BRIDGE SAFETY INSPECTION
STATE PROJECT NO. 170-2729

IN-DEPTH INSPECTION REPORT FOR BRIDGE NO. 00488

CARRYING ROUTE 66
OVER
NEW ENGLAND CENTRAL RAILROAD
WINDHAM, CONNECTICUT

STEEL THRU TRUSS

RECEIVED
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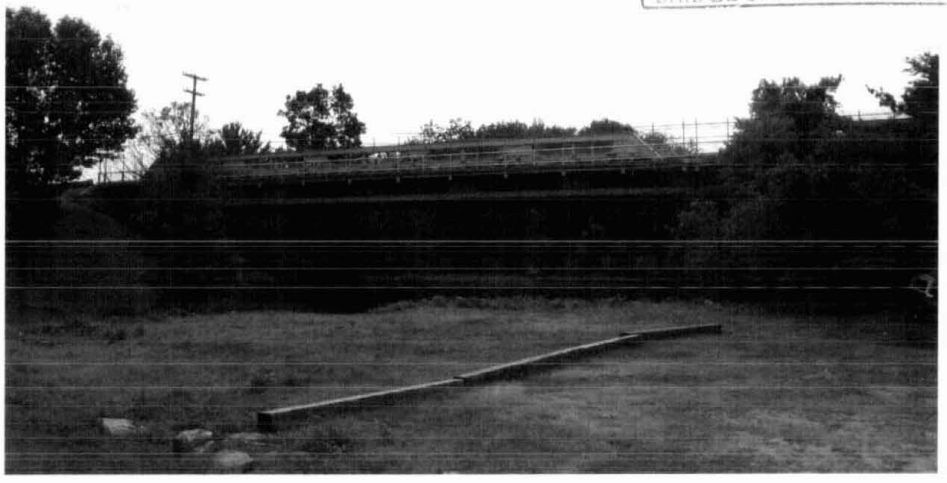
BRIDGE SAFETY & EVALUATION



INSPECTED AUGUST 16, 2007

Prepared by:

AI Engineers, Inc.

919 Middle Street
Middletown, CT 06457

STATE OF CONNECTICUT
ABULKHAIR ISLAM
No. 15180
LICENSED
PROFESSIONAL ENGINEER

01/29/08

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INSPECTION REPORT TRANSMITTAL FORM
Form BRI-27, Rev. 6/00

Structure No.	00488	Town	WINDHAM
Inspection Date	8/16/2007	Inspectors	AI Engineers

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BRIDGE SAFETY & EVALUATION

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Comments:

A Bridge Location Map is Included.

Bridge Number **00488**

Inspected By: R. DIBARTOLOMEO & D. YENUGA

Sufficiency Rating 37
Previous Inspection Date 9/22/2005

BS&E Received ☐ Data Entry By: BBOF
Copies Made ☐ Data Entry Date: 2/11/08

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BRIDGE SAFETY & EVALUATION

STRUCTURE EVALUATION

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

SHEET_____ OF_____ (INSP. REPORT)

90) Inspection Date	Inspection Team	91) Frequency	Class:
08 16 07	20 2 4	24	03
Indepth Insp	**Deck Survey**	**Access**	**Flagman**
11/9/1998 08-16-07		24 2 4	13 1 3

RED FLAG

CRITICAL FEATURE INSPECTIONS

	Type	Frequency	Team	Date	
Fracture:	G	24	78 2 4	9/22/2005	08-16-07
Uwater:					
Special:					

IDENTIFICATION

Bridge Name
Town Name WINDHAM Town Code 86790

5) Inventory Route:
A) Record Type 1
B) Signing Prefix 3 State Highway
C) Level of Service 1 Mainline
D) Route Number 00066
E) Directional Suffix 0 NA

6) Feature Intersected NEW ENGLAND CENTRAL RR

7) Facility Carried ROUTE 66

9) Location RTE 66 0.39 MI W ROUTE 32

11) Milepoint 34.56 Miles
16) Latitude 41 deg 43 min 54.00 sec deg min sec
17) Longitude 72 deg 14 min 24.00 sec deg min sec

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

99) Border Bridge Structure No

STRUCTURE TYPE AND MATERIAL

43) Structure Type, Main:
A) Material 3 Steel
B) Design Type 10 Truss - Thru

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

45) Number of Spans, Main Unit 2
46) Number of Approach Spans 0
107) Deck Structure Type 1 Concrete Cast-in-Place

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

AGE AND SERVICE

27) Year Built 1937
106) Year Reconstructed 1988

42) Type of Service:
A) On 5 Highway-pedestria
B) Under 2 RAILROAD

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

29) Average Daily Traffic 9200 4 2 0 0 Half ADT?: No
109) Percent Truck 3 % 05
30) Year of ADT 2004 2006
19) Bypass, Detour Length 13 miles

GEOMETRIC DATA

48) Length of Max Span 140 ft
49) Structure Length 288 ft
50) Curb or Sidewalk Widths:
A) Left 5.0 ft
B) Right 0.0 ft
51) Brg Rdwy width,curb-curb 29.7 ft 30.0 ft
52) Deck Width, Out-Out 33.7 ft 33.5 ft
32) Approach Roadway Width 37 ft ft
33) Bridge Median 0 No Median
Deck Area 9706 sqft 9648 sq
34) Skew Angle 0 deg
35) Structure Flared 0
10)Inv. Rte. Min. Vert Clearance 99 ft 99 in ft in
47) Log Inv. Rte. Total Horiz Clr.: 29.7 ft 30.0 ft
47) RLog Inv. Rte. Total Horiz. Clr.: ft ft
53) Min Vert Clearance Over Bridge 99 ft 99 in ft in
54) Min Vert Under Clearance R Ref 18 ft 9 in Ref ft in
55) Min Lat Under Clearance on Right R Ref 7.2 ft Ref ft
56) Min Lat Under Clearance on Left 0.0 ft ft

BRIDGE COMMENTS

ITEMS 51, 52, 47 & DECK AREA UPDATED ACCORDING TO REHABILITATION PLANS DATED 1988- PROJECT NO. 163-130

STRUCTURE EVALUATION

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

SHEET_____ OF_____ (INSP. REPORT

Bridge Number	00488	NBIS Length	
Town Name	WINDHAM	Yes 288	
Facility Carried	ROUTE 66		
Feature Crossed	NEW ENGLAND CENTRAL RR		

Inspected By: R. DEBARTOLOMEO & D. YENUGA

CLASSIFICATION

112) NBIS Bridge Length	Yes	
104) Highway System	0	Off System
26) Functional Class	16	Urban Minor Arterial
100) Defense Highway	1	Defense Highway
101) Parallel Structure	N	No parallel structure exists
102) Direction of Traffic	2	2-way traffic
103) Temporary Structure		
110) Designated National Network	0	Not on national network
20) Toll	3	On Free Road
21) Maintain	1	State Highway Agency
22) Owner	1	State Highway Agency
Report Class	S	STATE
37) Historical Significance	5	Bridge is not eligible for National Register

LOAD RATING AND POSTING

31) Design Load	4	Evaluation Code	L	
63) Operating Rating Type	1	Year of Evaluation	1999	
64) Operating Rating	70.9	70) Bridge Posting	5	
65) Inventory Rating Type	1	41) Structure Status	A	A
66) Inventory Rating	42.5	Open, no restriction		

WATERWAY

DrainageBasinCode			
38) Navigation Control			
39) Navigation Vert Clr.		40) Navigation Horiz Clr.	
116) Vert-Lift Brg Nav Min			
111) Pier Abutment Protection			

CONDITION

		Rating	By
58) Deck	6	6	RDB
59) Superstructure	4	4	RDB
60) Substructure	6	6	RDB
61) Channel & Chan. Protection	N	N	RDB
62) Culverts	N	N	RDB

APPRAISALS

		Rating	By
67) Structure Evaluation	4	4	AI
68) Deck Geometry	4	4	RDB
69) Under Clear Vert & Horiz	2	2	RDB
71) Waterway Adequacy	N	N	RDB
72) Approach Rdwy Alignment	8	8	RDB
113) Scour Critical			

Items 58 Thru 72 Checked By: AHS

36) Traffic Safety Features:

A) Bridge Railings	1	1
B) Transitions	0	0
C) Approach Guardrail	0	0
D) Approach Guardrail End	1	0

PROPOSED IMPROVEMENTS

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

List No. 20 Project No. Advertised

OTHER FEATURES

Fence Required	No			Barrel Ladder	No NU
Fence Present	✓ Yes			Stand Pipes	No NU
Fence Height	✓ 8.0 ft		ft	Cat Walks	No NU
Fence Type	✓ 2	Chain Link		Movable Inspection System	No NU
Fence Material	✓ 2	Steel		Loose Concrete Checked?	Yes YES
Fence Top Type	✓ 1	Vertical			

POSTED SIGNS & UTILITIES

Other Posted Signs 1	0	LEAVE FIELDS BLANK			
Other Posted Signs 2	0				
Actual P.L. Single Unit Truck	tons		Actual P.L. 4Axle Truck	tons	
Rec. P.L. Single Unit Truck	tons		Rec. P.L. 4Axle Truck	tons	
Actual P.L. Semi-TrailerTruck	tons		Actual P.L. 3S2 Truck	tons	
Rec. P.L. Semi-TrailerTruck	tons		Rec. P.L. 3S2 Truck	tons	
Rec. P.L. All Vehicles	tons		Actual P.L. All Vehicles	tons	
Posted Vert Clearance On Bridge	ft	in		ft	In
Posted Vert UnderClearance	ft	in		ft	In
Posted Speed Limit	mph				mph
Utility					

INSPECTION COMMENTS

Proposed Next Indepth Insp Year	2007	2017
Senior	consultant	
Supervisor	consultant	

REVIEWED BY (A. Islam) Date 01/29/2008

Structure Inventory and Appraisal Sheet (English Units)

Bridge Key: 00488 Agency ID: 00488 Sufficiency Rating: 0

IDENTIFICATION

State 1: 09 Connecticut Struc Num 8: 00488
Facility Carried 7: ROUTE 66 Location 9: RTE 66 0.39 MI W ROUTE 32
Rte.(On/Under)5A: Route On Structure Rte. Signing Prefix 5B: 3 State Hwy
Level of Service 5C: 1 Mainline Rte. Number 5D: 00066
Directional Suffix 5E: 0 N/A (NBI) % Responsibility : 0
SHD District 2: 02 County Code 3: Windham
Place Code 4: WINDHAM Mile Post 11: 34.553 mi
Feature Intersected 6: CENTRAL VERMONT RAILROAD
Latitude 16: 41d 43' 01" Longitude 17: 072d 14' 24"
Border Bridge Code 98: Unknown (P)
Border Bridge Number 99: NA

INSPECTION

Frequency 91: 24 months Inspection Date 90: 8/16/2007 Next Inspection: 08/16/2009
FC Frequency 92A: 01 months FC Inspection Date 93A: 8/16/2007 Next FC Inspection: 8/16/2009
UW Frequency 92B: NA UW Inspection Date 93B: NA Next UW Inspection: NA
SI Frequency 92C: NA SI Date 93C: NA Next SI: NA
Element Frequency: 24 months Element Inspection Date: 08/16/2007 Next Elem. Insp. Due: 08/16/2009

CLASSIFICATION

Defense Highway 100: 1 STRAHNET hwy Parallel Structure 101: No || bridge exists
Direction of Traffic 102: 2 2-way traffic Temporary Structure 103: Unknown (NBI)
Highway System 104: 1 On the NHS NBIS Length 112: Long Enough
Toll Facility 20: 3 On free road Functional Class 26: 16 Urban Minor Arterial
Historical Significance 37: 5 Not eligible for NRHP
Owner 22: 1 State Highway Agency
Custodian 21: 1 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:
3 Steel 10 Truss-Thru
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: HS23.1 Operating Rating 64: HS38.6
Design Load 31: 4 M 18 (H 20) Posting 70: 5 At/Above Legal Loads
Posting status 41: A Open, no restriction

AGE AND SERVICE

Year Built 27: 1937 Year Reconstructed 106: 1988
Type of Service on 42A: 5 Highway-pedestrian
Type of Service under 42B: 2 Railroad
Lanes on 28A: 2 Lanes Under 28B: 0 Detour Length 19: 13.0 mi
ADT 29: 9,200 Truck ADT 109: 5 % Year of ADT 30: 2006

APPRAISAL

Bridge Rail 36A: 1 Meets Standards Approach Rail 36C: 0 Substandard
Transition 36B: 0 Substandard Approach Rail Ends 36D: 0 Substandard
Str. Evaluation 67: 6 4 Deck Geometry 68: 4 Tolerable
Underclearance, Vertical and Horizontal 69: 2 Intolerable - Replace
Waterway Adequacy 71: N Not applicable Approach Alignment 72: 8 Equal Desirable Crit
Scour Critical 113: N Not Over Waterway

GEOMETRIC DATA

Length Max Span 48: 140.1 ft Structure Length 49: 288.1 ft
Curb/Sdwlk Wdth L 50A: 5.0 ft Curb/Sidewalk Width R 50B: 0.0 ft
Width Curb to Curb 51: 30.0 ft Width Out to Out 52: 33.5 ft
Approach Roadway Width 32: (w/ shoulders) 37.1 ft Median 33: 0 No median
Deck Area: 9,648. sq. ft
Skew 34: 0.00 ° Structure Flared 35: 0 No flare
Minimum Vertical Clearance Over Bridge 53: 328.1 ft
Minimum Vertical Underclearance Reference 54A: R Railroad beneath struc
Minimum Vertical Underclearance 54B: 18.8 ft
Minimum Lateral Underclearance Reference R 55A: R Railroad beneath struc
Minimum Lateral Undrclearance R 55: 7.2 ft
Minimum Lateral Undrclearance L 56: 0.0 ft

PROPOSED IMPROVEMENTS

Bridge Cost 94: $ 1,000 Type of Work 75: 38 Other Structural
Roadway Cost 95: $ 1,000 Length of Improvment 76: 0.3 ft
Total Cost 96: $ 2,000 Future ADT 114: 4,000
Year of Cost Estimate 97: 2000 Year of Future ADT 115: 2019

