPANS, TYP BM DEPTH = 16", RANDOM 1/8" LONGIT CRACKS @ UNDERSIDES OF BMS,

***SPAN #1 (10) SOLID TIMBER BMS = RANDOM CRACKING & SPLITTING AREAS W/ MOD WATER STAINING & MED DET AREAS, MED HL TO 1/8" LONGIT "SHEAR" CRACKS @ NEUTRAL AXIS @ LT & RT SIDES W/ TOPS DISPLACED TOWARD RT SIDE, = **TOPS OF ALL BMS ARE ROTATING TO Rt. 5/8" +/- , MEAS USING 4' LEVEL,

***SPANS #2,3,4 (10) TIMBER BMS IN EA SPAN = ***RANDOM BMS HAVE LONGIT SHEAR CRACKS ALONG NEUTRAL AXIS W/ TOPS ROTATING, INSPECTED FROM GROUND, ****MOD DECAY @ NS ENDS OF BMS #1,2,3,8,9,10 @ SPAN #3, **3/8" LONGIT CRACKS @ NS/FS UNDERSIDE OF BM #10 @ SPAN #2, **1/4" LONGIT CRACK @ NS UNDERSIDE OF BM #1 @ SPAN #2, **1/4" LONGIT CRACK @ FS UNDERSIDE OF BM #1 @ SPAN #3, **1/4" LONGIT CRACK @ NS UNDERSIDE OF BM #10 @ SPAN #3,

***SPAN #5 = (10) TIMBER BMS. , ***TYP TO SPAN #1 EXCEPT TOPS ARE ROTATING TOWARD LT 1/2" +/- MEAS. USING A LEVEL, ***BMS. @ FAB ARE PUSHING BACKWALL SEG AHEAD, ***ENTIRE STRUCTURE IS MIGRATING & TWISTING, *******TYP ALL SPANS = MANY BMS ARE IN EARLY STAGES OF CRUSHING, (ENDS OF MANY BMS ARE CRUSHING UP TO 3/16") @ BEARING AREAS

Floorbeams: NONE

Stringers: NONE

Diaphragms: NONE

Truss Members: NONE

Portals/Bracings: NONE

Bearings: BEARINGS = TIMBER = MED CRACKING & SPLITTING & MOD DECAY AREAS

Drainage System: NONE

A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

1A02 Substructure Condition Rating: 4 - Poor-ad. section loss, deterioration, spalling or scour.

Notes:

Near Abutment

Backwall: TIMBER = RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY, TOP (2) TIMBERS IN BACK WALL ARE LOOSE @ TOP RT SIDE
Bridge Seats: TIMBER = RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY,
Cheekwalls: NONE
Stem: (4) TIMBER BENTS W/ TIMBER BACKWALLS = RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY, ALL BENTS ARE LEANING SEG. AHEAD , FOLLOWING MEASUREMENTS TAKEN WITH 4' LEVEL AT TOP OF BENTS= #1= 6-1/8" , #2= 5" , #3 = 4" , #4 = 3", #5 = 2-3/8"
Wings: TIMBER = RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY
Footing: NOT VISIBLE
Piles: NONE
IN20 **Scour Undermine:** 0 - No
Settlement: ALL BENTS ARE LEANING SEGEMENT AHEAD
Embank Slope-wall: SOIL, MINOR EROSION AREAS @ LT & CTR
Wall Drainage: NOT VISIBLE

Far Abutment

Backwall: TIMBER = BEAMS FROM SUPER STR. ARE PUSHING DIRECTLY BACK ON THE BACK WALL, TOP (2) TIMBERS IN BACK WALL ARE LOOSE @ TOP LT SIDE, RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY,
Bridge Seats: TIMBER = RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY,
Cheekwalls: NONE
Stem: (5) TIMBER BENTS W/ TIMBER BACKWALLS = RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY, BENTS # 2,3,4,5, ARE LEANING SEG. BACK , FOLLOWING MEASUREMENTS WERE TAKEN WITH 4' LEVEL AT TOP OF BENTS-- #2 = 1-1/2" , #3 = 3-1/2" , #4 = 3-1/4", #5 = 5-1/2", TOP OF BENT #1 IS LEANING 1-3/8" SEG AHEAD
Wings: TIMBER = RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY, RANDOM LOOSE TIMBERS
Footing: NOT VISIBLE
Piles: NONE
IN20 **Scour Undermine:** 0 - No
Settlement: BENTS # 2,3,4,5, ARE LEANING SEG. BACK, #1 IS LEANING SEG AHEAD
Embank Slope-wall: SOIL, MED EROSION AREAS @ RT & CTR
Wall Drainage: NONE VISIBLE