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:

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
0	14/3	P Conc Deck/AC Ovly	(SF)	9,648	100 %	9,648	0 %	0	0 %	0	0 %	0	0 %	0
0	56/3	Concrete sidewalk	sq.ft	1,442	0 %	0	0 %	0	0 %	0	100 %	1,442	0 %	0
0	121/3	P/Stl Thru Truss/Bot	(LF)	568	30 %	171	30 %	171	30 %	171	10 %	56	0 %	0
0	126/3	P/Stl Thru Truss/Top	(LF)	568	10 %	59	50 %	282	40 %	226	0 %	0	0 %	0
0	152/3	Paint Stl Floor Beam	(LF)	896	38 %	335	4 %	33	41 %	371	17 %	157	0 %	0
0	205/3	R/Conc Column	(EA)	2	50 %	1	50 %	1	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
0	215/3	R/Conc Abutment	(LF)	79	38 %	30	62 %	49	0 %	0	0 %	0	0 %	0
0	305/3	Asphaltic Plug Joint	(LF)	89	80 %	71	0 %	0	20 %	18	0 %	0	0 %	0
0	311/3	Moveable Bearing	(EA)	4	50 %	2	50 %	2	0 %	0	0 %	0	0 %	0
0	313/3	Fixed Bearing	(EA)	4	0 %	0	100 %	4	0 %	0	0 %	0	0 %	0
0	330/1	Metal Rail Uncoated	(LF)	0	100 %	0	0 %	0	0 %	0	0 %	0	0 %	0
0	331/3	Conc Bridge Railing	(LF)	594	100 %	594	0 %	0	0 %	0	0 %	0	0 %	0
0	334/3	Metal Rail Coated	(LF)	315	100 %	315	0 %	0	0 %	0	0 %	0	0 %	0
0	359/3	Soffit Smart Flag	(EA)	1	0 %	0	0 %	0	100 %	1	0 %	0	0 %	0
0	370/3	deck drainage system	(LF)	266	70 %	187	0 %	0	30 %	79	0 %	0	0 %	0

EXECUTIVE SUMMARY
08-16-07

Bridge No. 00488 is a two span structure carrying Route 66 over the New England Central Railroad in Windham, Connecticut. The bridge was built in 1937 and rehabilitated in 1988. The superstructure consists of two riveted fracture critical steel thru trusses and rolled steel floorbeams supporting a reinforced concrete deck with a structure length of 288 feet, a curb to curb width of 30 feet and a 5 foot wide sidewalk along the north side. According to a load rating on file at the Connecticut Department of Transportation that was completed in 1999 using the Load Factor Method the bridge has an AASHTO HS-20 Inventory Rating of 42.5 tons. Although no significant additional deterioration was found during this inspection, it should be noted that the Floorbeam FB13 (end floorbeam at the East Abutment) bottom flange exhibits a 23% painted over area of section loss (no change since 1998) at midspan which may require a re-evaluation . In addition, there is a new maintenance memorandum associated with this report.

An in-depth inspection performed on August 16, 2007 determined that the general overall condition of the bridge is poor (Rating = 4). The deficiencies found on the bridge and recommendations for repairs are as follows:

Deck:

The deck is considered to be in satisfactory condition (Rating = 6).

1. The bituminous concrete overlay exhibits a few random cracks open up to 1/8 inch wide. Repair the cracks as part of routine maintenance.

2. The underside of the concrete deck exhibits random areas of hairline map cracking with and without efflorescence, a few random transverse and longitudinal hairline cracks, some hollow areas and spalls with and without exposed rebar. The deterioration covers 21.1% of the Span 1 deck area, 15.0% of the Span 2 deck area and 18.1% of the total deck area. No recommendations for repairs at this time.

3. The top of the concrete sidewalk displays moderate to heavy scaling, cracking along the concrete lips around the truss members and a few spalls up to 8 in. x 36 in. x 4-1/2 in. deep around the truss members. The underside of the concrete sidewalk has some transverse hairline cracks with and without efflorescence, areas of hairline map cracking with and without efflorescence and several spalls up to 4 in. x 8 in. x 1 in. deep. Repair/patch the spalls. Total 4 CF.

4. There is a gap varying between 1/2 inch and 1 inch between the sidewalk and the interior sidewalk support channel. Shim the gap. Total 200 LBS.

5. The top flange for the interior sidewalk support channel displays several random areas of up to 100% section loss and the top flange for the exterior support channel has several random locations of pack and laminated rust. No recommendations for repairs at this time.

6. Wide flange beams present along side the exterior sidewalk channel in Span 1 Panels 1, 4, 5, 10 and 12 display a gap between the top flange and the underside of the sidewalk and do not appear to carry any load. Shim the gap. Total 200 LBS.

7. The concrete sidewalk along the west approach exhibits cracking and areas of scaling up to 1-1/2 inches deep. Repair the areas of scaling. Total 20 CF.

Deck: - cont'd

8. There are openings along the base of the sloped concrete curbs (designed to allow water to drain from the roadway) which are now partially or totally paved over or clogged with debris as follows:

   - One of five along the south curb in Span 1.
   - Five of five along the north curb in Span 1.
   - Five of five along the south curb in Span 2.

   Remove the obstructions from the openings. Total 11 EA.

9. The asphaltic plug joint at the East Abutment has heaved 2 inches high in the shoulders and there are adhesion separations up to 1 in. x 3 ft. in the shoulder areas. Repair/seal the adhesion separations. Total 8 LF.

10. The asphaltic plug joint at the East Abutment has a 9 in. x 9 ft. x 1 in. deep pothole that has exposed the steel plate under the joint material. The pothole should be repaired and was called into Bridge Safety for repair at the time of the inspection. Total < ¼ TON.

Superstructure:

The superstructure is considered to be in poor condition (Rating = 4).

1. The rocker expansion bearings display evidence of movement at 75 degrees Fahrenheit and the anchor bolt nuts for both the expansion and fixed bearings exhibit up to 100% section loss. Install new anchor bolt nuts. Total 32 EA.

2. The end floorbeams have pitting resulting in section loss of up to 5% along the top flanges and web, and up to 23% along the bottom flanges. Since the end floorbeams are the same size as the interior floorbeams and carry half the dead load of the interior floorbeams, no recommendations for repairs at this time.

3. There is pack rust up to 1-3/8 inch thick between random vertical gusset plates and the trusses and between random batten plates and the lower chord. The pack rust has bent the corners of the gusset plates and caused the batten plates to bow. No recommendations for repairs at this time.

4. The bracing exhibits several random locations of pack rust up to 1-3/4 in. thick between the back to back bracing angles near the truss connections and there is a rust hole in a brace at North Truss Panel Point L3 in Span 2. Repair the hole in the brace angle. Total 100 LBS.

Substructure:

The substructure is considered to be in satisfactory condition (Rating = 6).

1. The abutments display hairline cracking, several cracks open up to 1/16 inch wide, a few hollow areas and some minor spalls. No recommendations for repairs at this time.

2. The wingwalls have extensive map cracking with and without efflorescence, vertical, horizontal, and diagonal cracks up to 1/8 inch wide with and without efflorescence, a few isolated hollow areas of up to 1 ft. x 3 ft. and a few spalls of up to 10 in. x 2 ft. x 3 in. deep. No recommendations for repairs at this time.

Substructure: - cont'd

3. There are erosion areas along the base of the Southwest and Northeast Wingwalls that has undermined the walls by up to 1 ft. high x 2 ft. long x 1 ft. deep. Fill the areas of erosion with suitable material. Total ½ CY.

Approaches:

The approaches are considered to be in satisfactory condition (Rating = 6).

1. The northeast metal beam rail has approximately 20 feet of collision damage and a damaged end terminal. Repair the guide rail. Total 25 LF.

2. The bituminous concrete pavement exhibits some random cracks open up to 1/2 inch wide along both approaches. Repair the cracks as part of routine maintenance.

Connecticut Department of Transportation

Bridge Inspection Report BRI-18

BRIDGE #: 00488 **INSPECTION DATE:** 8/16/2007

INSPECTION TYPE: Indepth **PREVIOUS INSPECTION DATE:** 9/12/2005 **SNOOPER REQUIRED:** No

INSPECTION PERFORMED BY: AI Engineers **SNOOPER USED:** No

TOWN: WINDHAM **FEATURE CARRIED:** ROUTE 66 **YEAR BUILT:** 1937

LOCATION: RTE 66 0.39 MI W ROUTE 32 **FEATURE INTERSECTED** NEW ENGLAND CENTRAL RR **YEAR REBUILT:** 1988

MAIN MATERIAL: Steel **MAIN DESIGN:** Truss - Thru

INSPECTION VISITS:

Inspection Date:	8/16/2007	Start Time:	8:15 AM
Temperature:	70 °F	End Time:	2:45 PM
Inspection Date:	8/23/2007	Start Time:	8:15 AM
Temperature:	75 °F	End Time:	4:00 PM
Inspection Date:	9/10/2007	Start Time:	8:45 AM
Temperature:	75 °F	End Time:	2:15 PM

INSPECTORS:

Inspector:	R. Di Bartolo	Task:	Team Leader
Inspector:	D. Yenuga	Task:	Assistant Team Leader
Inspector:	M. Iqbal	Task:	Assistant Team Leader

58. DECK

The overall condition rating for the deck is considered to be satisfactory.

OVERALL RATING 6

	RATING	
OVERLAY	7	Bituminous Concrete with Membrane Waterproofing - The overlay exhibits light wear and a few random cracks open up to 1/8 inch wide. See Field Note Sheets 4 thru 6 and Photo No. 8.
DECK STR. CONDITION	6	The underside of the concrete deck exhibits random areas of hairline map cracking with and without efflorescence, a few random transverse and longitudinal hairline cracks, some hollow areas and spalls with and without exposed rebar. The spalls and hollow areas are mainly along the floorbeam haunches with the spalls being up to 13 feet long and up to 2 inches deep and the hollow areas being up to 5 in. x 24 ft. (See Photo Nos. 10 and 11). The underside of deck deterioration covers 21.1% of the Span 1 deck area, 15.0% of the Span 2 deck area and 18.1% of the total deck area. See Field Note Sheets 13 thru 18A.
CURBS	7	Sloped Concrete Curbs Monolithic with the Parapets - The curbs display random vertical hairline cracks with and without efflorescence (See Photo No. 12). Rating revised from "N" to "7". See Field Note Sheets 4 thru 6. Average Curb Reveal: 0 inches (which is also in accordance with the drawings). Granite Transition Curbs - The southwest curb displays some settlement. See Field Note Sheets 4 and 5 and Photo No. 13.
MEDIAN	N	
SIDEWALKS	3	Concrete Sidewalk along the North Truss - The top of the sidewalk displays moderate to heavy scaling, cracking along the concrete lips around the truss members and a few spalls up to 8 in. x 36 in. x 4-1/2 in. deep around the truss members (See Photo Nos. 15 and 16). In addition, the concrete lips around the truss members are breaking away at several locations and there are random concrete patches throughout. The underside of the sidewalk has some transverse hairline cracks with and without efflorescence, areas of hairline map cracking with and without efflorescence and several spalls up to 4 in. x 8 in. x 1 in. deep (See Photo No. 17). In addition, there is a gap varying between 1/2 inch and 1 inch between the sidewalk and the interior sidewalk support channel. See Field Note Sheets 4 thru 6 and 13 thru 17. Sidewalk Support Channels - The top flange for the interior channel displays several random areas of up to 100% section loss (areas below the gap with the sidewalk as noted above) and the top flange for the exterior channel has several random locations of pack and laminated rust (See Photo No. 19). D-meter readings were taken along the top flanges of these channels to confirm previously noted section loss. The worst location of section loss has not changed and is still located at Panel 1 in Span 1, with up to 1 inch loss of width and an average remaining flange thickness of 0.096" (0.375" x 2.435" original). Wide flange beams present along the exterior channel in Span 1 Panels 1, 4, 5, 10 and 12 display a gap between the top flange and the underside of the sidewalk and do not appear to carry any load. For this reason the condition rating is being held at "3." See Field Note Sheets 19 thru 23.

BRIDGE #: 00488 **INSPECTION DATE:** 8/16/2007

58. DECK

The overall condition rating for the deck is considered to be satisfactory. **OVERALL RATING** 6

Approach Sidewalk - The concrete sidewalk along the west approach exhibits cracking, areas of scaling up to 1-1/2 inches deep and some patches (See Photo No. 18). The bituminous sidewalks along both approaches have some cracks and the east sidewalk is generally bumpy and uneven. See Field Note Sheets 4 thru 6.

PARAPET	7	Concrete Jersey Type Parapet - The parapet exhibits random vertical and horizontal hairline cracks with and without efflorescence and there is a 7 in. x 9 in. x 1-1/2 in. deep spall at east end of the south parapet which has exposed a portion of a metal beam rail anchor bolt. See Field Note Sheets 4 thru 6 and Photo No. 12.
RAILING	7	There is a painted metal picket type railing behind an 8 foot chain link fence along the north side of the sidewalk and a handrail attached to the north side of the North Truss. The picket rail has some minor random locations of peeling paint and spotty areas of light rust. The handrail has several random locations of pack rust up to 5/16 inch thick between the channel and truss members at the clip angle connections. See Field Note Sheets 4, 5 and 7 and Photo No. 14.
PAINT	N	The condition of the rail paint previously noted in this section is included in the Item 58 section entitled "Railing". Rating revised from "7" to "N".
FENCE	8	There is an 8 foot high chain link fence along the sidewalk in front of the picket railing. The chain link fence posts are strapped to the picket rail posts rather than being anchored to the sidewalk. No deficiencies noted. See Field Note Sheet 7 and Photo No. 14.
DRAINS	5	1-1/2 inch diameter PVC Pipes from the Sidewalk to the Roadway through the North Parapet - The pipes allow drainage from the sidewalk (See Photo No. 12). No deficiencies noted. See Field Note Sheet 7. Scuppers - There are openings along the base of the sloped concrete curbs (designed to allow water to drain from the roadway) which are now partially or totally paved over or clogged with debris as follows (See Photo No. 20): - One of five along the south curb in Span 1. - Five of five along the north curb in Span 1. - Five of five along the south curb in Span 2. In addition, some of the drain pipes below the deck are steel and display moderate rust. See Field Note Sheets 4, 5 and 7.
LIGHTING STANDARD	N	
UTILITIES TYPE/SIZE	N	The overhead telephone lines suspended over the south trusses previously noted as touching the top chord near the pier area have been raised several feet above the chord. See Field Note Sheet 7.
CONSTRUCTION JOINTS	N	
EXPANSION JOINTS	5	Asphaltic Plug Joints at both Abutments and the Pier - The asphaltic plug joints exhibit several adhesion separations up to 1 in. x 3 ft. in the shoulder areas and the plug material has heaved approximately 2 inches high in both shoulders at the East Abutment. In addition, there is some evidence of past leaking on the substructure and the plug joint at the East Abutment has a 9 in. x 9 ft. x 1 in. deep pothole that has exposed the steel plate under the joint material (See Photo No. 21). The pothole was called into Bridge Safety at the time of the inspection. See Field Note Sheets 4, 5 and 7.

59. SUPERSTRUCTURE

The overall condition rating for the superstructure is considered to be poor. **OVERALL RATING** 4

	RATING	
BEARING DEVICES	5	Rocker Expansion Bearings at both Abutments - The bearings display evidence of movement and are in expansion mode at 75 degrees fahrenheit. In addition, the anchor bolt nuts display up to 100% section loss and there is laminated rust and debris under the rockers. See Field Note Sheets 11 and 12 and Photo Nos. 22 and 23. Fixed Bearings at the Pier - There are random locations of laminated rust with up to 1/8 inch deep pitting on the masonry plates, locations of pack rust up to 1/4 inch thick between the vertical plates and up to 100% section loss on the anchor bolt nuts. See Field Note Sheets 28 and 29 and Photo Nos. 24 and 25.

BRIDGE #: 00488 **INSPECTION DATE:** 8/16/2007

59. SUPERSTRUCTURE The overall condition rating for the superstructure is considered to be poor. **OVERALL RATING** 4

STRINGERS	N	
GIRDERS	N	
FLOOR BEAMS	4	End Floorbeams - There are random locations of light to moderate rust and pitting resulting in section losses of, up to 5% along the top flanges and webs and up to 23% along the bottom flanges. See Field Note Sheets 26, 28, 29 and 31 and Photo No. 26. Interior Floorbeams - There are locations of pack rust up to 1/2 inch thick between the top flange and the concrete deck (primarily near the ends where they are more exposed to the weather) and locations of pitting up to 3/16 inch deep (mainly at the connections to the trusses). See Field Note Sheets 26 thru 31.
TRUSSES-GENERAL	5	Warren Pony Trusses - There is pack rust up to 1-3/8 inches thick between the upper and lower chord vertical gusset plates and the truss diagonals which has bent the plate corners outward and between the lower chord channels and battten plates which has caused the batten plates to bow out up to 3/4 in. (See Photo Nos. 27 thru 29). Random pitting up to 3/16 in. deep (1/8 inch deep at most locations) is present along the lower chord top flanges, at a few batten plates and at some gusset plates. In addition, the South Truss lower chord has an isolated location of 1/4 inch deep section loss along both bottom flanges at Panel Point L8 in Span 1 and there are a few isolated rust through holes up to 3-1/2 in. x 14 in. (at North Truss Panel Point L13 in Span 2) in the truss lower chord cover plates. See Field Note Sheets 32 thru 44 and Photo No. 30.
TRUSSES-PORTALS	N	
TRUSSES-BRACING	5	The bracing exhibits several random locations of pack rust up to 1-3/4 in. thick between the back to back bracing angles near the truss connections and random areas of pitting up to 1/8 inch deep (See Photo No. 31). In addition, there is a rust hole in the bracing angle at the North Truss Panel Point L3 in Span 2 and there are locations of pack rust of up to 5/8 inch thick between the bracing connection plate, the floorbeam bottom flange and the truss lower chord flange. See Field Note Sheets 26 thru 31 and Photo No. 32.
PAINT	5	There are random locations of peeling paint and light to moderate rust with isolated locations of laminated rust covering approximately 10% of the painted surfaces. See Photo Nos. 9 and 22 thru 32.
RUST	6	See the Item 59 sections entitled "Bearing Devices", "Floorbeams", "Trusses-General", "Trusses-Bracing" and "Paint".
MACHINERY MOV SPAN	N	
RIVETS & BOLTS	7	A few random rivets have light to moderate rust and some rivets have been previously replaced with bolts.
WELDS & CRACKS	7	The truss lower chords, truss vertical/diagonal tension members and the floorbeams are considered to be fracture critical.
TIMBER DECAY	N	
CONCRETE CRACKING	N	
COLLISION DAMAGE	8	
MEMBER ALIGNMENT	8	
DEFLECT. UNDER LOAD	N	(N) Normal (E) Excessive
VIBR. UNDER LOAD	N	(N) Normal (E) Excessive
STAND PIPES	N	
BARREL LADDERS	N	

ARE BARREL LADDERS OSHA COMPLIANT? NA

60. SUBSTRUCTURE The overall condition rating for the substructure is considered to be satisfactory. **OVERALL RATING** 6

BRIDGE #: 00488 **INSPECTION DATE:** 8/16/2007

60. SUBSTRUCTURE The overall condition rating for the substructure is considered to be satisfactory. **OVERALL RATING** 6

	RATING	
ABUTMENTS-STEM	6	West Abutment - The stem exhibits vertical and horizontal hairline cracks, three 1/16 inch wide cracks, some patches and several areas of hairline map cracking (some in patches). In addition, there are two hollow areas up to 2 ft. x 2 ft. and a 6 in. x 24 in. x 1/2 in. deep spall. See Field Note Sheet 45. East Abutment - The stem displays vertical and horizontal hairline cracks, some patches and areas of hairline map cracking (some in patches). In addition, there is a 1 ft. x 4 ft. hollow area on the seat adjacent to the North Truss. See Field Note Sheet 46 and Photo No. 33.
ABUTMENTS-BACKWALL	7	The backwalls exhibit some random vertical hairline cracks up to full height with and without efflorescence, two horizontal hairline cracks and an isolated 4 in. x 18 in. x 1 in. deep spall along the top of the West Abutment at the south end. See Field Note Sheets 45 and 46.
ABUTMENTS-FOOTINGS	N	Not visible.
ABUT.-SETTLEMENT	8	
ABUTMENTS-WINGWALLS	6	The wingwalls have extensive map cracking with and without efflorescence, vertical, horizontal, and diagonal cracks up to 1/8 inch wide with and without efflorescence and a few isolated hollow areas of up to 1 ft. x 3 ft. (at the Southwest Wingwall). In addition, there are a few spalls of up to 10 in. x 2 ft. x 3 in. deep (at the Southeast Wingwall). Previously noted 5/16 in. lateral misalignment between the abutment stem and the Northwest Wingwall (measured at the chisel mark monitoring point located 4 feet up from the ground at the expansion joint) has not changed since last inspection. See Field Note Sheets 47 thru 49 and Photo No. 34.
PIERS/BENTS-CAPS	7	Deterioration previously noted in this section is included in the Item 60 section entitled "Piers/Bents-Columns". Rating revisaed from "7" to "N".
PIERS/BENTS-PILE BENT	N	
PIERS/BENTS-COLUMN	7	South Column - The column displays a few random vertical hairline cracks up to 7 feet long with and without efflorescence, a 1.5 ft. x 2 ft. hollow patch with hairline map cracking and a 3 in. x 6 in. x 1/2 in. deep spall. In addition, the top of the column has a 1/32 in. x 18 in. long crack at the north face (which extends up to and under the bearing masonry plate), a 1 ft. x 2.5 ft. area of heavy scaling and some minor edge spalls. See Field Note Sheets 50 and 51. North Column - The column exhibits light scale throughout with a 2 ft. x 6 ft. area of moderate to heavy scale. See Field Note Sheet 51 and Photo No. 35.
PIERS/BENTS-FOOTINGS	6	Bases of concrete columns visible. South Column - The base has extensive areas of map cracking with and without efflorescence with some cracks open up to 1/8 inch and a few vertical hairline cracks. In addition, there is some moderate scaling along the top of the base and a 3 in. x 5 in. x 1/2 in. deep spall. See Field Note Sheet 50. North Column - The base displays a few cracks open up to 1/16 inch wide and 6 in. x 10 in. x 2-1/2 in. deep spall. See Field Note Sheet 51.
PIERS/BENTS-SETTLEMent	8	
EROSION-SCOUR	6	Erosion areas exist along the base of the Southwest and Northeast Wingwalls that has undermined the walls by up to 1 ft. high x 2 ft. long x 1 ft. deep. See Field Note Sheet 49.
CONCRETE CRACK-SPALL	6	See Item 60 sections entitled "Abutments-Stem", "Abutments-Backwalls", "Abutments-Wingwalls", "Piers/Bents-Columns" and "Piers/Bents-Footings".
STEEL CORROSION	N	
PAINT	N	
TIMBER DECAY	N	
COLLISION DAMAGE	8	
DEBRIS	6	There is light to moderate sand and debris on West Abutment and pier seats with a heavy accumulation of sand on the East Abutment seat. See Photo No. 36.

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BRIDGE #: 00488 **INSPECTION DATE:** 8/16/2007

61. CHANNEL PROTECTION **OVERALL RATING** N

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

APPROACH CONDITION The overall condition rating for the approaches is considered to be satisfactory. **OVERALL RATING** 6

	RATING	
APPROACH SLAB	N	
RELIEF JOINTS	N	
APPROACH GUIDE RAIL	6	There is metal beam rail along both sides of the approaches. The northeast rail has approximately 20 feet of collision damage and a damaged end terminal. See Field Note Sheets 4, 5 and 8 and Photo No. 38.
APPROACH PAVEMENT	6	The bituminous concrete pavement exhibits some random cracks open up to 1/2 inch wide and there are two potholes up to 30 in. x 48 in. x 4 in. deep in the driveway (Recycling Way) for the Willimantic Waste Paper Company at the transition to the east approach. See Field Note Sheets 4, 5 and 8 and Photo No. 37.
APPROACH EMBANKMENT	7	The embankments are steep and covered with a moderate amount of grass and vegetation. There is a 2 ft. diameter x 1 ft. deep erosion hole at the utility pole behind the southwest transition curb. See Field Note Sheets 4 and 5.

TRAFFIC SAFETY FEATURES:

BRIDGE RAILINGS	1	
TRANSITIONS	0	Does not meet RB 350 Standards.
APPROACH GUARDRAILS	0	Does not meet RB 350 Standards.
APPR. GUARDRAIL ENDS	0	Does not meet RB 350 Standards.

LOAD POSTING

SINGLE UNIT (TONS)		
HS (TONS)		
4 AXLE (TONS)		
3S2 (TONS)		
ADVANCE WARNING Y/N	N	
LEGIBILITY	N	
VISIBILITY/LOCATION	N	

MISC.

MIN VERT. UNDERCLR.	18' 9"	
POSTED CLR. UNDER BRIDGE	' "	
POSTED CLR. ON BRIDGE	' "	
ADVANCE WARNING (Y/N)	No	
SPEED LIMIT (IF ANY)	MPH	
CHARACTER OF TRAFFIC	Moderate/mixed - Many trucks use Recycling Way (a driveway at the east approach) to go to the Willimantic Waste Paper Recycling plant.	

ADDITIONAL NOTES

- The Bridge Identification Number is in good condition.
- Bridge logged from west to east, which is consistent with previous reports and rehabilitation plans.
- A 50 foot high rail lift, 60 foot Manlift and extension ladders were used to inspect the bridge.

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BRIDGE #: 00488 **INSPECTION DATE:** 8/16/2007

Note: The ground along the north side of the bridge is very soft and it is likely that inspection vehicles will get stuck.
- Flagman is required.
- The Willimantic Waste Paper Co. (860) 423-4527 should be contacted prior to inspection to verify that rail cars are not being stored under the bridge.
- There is a new maintenance memorandum associated with this report.

ADDITIONAL COMMENTS:

See the Report Table of Contents.