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5A01 SR ID: 03722308810003 5A03 BR Key: 3298 7A01 Inspection Date: April 27, 2011

Navigational Control

4A21 Controls Exist: Unknown

4A22	Vert Clearance:	0.00
4A24	Llft Vertical:	-1.00
4A23	Horz Clearance:	-1.00
4A07	Pier Protection:	Not Applicable (N)

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Pier Details

5D02 Pier/Bent Number: P01 | IN20 Scour Undermine: No

Condition Summary:

Bridge Seats: HORIZ. TIMBER BEAM = MED WEATHERING & CRACKING & SPLITTING , MINOR BENDING UNDER BMS IS NOTED, MED DECAY @ LT/RT ENDS OF TIMBER

Cheekwalls: NONE

Columns/Stems: (5) VERT. TIMBER COLUMNS WITH (2) DIAGONAL TIMBER "X" BRACES = P01 COLUMNS BENTS # 1,2,3 ARE LEANING SEG. AHEAD , FOLLOWING MEASUREMENTS WERE TAKEN WITH 4' LEVEL AT TOP OF BENTS-- #1 = 1-1/4" , #2 = 7/8" , #3 = 1", #4 =0" , TIMBER X-BRACING FROM P01 TO P02 IS WEATHERED & CRACKING, TIMBER X-BRACING FROM P01 TO P02 IS BENT TO RT @ RT SIDE, RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY, MED DECAY TO BASE TIMBER (FOOTER TIMBER)

Settlement: P01 LEANING SEG. AHEAD 1-1/4" @ LT SIDE

5D02 Pier/Bent Number: P02 | IN20 Scour Undermine: No

Condition Summary:

Bridge Seats: HORIZ. TIMBER BEAM = MED WEATHERING & CRACKING & SPLITTING, MINOR BENDING UNDER BMS IS NOTED, MED DECAY @ LT/RT ENDS OF TIMBER

Cheekwalls: NONE

Columns/Stems: (5) VERT. TIMBER COLUMNS WITH (2) DIAGONAL TIMBER "X" BRACES = P01 COLUMNS BENTS # 1,2 ARE LEANING SEG. AHEAD , FOLLOWING MEASUREMENTS WERE TAKEN WITH 4' LEVEL AT TOP OF BENTS-- #1 = 3/8" , #2 = 0", COL #5 IS LEANING SEG BACK @ TOP = 1/4" W/ 4' LEVEL, RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY, MED DECAY TO BASE TIMBER (FOOTER TIMBER), TIMBER X-BRACING FROM P01 TO P02 IS WEATHERED AND CRACKING,

Settlement: NONE

5D02 Pier/Bent Number: P03 | IN20 Scour Undermine: No

Condition Summary:

Bridge Seats: HORIZ. TIMBER BEAM = MED WEATHERING & CRACKING & SPLITTING, MINOR BENDING UNDER BMS IS NOTED, 1/4" + TRANSV SHEAR CRACKS @ N RT END & @ UNDERSIDE OF RT END, MED DECAY @ LT/RT ENDS OF TIMBER

Cheekwalls: NONE

Columns/Stems: (5) VERT. TIMBER COLUMNS WITH (2) DIAGONAL TIMBER "X" BRACES = TOPS OF COLUMNS BENTS # 1,2,3,4, ARE LEANING SEG. AHEAD , FOLLOWING MEASUREMENTS WERE TAKEN WITH 4' LEVEL @ TOP OF BENTS -- #1 = 1", #2 = 5/8" , #3 = 1" , #4 = 1/2", RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY, MED DECAY TO BASE TIMBER (FOOTER TIMBER), TIMBER X-BRACING FROM P03 TO P04 IS WEATHERED AND CRACKING

Settlement: TOP OF P03 IS LEANING SEG AHEAD

5D02 Pier/Bent Number: P04 | IN20 Scour Undermine: No

Condition Summary:

Bridge Seats: HORIZ. TIMBER BEAM = MED WEATHERING & CRACKING & SPLITTING, MINOR BENDING UNDER BMS IS NOTED, 1/4" + TRANSV SHEAR CRACKS @ UNDERSIDE OF LT/RT ENDS, MED DECAY @ LT/RT ENDS OF TIMBER