Inspectors' Signatures:

1) Roy P. Bartolomeo ROY DI BARTOLOMEO **Date:** 01/29/08

2) for Durga Yenuga **Date:** 01/29/08

3) **Date:** __/__/__

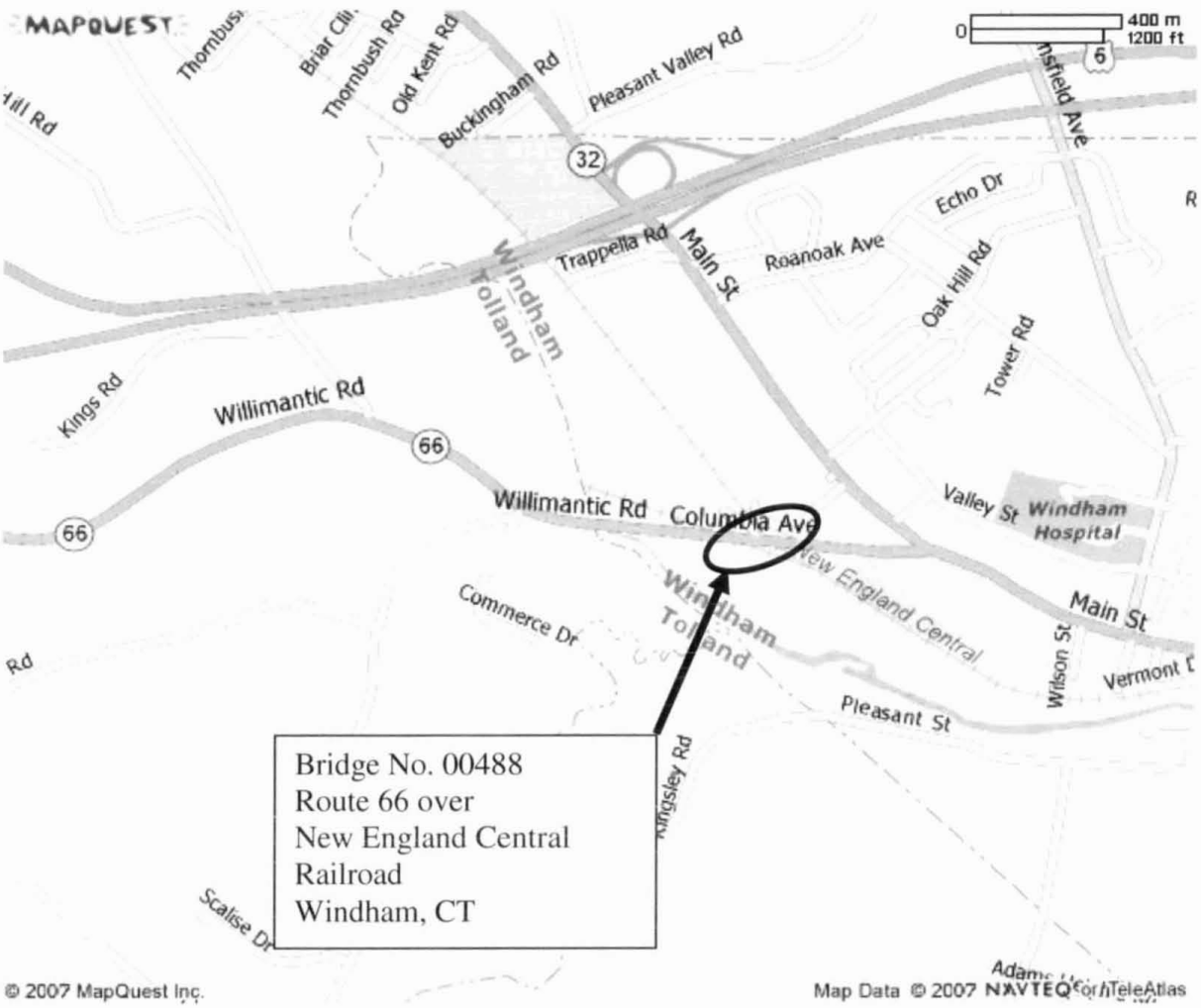
4) **Date:** __/__/__

P.E. Signature: **Date:** 01/29/08

P.E.#: 15180

Reviewed by: CDOT **Date:** 2/9/08

LOCATION MAP



AI Engineers, Inc.	JOB NO: 170-2729	BRIDGE NO: 00488
SUPPLEMENTAL SHEET	DATE: See below	SHEET 1 OF 61
DESCRIPTION: Time log		

		DESCRIPTION	TIME AT SITE		
DATE:	08/16/07				
WEATHER:	70°F cloudy	CREW:	RDB, DY	8:15 AM	to 2:45 PM
EQUIP. LIST	AI PICK UP '06	~~SNOOPER~~	55' HI-RAIL (LAUGENI)	9:15 AM	to 10:15 AM
		BACKUP TRUCK:	—	—	to —
		RR FLAGMAN:	JACK DODD (ECI)	8.00 AM	to 10.30 AM
VISITOR:		TROOPER	—	—	to —

TC & NOTES: NO TC REQUIRED. Top of deck, wingwalls completed flagman was not aware of Hi-rail mounted on the track & he don't have the keys to open the gates.

		DESCRIPTION	TIME AT SITE		
DATE:	08-23-07				
WEATHER:	CLOUDY 75°F	CREW:	RDB, DY, MAI	8:15 AM	to 4:00 PM
EQUIP. LIST	AI - CHEVY VAN	SNOOPER	55' HI-RAIL (LAUGENI)	8:30 AM	to 4:00 PM
		~~BACKUP TRUCK~~:	60' MAN LIFT (MAZZUMA)	9:45 AM	to
		RR FLAGMAN:	JACK DODD (ECI)	8:30 AM	to 4:00 PM
VISITOR:	CHARLES PURDELL - (CDOT) 10:30 AM - 11:45 AM	TROOPER	—	—	to —

TC & NOTES: NO TC REQUIRED - INSPECTED 100% OF SPAN 1 AND 50% OF SPAN 2

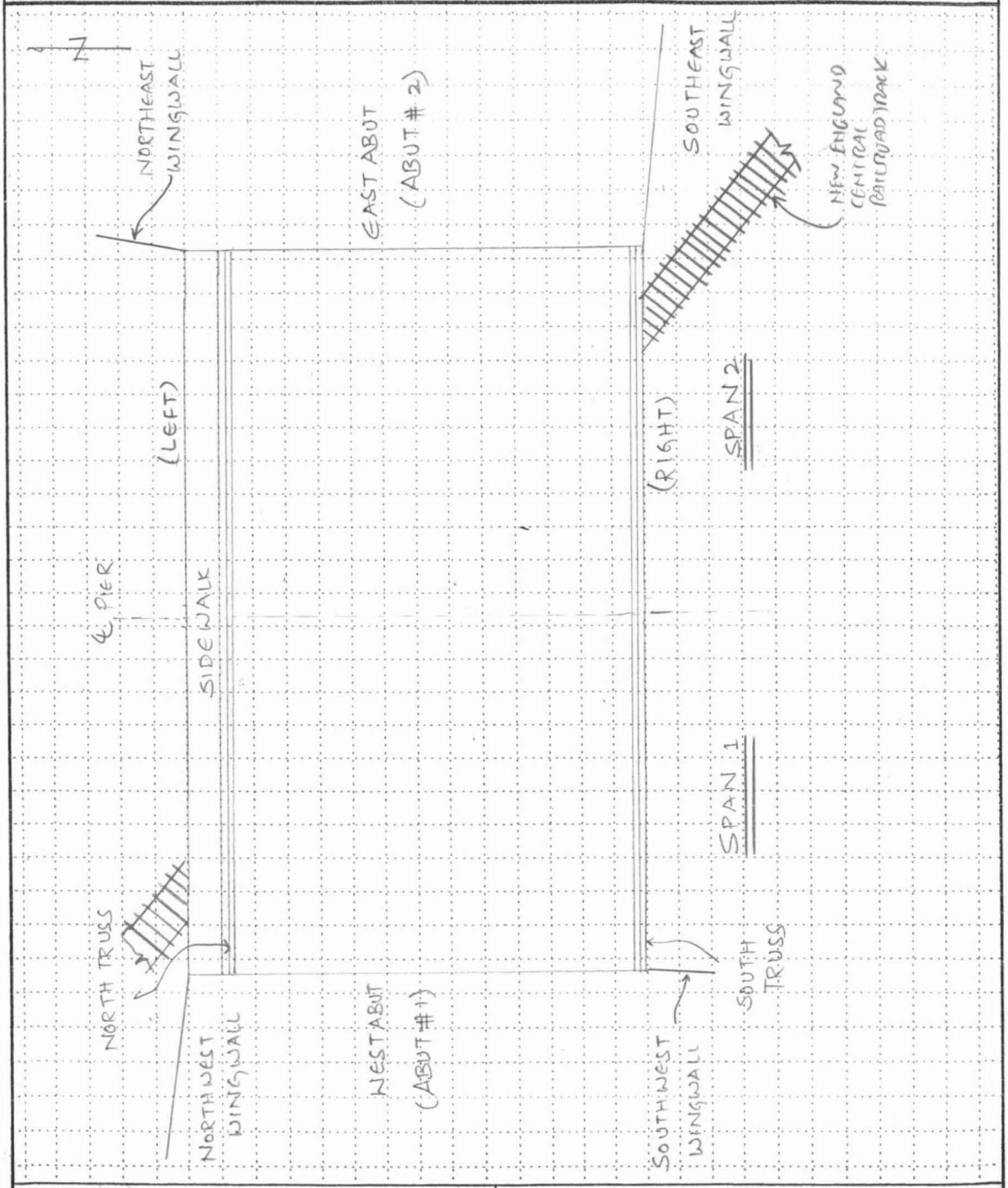
		DESCRIPTION	TIME AT SITE		
DATE:	09-10-07				
WEATHER:	75°F cloudy	CREW:	RDB, DY	8:45 AM	to 2:15 PM
EQUIP. LIST	AI - WHITE VAN	~~SNOOPER~~	55' HI-RAIL (LAUGENI)	8.30 AM	to 1:30 PM
		BACKUP TRUCK:	—	—	to —
		RR FLAGMAN:	Jack Dodd (ECI)	8:30 AM	to 1:30 PM
VISITOR:		TROOPER	—		to

TC & NOTES: NO TC REQUIRED - COMPLETED UNDERSIDE OF SPAN 2 AND SUBSTRUCTURE - INSPECTION COMPLETED

		DESCRIPTION	TIME AT SITE		
DATE:					
WEATHER:		CREW:			to
EQUIP. LIST		SNOOPER			to
		BACKUP TRUCK:			to
		RR FLAGMAN:			to
VISITOR:		TROOPER			to

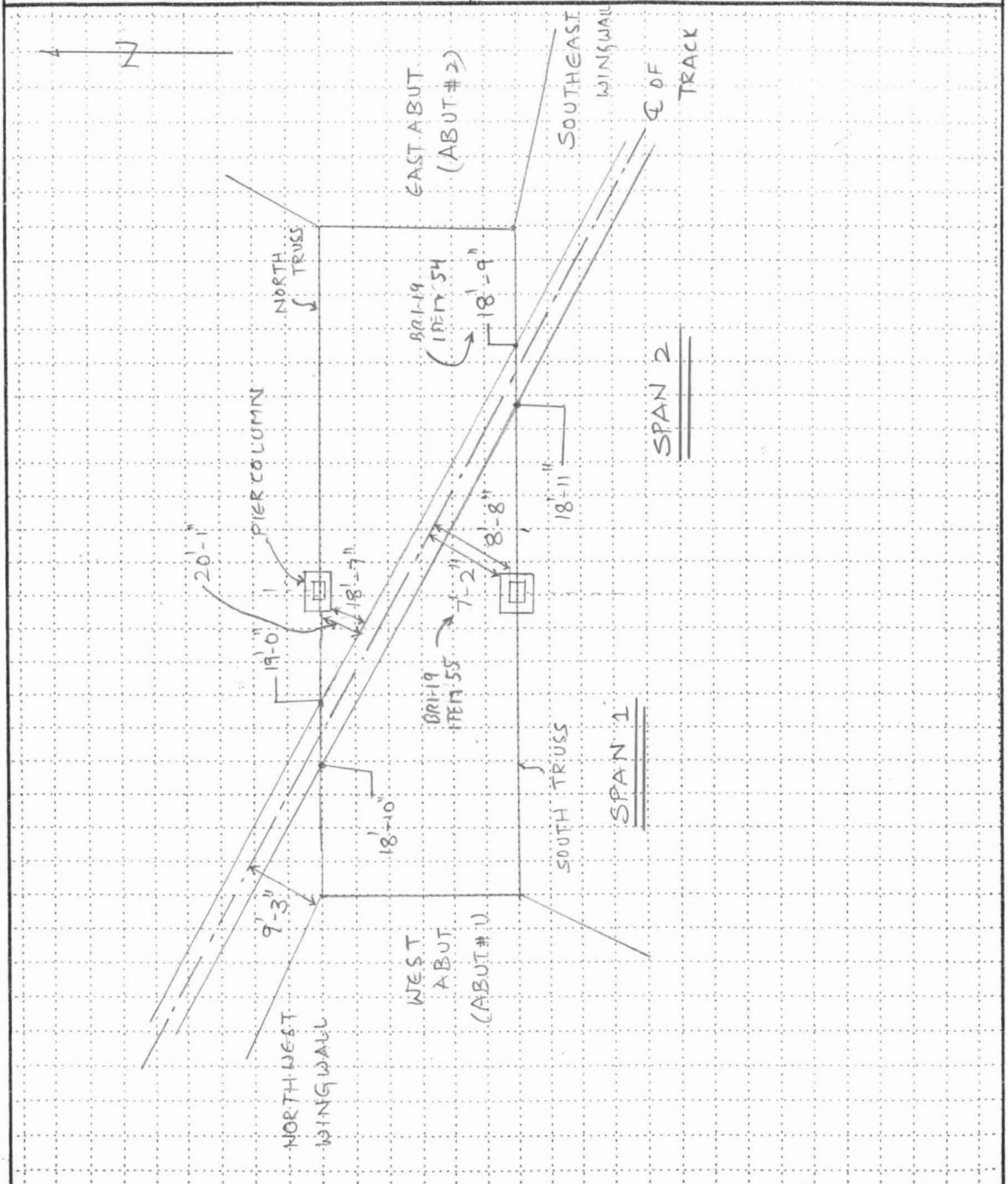
TC & NOTES:

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 8/16/07	SHEET 2 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: KEY PLAN		

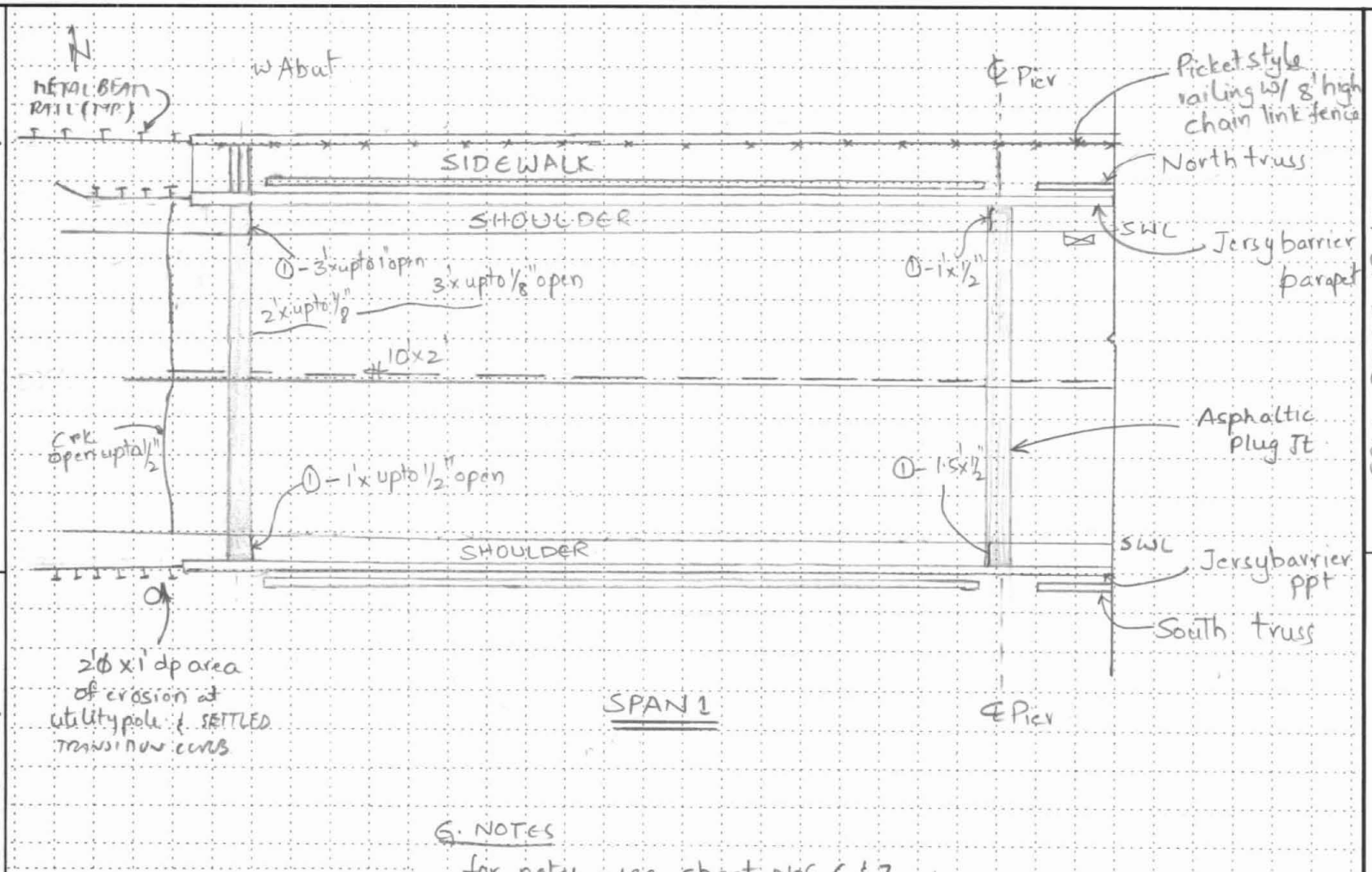


Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729.	BRIDGE NO: 00488
	DATE: 8/16/07	SHEET 3 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: CLEARANCE DIAGRAM		



Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company



G. NOTES

for notes - see sheet Nos. 6 & 7

LEGEND

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

DETERIORATION NOTES

① ADHESION SEPARATION - SIZE NOTED

Revision	Date	Crew	Company
Revision	Date	Crew	Company
Revision	Date	Crew	Company
Revision	Date	Crew	Company

AI Engineers, Inc.

DESCRIPTION: TOP OF DECK NOTES

FIELD NOTES

JOB NO. 170-2729

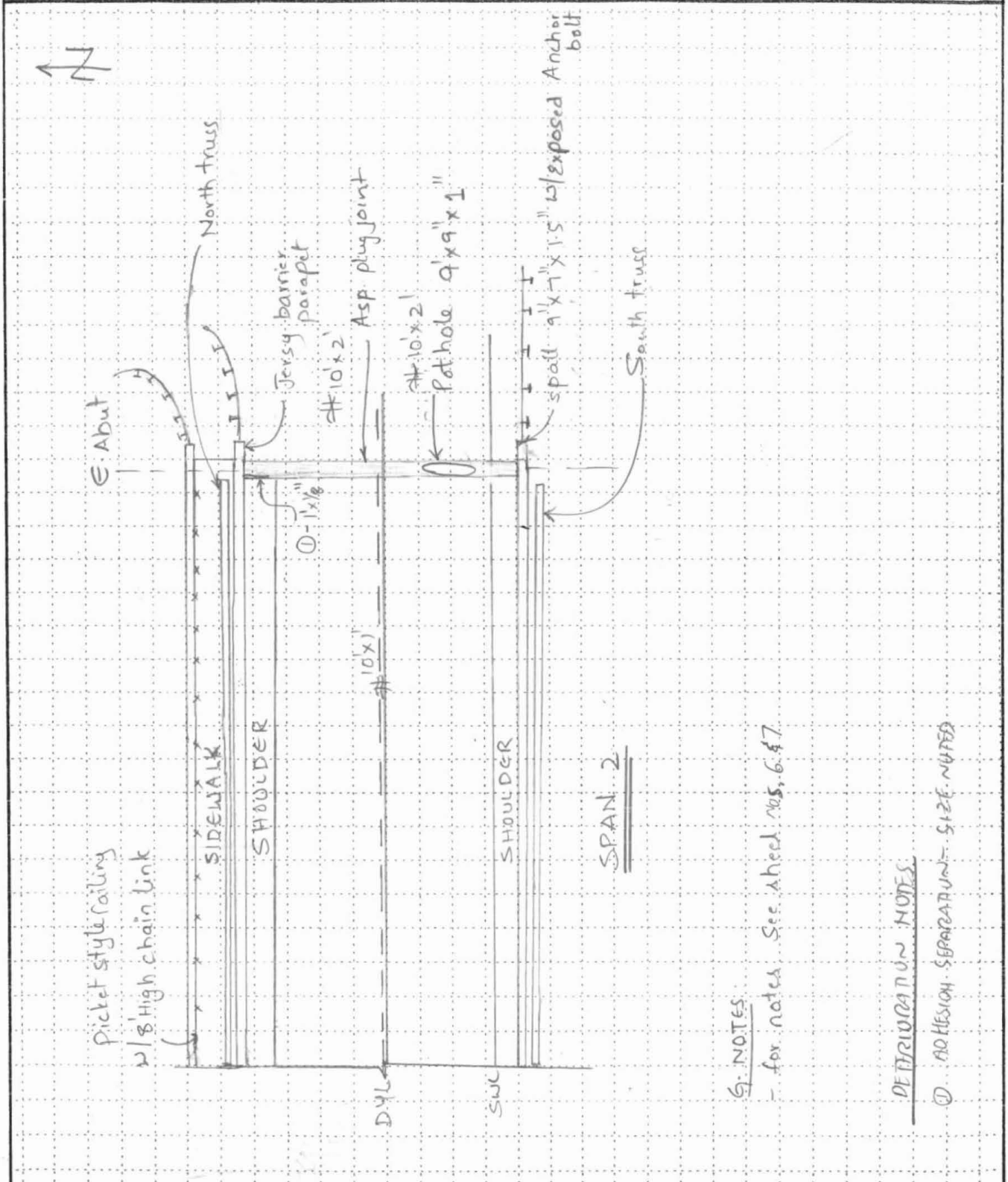
BRIDGE NO: 00488

DATE: 08/16/07

SHEET 4 OF 61

CREW: RDB, DY

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/16/07	SHEET 5 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: TOP OF DECK NOTES		



G. NOTES
- for notes See sheet nos. 6 & 7

DETERIORATION NOTES
① ADHESION SEPARATION - SIZE NOTED

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08-16-07	SHEET 6 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: TOP OF DECK NOTES		

NOTES

(A) BITUMINOUS CONCRETE OVERLAY - THE OVERLAY DISPLAYS LIGHT WEAR AND A FEW RANDOM CRACKS OPEN UP TO 1/8" WIDE.

(B) SLOPED CONCRETE CURBS MONOLITHIC WITH THE PARAPETS - THE CURBS EXHIBIT VERTICAL HAIRLINE CRACKS AT RANDOM LOCATIONS WITH AND WITHOUT EFFLORESCENCE

(C) CONCRETE BRIDGE SIDEWALK ALONG THE NORTH SIDE - THE SIDEWALK EXHIBITS MODERATE TO HEAVY SCALING, CRACKING ALONG THE CONCRETE LIPS AROUND THE TRUSS MEMBERS AND A FEW SPALLS UP TO 8" x 36" x 4½" DEEP AROUND THE TRUSS MEMBERS. IN ADDITION, THERE ARE RANDOM PATCHES AND THE LIP IS BREAKING AWAY AT A FEW RANDOM LOCATIONS AROUND THE TRUSS WEB MEMBERS.

CONCRETE APPROACH SIDEWALK ALONG THE NORTH SIDE OF THE WEST APPROACH - THE SIDEWALK HAS CRACKING, AREAS OF HEAVY TO SEVERE SCALING UP TO 1½" DEEP 20% OF ITS SURFACE AND SOME PATCHES

BITUMINOUS APPROACH SIDEWALK ALONG NORTH SIDE OF BOTH APPROACHES - BOTH SIDEWALKS HAVE SOME CRACKS AND THE WEST SIDEWALK IS GENERALLY BUMPY AND UNEVEN.

(D) CONCRETE JERSEY TYPE PARAPETS ALONG THE INSIDE OF BOTH TRUSSES - THE PARAPETS EXHIBIT VERTICAL AND HORIZONTAL HAIRLINE CRACKS WITH AND WITHOUT EFFLORESCENCE OR MINOR RUST STAINS. IN ADDITION, THERE IS A 7" x 9" x 1½" DEEP SPALL AT THE EAST END OF THE SOUTH PARAPET THAT HAS EXPOSED A GUARDRAIL TRANSITION ANCHOR BOLT.

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08-16-07	SHEET 7 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: TOP OF DECK NOTES		

NOTES - CONT'D

(E) THERE IS A PIPE RAIL WITH PICKETS BETWEEN THE TOP AND BOTTOM RAIL ALONG THE NORTH SIDE - THE RAIL DISPLAYS SOME MINOR LOCATIONS OF LIGHT RUST COVERING LESS THAN 2% OF ITS SURFACES. THE RAIL IS PAINTED

(F) THERE IS AN 8' HIGH GALVANIZED CHAIN LINK FENCE IN FRONT OF THE RAIL ALONG THE NORTH SIDE - THE POSTS ARE STRAPPED TO THE FENCE POSTS AND ARE NOT ANCHORED TO THE SIDEWALK. NO SIGNIFICANT DEFICIENCIES NOTED

(G) 1½" DIAMETER PVC PIPES FROM THE SIDEWALK THROUGH THE PARAPET TO ALLOW WATER TO DRAIN ONTO THE ROADWAY. NO SIGNIFICANT DEFICIENCIES NOTED

THERE ARE OPENINGS AT THE BASE OF THE SLOPED CONCRETE CURB ORIGINALLY DESIGNED TO ALLOW WATER TO DRAIN FROM THE ROADWAY WHICH ARE NOW COVERED WITH DEBRIS OR OVERLAY AS FOLLOWS

- ONE OF FIVE ALONG THE SOUTH CURB IN SPAN 1
- ALL FIVE ALONG THE NORTH CURB IN SPAN 1
- ALL FIVE ALONG THE NORTH CURB IN SPAN 2

(H) OVERHEAD UTILITY WIRES PREVIOUSLY NOTED AS TOUCHING THE SOUTH TRUSS TOP CHORD ARE NOW SEVERAL FEET ABOVE THE CHORD

(I) THERE ARE ASPHALTIC PLUG JOINTS AT THE PIER AND BOTH ABUTMENTS THE JOINTS DISPLAY SEVERAL ADHESION SEPARATIONS AND THE JOINT AT THE EAST ABUTMENT HAS A 9"x9'x1" DEEP POTHOLE THAT HAS EXPOSED THE STEEL PLATES. IN ADDITION, THE JOINT AT THE EAST ABUTMENT HAS HEAVED UP TO 2" IN BOTH SHOULDERS

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08-16-07	SHEET 8 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: TOP OF DECK NOTES		

NOTES - CONT'D

(I) BITUMINOUS CONCRETE APPROACH PAVEMENTS - BOTH PAVEMENTS EXHIBIT SOME RANDOM CRACKS OPEN UP TO 1/2" WIDE AND THERE ARE NO POTHOLES UP TO 30" x 48" x 4" DEEP IN THE DRIVEWAY (RECYCLING WAY) FOR THE WILLIMANTIC WASTE PAPER CO. AT THE TRANSITION TO THE APPROACH PAVEMENT

(H) THERE IS METAL BEAM RAIL ALONG BOTH SIDES OF THE APPROACHES THERE IS APPROXIMATELY 20' OF COLLISION DAMAGE ALONG THE NORTHEAST RAIL, THE SOUTHEAST TRANSITION HAS SOME MINOR COLLISION DAMAGE AND THE NORTHEAST RAIL BOXING GLOVE END TERMINAL IS DAMAGED

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

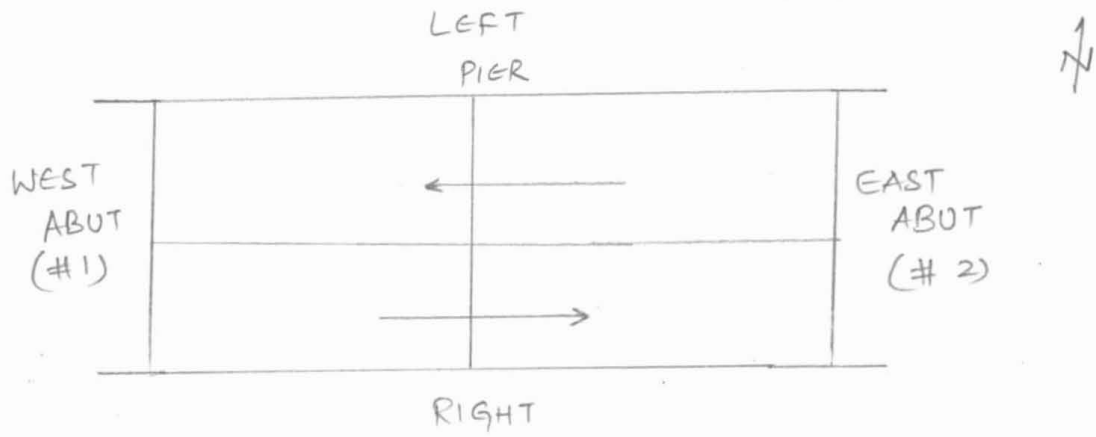
AI Engineers, Inc.