Cheekwalls: NONE

Columns/Stems: (5) VERT. TIMBER COLUMNS WITH (2) DIAGONAL TIMBER "X" BRACES = TOPS OF COLUMNS BENTS # 3,4,5, ARE LEANING SEG. BACK , FOLLOWING MEASUREMENTS WERE TAKEN WITH 4' LEVEL AT TOP OF BENTS -- , #3- 1/2" , #4 = 3/4", #5 = 1", TOP OF BENT #1 IS LEANING 5/8" SEG AHEAD, BENT #2 IS PLUMB, RANDOM SPLITTING & CRACKING W/ DETERIORATION & DECAY, MED DECAY TO BASE TIMBER (FOOTER TIMBER), TIMBER X-BRACING FROM P03 TO P04 IS WEATHERED AND CRACKING

Settlement: TOP OF P04 IS LEANING SEG. BACK @ RT SIDE & SEG AHEAD @ LT SIDE (TWISTING)

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ELEMENT DATA
Form E

Form D-450E

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

6B03 Inventory Item Review Recommended: No
IC01 Notes:

Element Details

5D02 **Span:** Overall Structure | 5D04 Span Type: F - Frame

1B01 Element ID: 999 - Dummy Element | Inspect by Each: Yes
1B03 Environment: Ben. | 1B05 Scale Factor Measurement: 1
Description: Dummy placeholder element

1A10	Total QTY:	1.00 each	1A11	Cond State 1 QTY:	1.00	1A11 Cond State 2 QTY:	0.00
1A11	Cond State 3 QTY:	0.00	1A11	Cond State 4 QTY:	0.00	1A11 Cond State 5 QTY:	0.00

Condition:

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FRACTURE CRITICAL
Form F

Form D-450F

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Main

6A44 Group: 9 - Group 9
6A45 - 6A48 Critical Rating Factor: 9993
6A49 Total Critical Rating Factor: 30

Structure Type (Dept)

6A26 Material Makeup: 5 - Timber
6A27 Physical Makeup: 9 - Other or none
6A28 Span Interaction: 1 - Simple, non-comp
6A29 Structural Config: 36 - Solid timber beams

Approach

6A44 Group:
6A45 - 6A48 Critical Rating Factor: 000
6A49 Total Critical Rating Factor: 0

Structure Type (Dept)

6A26 Material Makeup:
6A27 Physical Makeup:
6A28 Span Interaction:
6A29 Structural Config:

Fracture Critical Details

IF01 Location:
IF02 Type:
IF05 FC Stress Category:
IF03 Member:

IF04 Member Detail:
IF06 Notes:

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UNDERWATER INSPECTION

Form G

A01	SR ID: 03722308810003	5A03	BR Key: 3298	7A01	Inspection Date: April 27, 2011

IU00a UW Reviewer Action:

IU00b Reviewer Comments:

IU02 Number of Units: 0

IU01 Recalculate SCBI: 1 - recalc needed

IU03 SCBI Source:

4A08 SCBI: N - Not Over Waterway

IU04 Overall SCBI:

IU05 SAR: 0.00

IU06 Streambed Material #1:

IU06 Streambed Material #2:

IU07 Notes:

Current Countermeasures

CM Num	IU21 Type	IU22 Location	IU23 Condition	IU24 Subunit

Possible Countermeasures

PCM Num	IU25 Location	IU26 Work Candidate

SAR Calculation Data

IU08 Debris Potential:

IU09 Trapping Potential:

IU10 Pressure Flow:

IU11 NAB Location:

IU12 FAB Location:

US Left Wingwall

IU13 Presence:

IU14 Condition:

US Right Wingwall

IU15 Presence:

IU16 Condition:

Horizontal Debris Blockage

IU17 Start: 0

IU18 End: 0

Vertical Debris Blockage

IU19 Start: 0

IU20 End: 0

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UNDERWATER INSPECTION

Form G

\01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Sub Unit OSA Data

Observed Scour Rating Components

IN01 Sub Unit	IN12 Pier/ Abut Type	IN13 Inv. Found Type	IN14 Found Type	IN15 Strmbd Mat	IN19 Move Ind	IN04 Chg Since Last Insp	IN05 Scour Hole	IN06 Debris Potential	IN07 Scour-ability	IN08 Opening Adeq. / Channel	IN09 Sediment	IN10 Alignment	IN11 Velocity/ Stream Slope	IN03 Observed Scour Rating
NAB					0									
FAB					0									
P01					0									
P02					0									
P03					0									
P04					0									

Other Subunit Details

IN01 Sub Unit	IN16 UW Insp Type	IN18 Water Dept	IN17 Observed Scour Depth	IN20 Scour Undermine	IN21 Counter-measures	IN02 Info from Current Insp	IN22 100 yr Flood Calc Scour Depth	IN23 500 yr Flood Calc Scour Depth	IU27 SCBI Code
NAB		-1.0	-1.0	0	0	0	0.0	0.0	
4 Notes:									
FAB		-1.0	-1.0	0	0	0	0.0	0.0	
IN24 Notes:									
P01		-1.0	-1.0	0	0	0	0.0	0.0	
IN24 Notes:									
P02		-1.0	-1.0	0	0	0	0.0	0.0	
IN24 Notes:									
P03		-1.0	-1.0	0	0	0	0.0	0.0	
IN24 Notes:									
P04		-1.0	-1.0	0	0	0	0.0	0.0	
IN24 Notes:									

A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Underclearance

IL09 Origin Description:
IL10 Horizontal:
IL11 Vertical:
IL12 Notes:

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CULVERT DATA

Form H

5A01 SR ID: 03722308810003 5A03 BR Key: 3298 7A01 Inspection Date: April 27, 2011

1A03 Culvert Condition Rating: N

Notes:

VD19 Length of Culvert Barrel: -1.00 FT

#	Opening Type	Length	Min Fill Height	Max Fill Height	Eff Width

Top Slab:
Barrel:
Floor/Paving:
Headwall:
Wings:
Settlement:
Debris:

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CHANNEL AND WATERWAY DATA

Form J

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Channel

1A05 Channel/ Channel Protection Cond. Rating: N

Channel:

Banks:

Streambed Movements:

Debris, Vegetation:

River Control Devices:

Embank/Strmbed Contr:

Drift Other:

Waterway Adequacy

1A06 Appraisal Code: N

Notes:

IL02 Overtop Risk:

IL03 Traffic Delay:

5C22 Functional Class: 09 - Rural Local

High Water Mark

IL05 Elevation: 0.0 | IL06 Date: January 01, 1901 | IL07 New High Water Mark: No

Notes:

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Form K

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Paint Condition

6B36 Paint Cond Rating: N - Not Applicable
6B37 Ext of Paint Cond: N - Not Applicable
6B35 New Paint: 0 - no new paint
Int Beam / Gird: N/A
Fascias: N/A
Splsh Zone Truss Gird: N/A
Truss: N/A
Bearings: N/A
Other: N/A

4B03 Brdge Cap. Appraisal: 0 - >39.9% below
6B16 Controlling: 5 - Eng. Judg.
4A09 Struct Cond Appraisal: 4

Structure Condition Appraisal Based on

The following Ratings:

1A04 Superstructure Condition R: 4 - Poor-adv. section loss, deterioration, s
1A02 Substructure Condition Rating: 4 - Poor-ad. section loss, deterioration, sp
1A03 Culvert Rating: N - Not applicable

Load Ratings

4R15 Load Rating Review Recommended: Recalc not required
Due To:
IR03 Calculation Date: June 07, 2006
IR02 Rating Approval Date: February 25, 2008

Load Rating Details

LOAD TYPE	IR10 IR LOAD	IR11 OR LOAD	IR05 NBI IND	IR06 RTNG ANAL METH	IR07 CONT MEM TYPE	IR16 ANALYSIS ENGINEER	IR14 AASHTO MANUAL YEAR	IR15 AASHTO SPEC YEAR	IR13 OPR GOV CRITERIA	IR12 INV GOV CRITERIA
1	8	10	0	7	_		1983	1984		
Notes Description:										
2	8	10	1	7	_		1983	1984		
Notes Description:										
8	8	10	0	7	_		1983	1984		
Notes Description:										

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MAINTENANCE NEEDS DATA

Form M

01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

IM01 Type of Work	IM03 Action	IM04 Est Qty	UOM	IM05 Priority	IM06 Date Rec	IM08 Target Year	IM11 Ass. WK
Flexible	62 - A744601-RPR/RPL.TMBR.BEAM	50	EA	2	07/09/2002	0	No

IM07 Status: 0 - Work not planned IM15 Notes: H03 LOCATION: 12345 Converted from BMS - H01 code: A744601

IM09 Location

Flexible	38 - A744801-RPR/RPL.BACKWALL	10	CY	2	07/09/2002	0	No

IM07 Status: 0 - Work not planned IM15 Notes: H03 LOCATION: LNRLFR Converted from BMS - H01 code: A744801

IM09 Location

Flexible	10 - BITWRGS-RPR/RPL.BIT.W.S.	75	SY	3	07/09/2002	0	No

IM07 Status: 0 - Work not planned IM15 Notes: H03 LOCATION: 12345 Converted from BMS - H01 code: BITWRGS