JOB NO: 170-2729	BRIDGE NO: 00488
DATE: 08/16/07	SHEET 9 OF 61

FIELD NOTES

CREW: RDB, DY

DESCRIPTION: PARAPET JOINT MEASUREMENTS



LOCATION	WINTER MEASUREMENT < 50 F				SUMMER MEASUREMENT > 50 F				JOINT TYPE
	LEFT	RIGHT	TEMP	DATE	LEFT	RIGHT	TEMP	DATE	
W. Abut					2 2/16"	1 1/16"	85°F	08/16/07	Ash. plug
Pier					10/16"	14/16"	"	"	"
E. Abut					4 5/16"	2 9/16"	"	"	"

GENERAL NOTES:

REGULAR INSPECTION [X]
Date: 08-16-07

SUMMER / WINTER JOINT MEASUREMENTS [ ]
Summer 20 __ __ Winter 20__ __

JOINT MEASUREMENTS

Form BRI-17, Rev. 9/03

Measurements Taken By: DY
Measurements Reviewed By: RDB

Bridge No.: 00488 Route 66 over New England Central RR **Town:** Windham, CT

Deck Joint Location	Deck Joint Type	Effect Span (ft.)	Previous Measurements Temp °F	Previous Date: 10/26/04 Left (in.)	Previous Right (in.)	Current Measurements Temp °F	Current Date: 8/16/07 Left (in.)	Current Right (in.)	Differential Movements Actual Left (in.)	Actual Right (in.)	by Formula	Comments	Difference Between Actual & Calc'd Mov't Left (in.)	Right (in.)
W. Abut.	Plug	142.5	44	2- 7/16	1-15/16	85	2- 2/16	1-11/16	5/16	4/16	7/16	Rocker Expansion Bearings	2/16	3/16
Pier	Plug	0.0	44	11/16	14/16	85	10/16	14/16	1/16	0	0	Fixed Bearings	- 1/16	0
E. Abut.	Plug	142.5	44	4-13/16	3- 3/16	85	4- 5/16	2- 9/16	8/16	10/16	7/16	Rocker Expansion Bearings	- 1/16	- 3/16

1. The "Deck Joint Type" should be "plug" for Asphaltic Plug joints, "strip" for Strip Seals, "seg." for Segmental Joints, etc.
2. The "Effective Span" is the length contributing to expansion at the joint. This should be 0 at fixed joints of single span bridges.

Reviewer's Comments: _____

Summer / Winter Joint Measurements: (IF ADDING OR REMOVING, SEND A COPY OF THIS FORM TO SUPERVISOR FOR REVIEW/APPROVAL WITH REASONS FOR CHANGE INDICATED)

[ ] **ADD** TO SUMMER/WINTER LIST SUPERVISOR APPROVAL: _____

[ ] **REMOVE** FROM SUMMER/WINTER LIST MASTER LIST ENTRY: _____

SHEET 10 OF 61

AI Engineers, Inc.	JOB NO: 170-2729	BRIDGE NO: 00488
	DATE: 08/23/07	SHEET 11 OF 61
FIELD NOTES	CREW: MAI, RDB, DY	

ROCKER BEARING MEASUREMENTS

Form BRI-15, Rev. 9/97

Span No. = 1

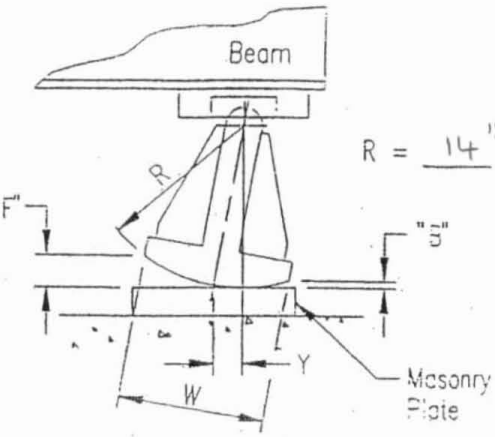
Substructure Unit = West Abutment

Temperature = 75° F

$\theta = \sin^{-1}(F-B)/W$

$Y = R \tan \theta$

The "Front" of the bearing is the side facing the fixed bearing. → "F"



R = 14"

W = 15"

NOTE:

"F" & "B" should be measured at the left side corners of the rocker or on the side closest to to the front face of the substructure on skewed bridges.

Beam	"F"	"B"	Y	Cont. or Exp.	Comments
N. Truss	3 3/8"	1 1/4"	2"	E	Lt to Mod rust @ rocker & masonry pl
S. Truss	3 3/16"	1"	2 1/16"	E	" " " "

AI Engineers, Inc.	JOB NO: 170-2729	BRIDGE NO: 00488
	DATE: 08/23/07	SHEET 12 OF 61
FIELD NOTES	CREW: MAI, ROB, DY	

ROCKER BEARING MEASUREMENTS

Form BRI-15, Rev. 9/97

Span No. = 02

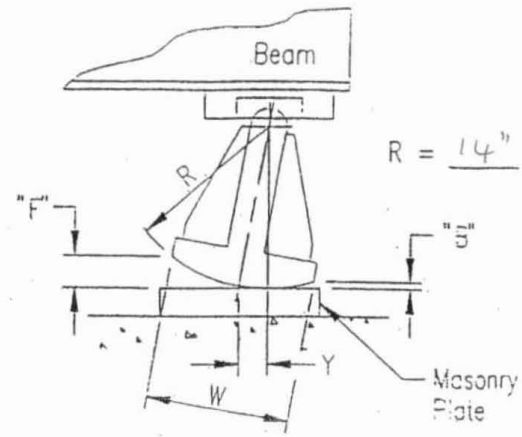
Substructure Unit = EAST ABUTMENT

Temperature = 75°F

$\theta = \sin^{-1}(F-B)/W$

$Y = R \tan \theta$

The "Front" of the bearing is the side facing the fixed bearing.



R = 14"

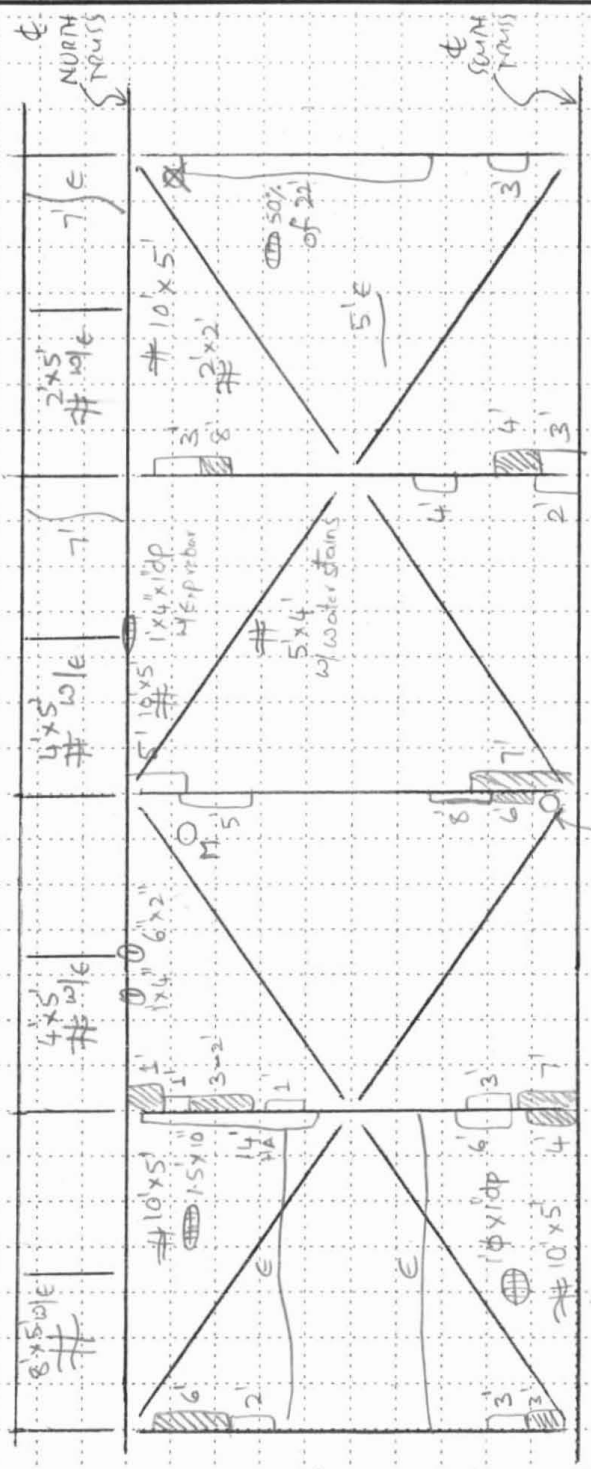
W = 15"

NOTE:

"F" & "B" should be measured at the left side corners of the rocker or on the side closest to to the front face of the substructure on skewed bridges.

Beam	"F"	"B"	Y	Cont. or Exp.	Comments
N-Truss	3 9/16"	14/16"	2 9/16"	E	AB nuts w/ 75% Section loss
S Truss	3 1/2"	15/16"	2 7/16"	E	AB nuts w/ 100% Section loss

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/17	SHEET 13 OF 61
FIELD NOTES	CREW: RDB, DY, MAI	
DESCRIPTION: UNDERSIDE OF DECK		



Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

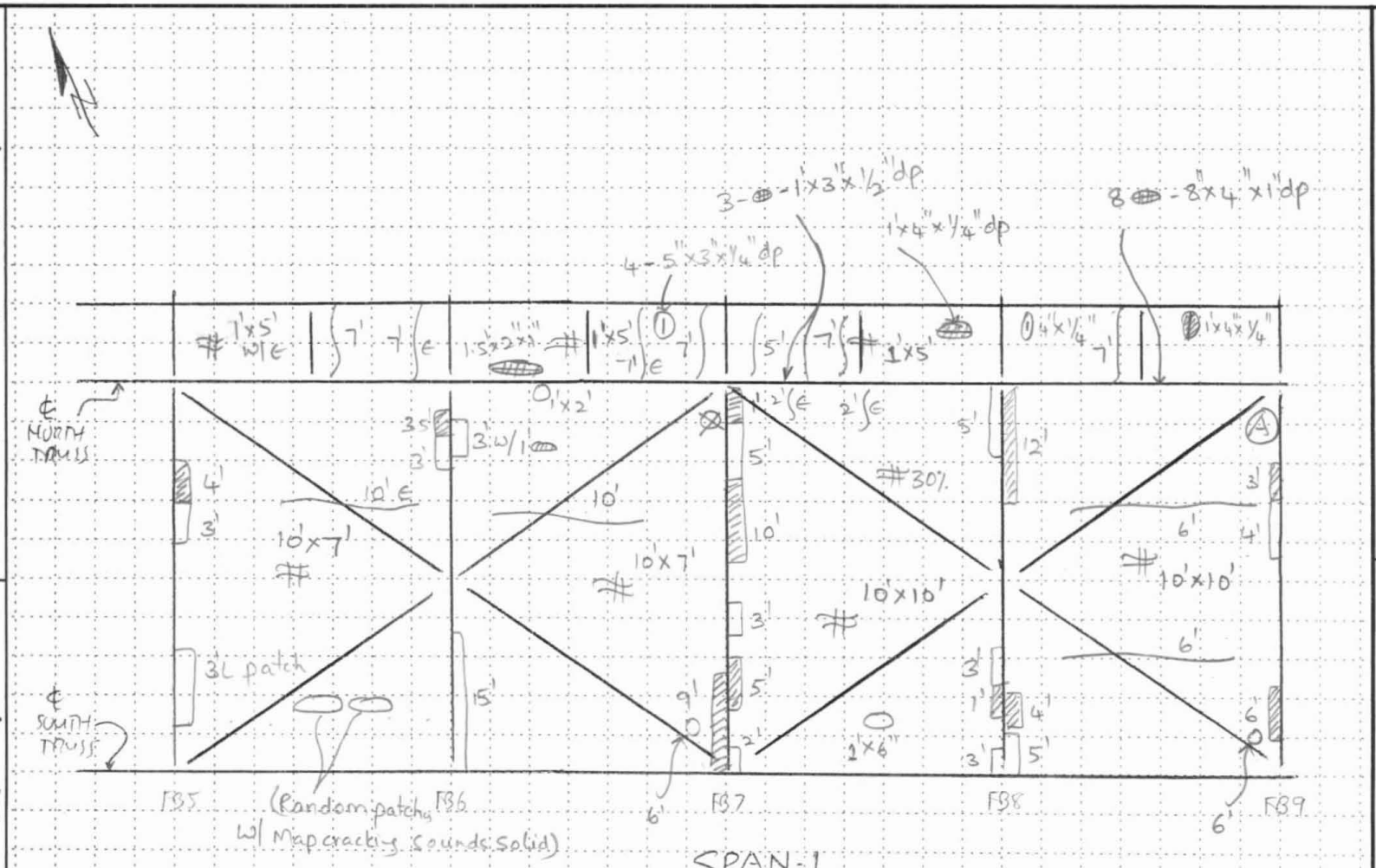
AI Engineers, Inc.

DESCRIPTION: FIELD NOTES — UNDERSIDE OF DECK

JOB NO. 170-2729 | BRIDGE NO: 00488

DATE: 8/23/7 | SHEET 14 OF 61

CREW: RDB, DY, MAI



LEGEND

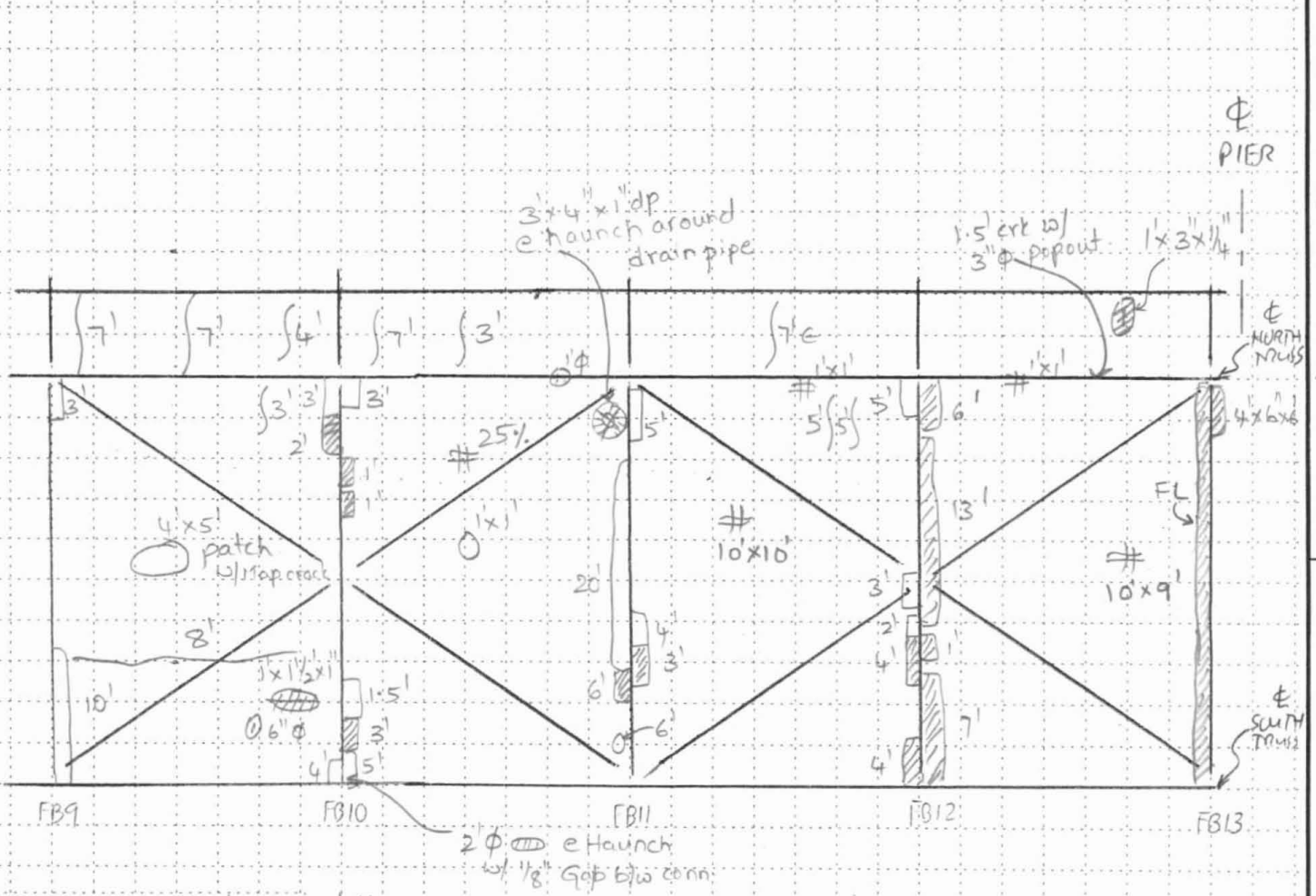
- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING
- (A) NO DOWNSPOUT

G. NOTES

- All spalls & HAC along FB Haunch are ±5" wide & spall 2" dp
- Random solid patches on underside & on FB haunches

Revision	Date	Crew	Company

Revision	Date	Crew	Company



LEGEND O - Scupper downspout (length) ⊗ - Short weep

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

G NOTES

- All spalls & HA's along FB Haunches are ±5" wide & spall ±2" dp.
- Random solid patches on underside & on FB haunches

AI Engineers, Inc.

FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK

JOB NO. 170-2729 | BRIDGE NO: 00488

DATE: 8/23/07 | SHEET 15 OF 61

CREW: RDB, DY, MAI

Revision	Date	Crew	Company

Revision	Date	Crew	Company

AI Engineers, Inc.

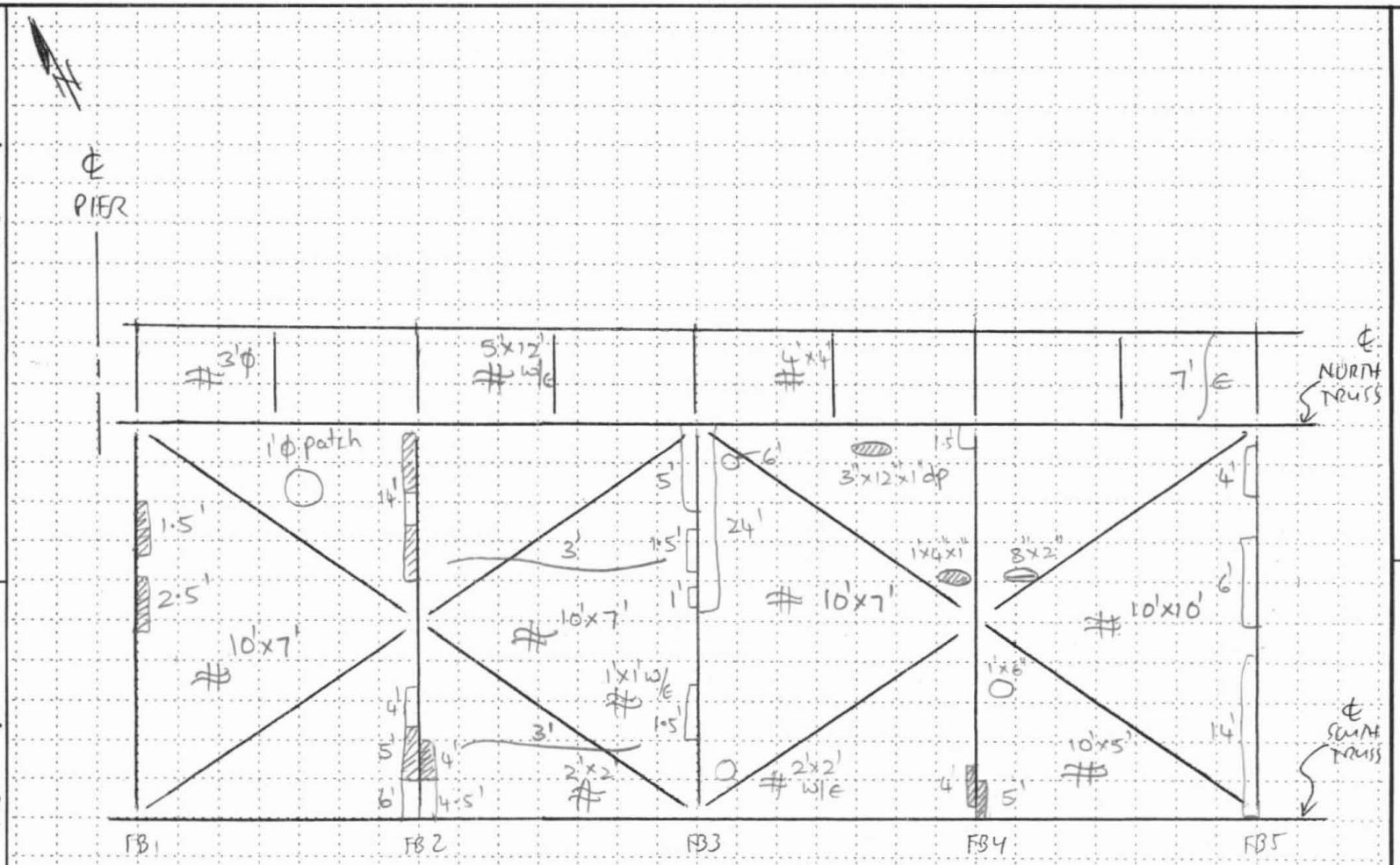
FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK

JOB NO. 170-2729 | BRIDGE NO: 00488

DATE: 8/23/07 | SHEET 16 OF 61

CREW: RDB, DY, MAI



SPAN 2

LEGEND

O - Scupper (drain pipe)

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

M - Metal scupper

G. NOTES

- All spalls & HA's along FB haunches are ±6"w & for spalls 2" dp.
- Random patches in deck underside

Revision	Date	Crew	Company

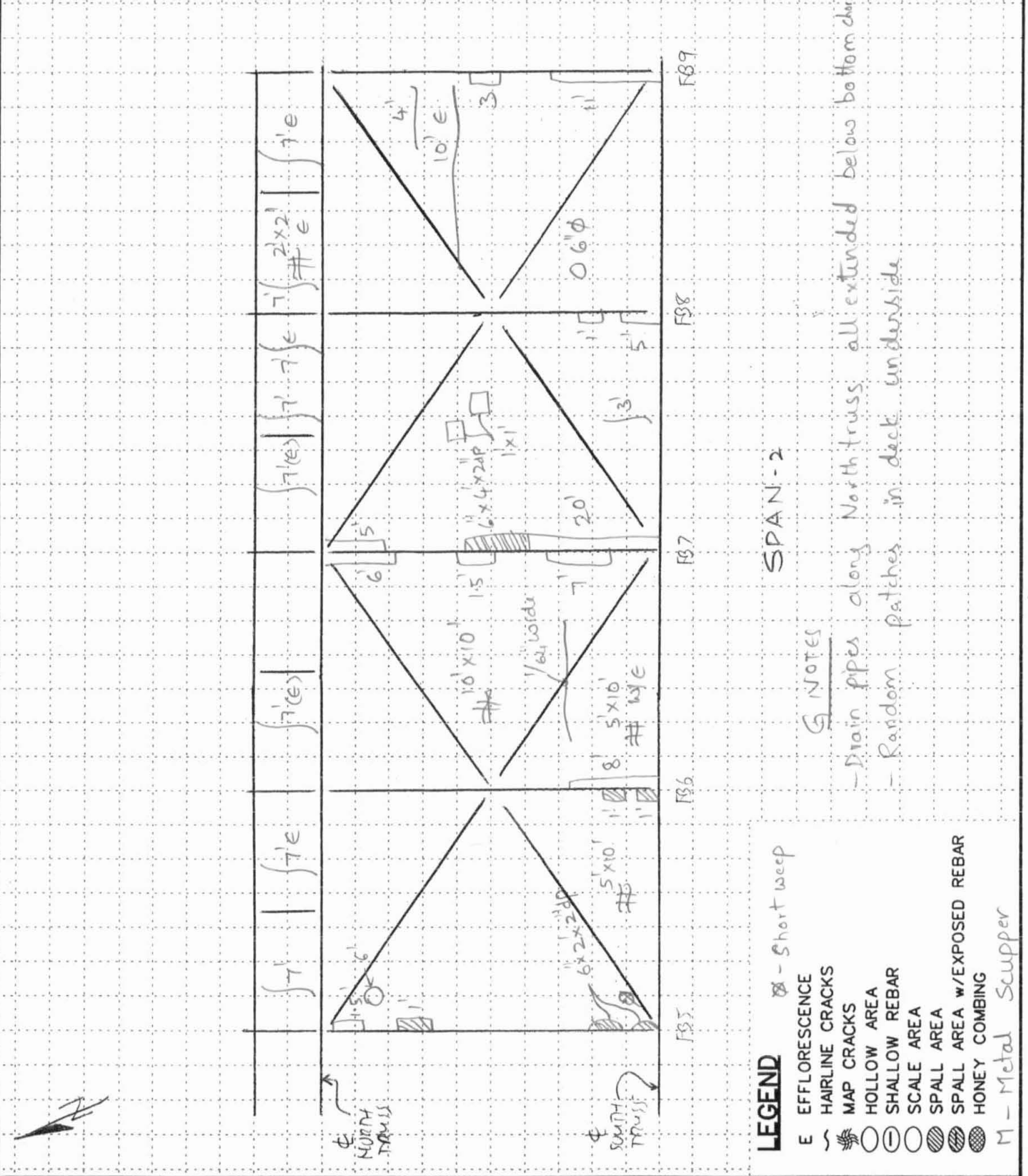
Revision	Date	Crew	Company

AI Engineers, Inc.