IM09 Location

Flexible	35 - B744301-RPR/RPL.TMBR.DK.	40	SY	2	07/09/2002	0	No

IM07 Status: 0 - Work not planned IM15 Notes: H03 LOCATION: 1234 Converted from BMS - H01 code: B744301

IM09 Location

Flexible	28 - B744802-REPAIR ABUTMENT	20	CY	2	07/09/2002	0	No

IM07 Status: 0 - Work not planned IM15 Notes: H03 LOCATION: LNRLFR Converted from BMS - H01 code: B744802

IM09 Location

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MAINTENANCE NEEDS DATA

Form M

\01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

rlexible	32 - D744802-RPR. PIER	50	CY	2	06/07/2006	0	No

IM07 Status: 0 - Work not planned

IM15 Notes: H03 LOCATION: 1234 Converted from BMS - H01 code: D744802

IM09 Location

Flexible	27 - RDGDERL-CONNECT GDERAIL TO BR	4	EA	1	01/24/1995	0	No

IM07 Status: 0 - Work not planned

IM15 Notes: H03 LOCATION: LNRLFR Converted from BMS - H01 code: RDGDERL

IM09 Location ALL 4 QUADRANTS

Flexible	7 - RLGBRPR-RPR/RPL.BR/PARA.RLG	238	LF	1	07/10/2000	0	No

IM07 Status: 0 - Work not planned

IM15 Notes: TIMBER POSTS W/ TIMBER RAILS, SOME TIMBERS HAVE BEEN REPAIRED & REPLACED, MANY POSTS & PLANKS HAVE MED CRACKING & ROTTING AREAS, MANY POSTS @ F LT END ARE LOOSE & LEANING TO LT 2" +/- SEE PHOTO, MANY POSTS @ N RT END ARE LOOSE & LEANING TO RT 1" +/-

IM09 Location 1,2,3,4,5

.exible	70 - RDLDSGN-RPL.LOAD LIMIT SIGN	1	EA	0	06/04/2007	2008	No

IM07 Status: 5 - Completed/Dept

IM15 Notes: NR

IM09 Location

Flexible	70 - RDLDSGN-RPL.LOAD LIMIT SIGN	1	EA	0	05/05/2009	2008	No

IM07 Status: 5 - Completed/Dept

IM15 Notes: #1 NA #2 FS BRIDGE SITE SIGN IS PRESENT BUT IS ATTACHED TO HAZ CLR SIGN POST; SEE PHOTO; CALLED RAG ON 5-5-09 TO REPORT INCORRECT SIGN #3 See BPOA 101-08-10

IM09 Location F LT BRIDGE SITE

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Current Inspection

7A03 Primary Type: R - Regular (routine)

7A06 Types of Inspections Performed:

NBI	Underwater	Element	Fracture Critical	Other Special
Yes	No	Yes	No	Yes

Inspection Man Hours

6B26	NBI Crew:	0.00	6B30	Underwater:	0.00
6B28	Fracture Critical:	0.00	6B29	Other 1:	0.00
6B27	Crane:	0.00	6B31	Other 2:	0.00

Inspection Costs (Entered to nearest dollar)

6B32	Engineering:	-1	6B33	Rigging:	-1
			6B34	Office:	-1

Special Equip Used:

6B12 Temperature: 84.0 | 6B09 Weather: 1 - Clear

6B03 Inventory Review Recommended: No

Change Notes:

Inspection Team

7A05 Inspected By: 8 - Consulting Firm
7A02 Team Leader: Senate Engineering C Guntrum
6B23 Team Member: Matthew Pitsch E.I.T.
6B24 Hired By: 2
6B25 Insp Contract Num:
2A02 Inspection Notes:

5A01 SR ID: 03722308810003 | 5A03 BR Key: 3298 | 7A01 Inspection Date: April 27, 2011

Next Inspection

7A14 Next Inspection By: 8 - Consulting Firm

6B20 Next Insp Type: I - Interim (special)

Schedule

Insp Types	7A07 Required	7A09 Frequency	7A10 Next Date
NBI	----	24	April 29, 2013
Fractical Critical	No	-1	January 01, 1901
Underwater	No	-1	January 01, 1901
Other Special	No	12	April 27, 2012
Element	----	24	April 29, 2013
Crane	----		6B18 January 01, 1901

6B01 Special InspType: 4 - Problem areas only

Estimated Inspection Man Hours

7A12	NBI Crew:	0.00	7A17	Underwater:	0.00
7A15	Fracture Critical:	0.00	7A16	Other 1:	0.00
7A13	Crane:	0.00	7A18	Other 2:	0.00