JOB NO. 170-2729	BRIDGE NO: 00488
DATE: 8/23/07	SHEET 17 OF 61
CREW: RDB, DY, MAI	

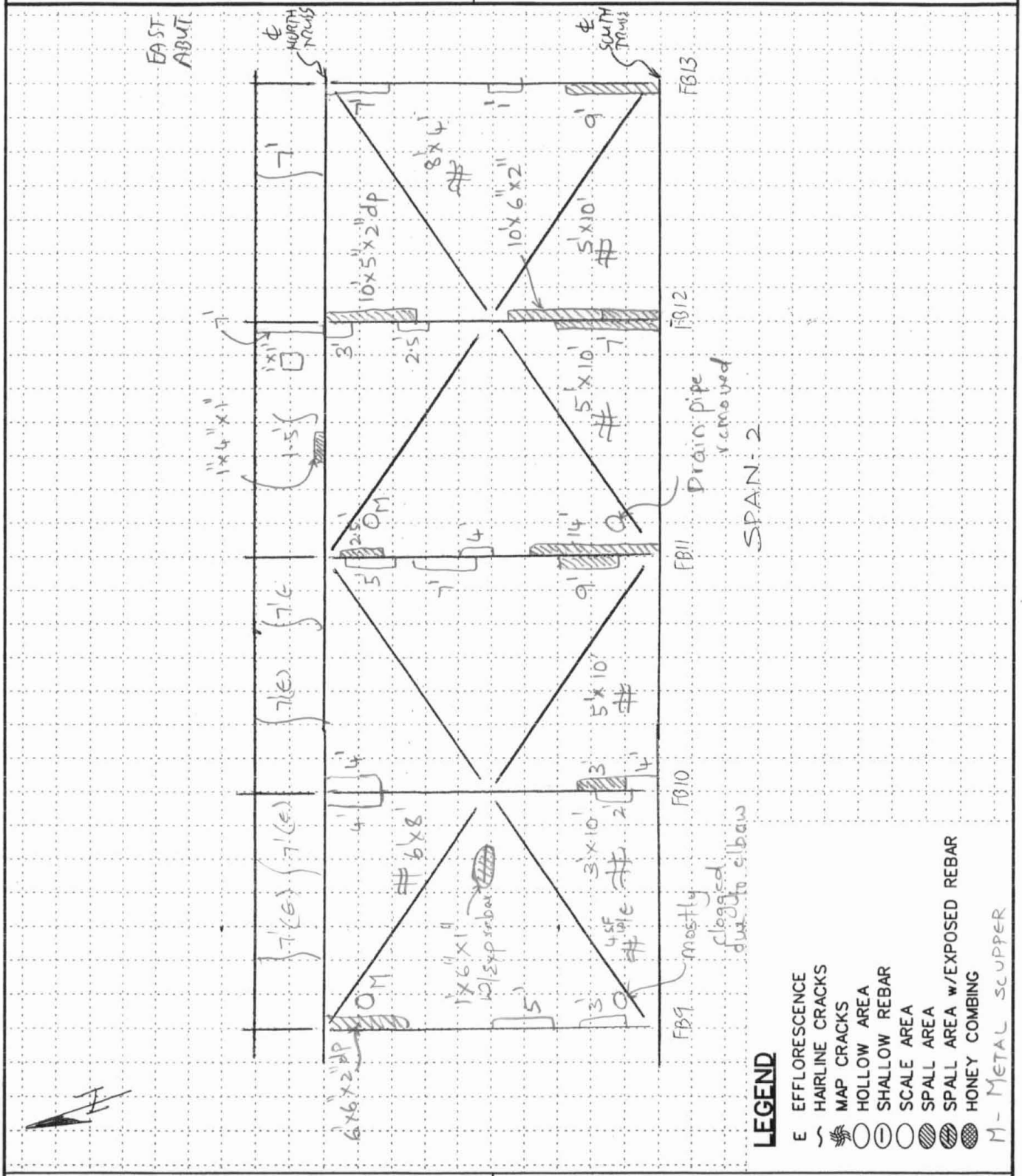
FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK



Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 8/23/07	SHEET 18 OF 61
FIELD NOTES	CREW: RDB, DY, MAI	
DESCRIPTION: UNDERSIDE OF DECK		



Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.

Bridge Number : 00488 Date: 12/17/07 Prepared by: DY Checked By: RDB

CONCRETE DETERIORATION WORKSHEET

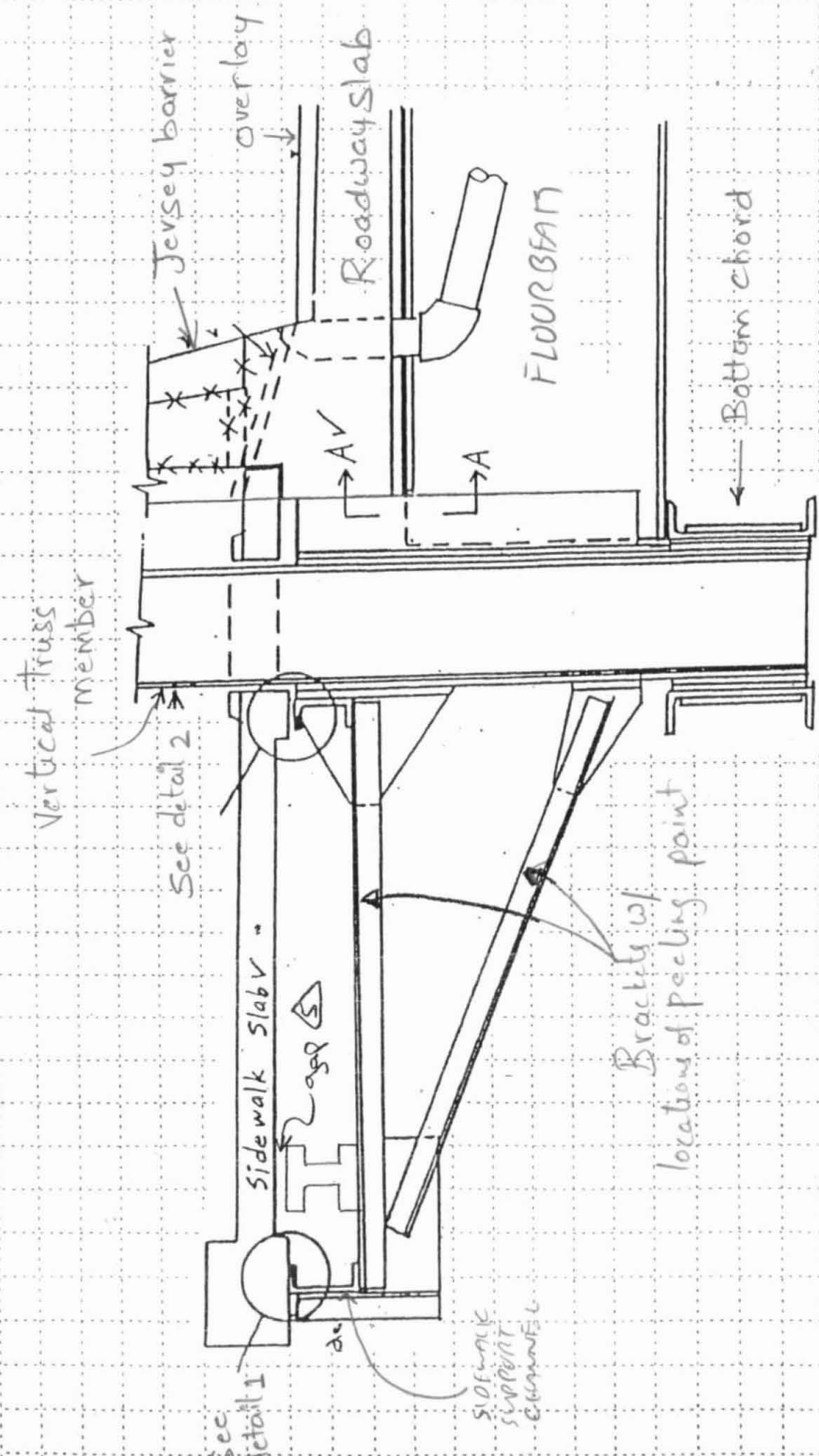
Form BRI-10, Rev. 9/01

	Deterioration By Span- In Square Feet										
	Span Number										
Deterioration Type	1	2									Total
Spalled and Delaminated Areas	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:
	Bot: 214	Bot: 158	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot: 372
Scale (Moderate to Severe only)	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:
	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:
Cracks: w/ Efflorescence (use 6in. width x length	Bot: 35	Bot: 7	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot: 42
w/o Efflo. (use 3in. width x length)	Bot: 31	Bot: 11	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot: 42
Map Cracking: w/Efflorescence (use full area)	Bot: 174	Bot: 67	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot: 241
w/o Efflo. (use 50 % of area)	Bot: 572	Bot: 485	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot: 1057
Honeycombed Areas (only areas more than 1-1/2in. deep)	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:
TOTAL	1026	728									1754
Total Span Area (Square Feet)	4853	4853									9706
% Spalled and Delaminated on Top											
% Deterioration on Bottom	21.1%	15.0%									18.1%

GENERAL NOTES FOR LONGITUDINAL SIDEWALK SLAB SUPPORT CHANNELS.

- There is a ½ inch gap between sidewalk slab and top of flange of the interior support channel for the full length of the bridge (channel is not supporting the sidewalk slab as originally intended). The same channel has significant random locations of the section loss along the top flange as illustrated on detail 2 on sheet 21.
- The exterior support channel has laminated and impacted rust along the full length of the top flange with random locations of the section loss as shown in the detail 1 on sheet 21.
- D-meter readings were taken at several of the worst locations along these channels. See sheet 22 and 23.
- Sidewalk underside has mapcracking throughout.
- Sidewalk slab resting on deck slab.

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/06	SHEET 20 OF 61
FIELD NOTES	CREW: RDB, DY, MAI	
DESCRIPTION: SUPERSTRUCTURE NOTES		



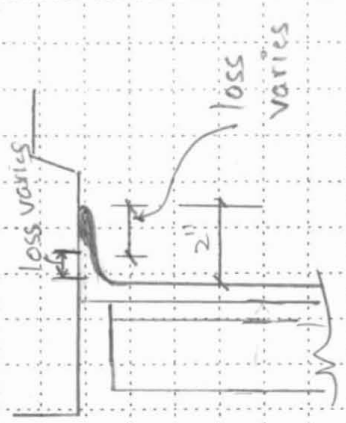
TYPICAL CROSS SECTION THRU SIDEWALK AREA TO FB

GENERAL NOTES

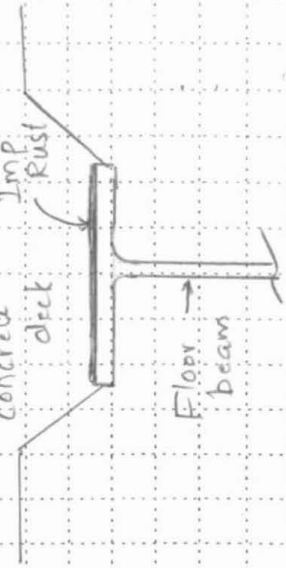
- FOR SECTION A-A, DETAIL 1 AND DETAIL 2 SEE SHEET 19

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

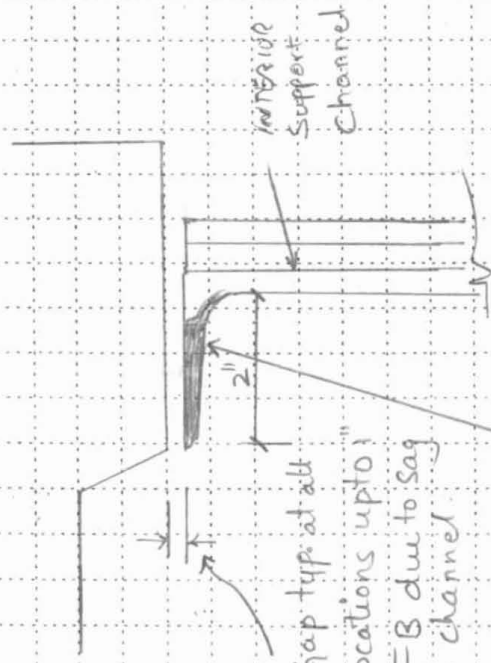
AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/06	SHEET 21 OF 61
FIELD NOTES	CREW: RDB, DY, MAI	
DESCRIPTION: SUPERSTRUCTURE NOTES		



DETAIL - 1 (NTS)



SECTION A-A (NTS)

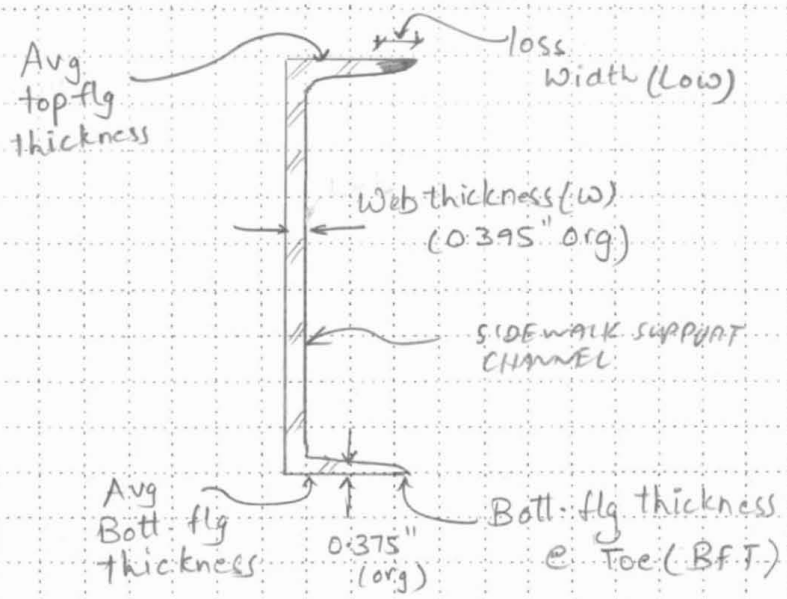


Numerous Random locations of complete loss of flange for 1" width & occasional loss of remaining flange

DETAIL 2 (NTS)

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/07	SHEET 22 OF 61
FIELD NOTES	CREW: RDB, DY, MAI	
DESCRIPTION: SUPERSTRUCTURE NOTES		



SPAN	Panel	channel	location	LOW (loss width)	TF	W	BFT	Top flg area rem.
1	1	Ext	@ Midspan	3/4"	0.124"	no losses	no losses	0.223
1	1	Ext	@ 2½' from FB2	1"	0.096"	↓	↓	0.129
1	2	"	@ Midspan	0"	0.32"	↓	↓	0.779
1	2	"	@ 3' from FB3	0"	0.38"	↓	↓	0.900
1	3	"	@ 2' from FB3	5/8"	0.245"	↓	↓	0.513
1	3	"	@ Midspan	0"	0.39"	↓	↓	0.974
1	4	"	@ Midspan	0"	0.34"	↓	↓	0.800
1	4	"	@ 3.5' from FB5	½"	0.27"	↓	↓	0.543
1	5	"	@ 2.5' from FB5	3/4"	0.274"	↓	↓	0.425
1	5	"	@ midspan	1/4"	0.35"	↓	↓	0.768
1	6	"	@ midspan	0"	0.37"	↓	↓	0.911
1	6	"	@ 2.5' from FB7	0"	0.39"	↓	↓	0.94
1	7	"	@ Midspan	3/8"	0.33"	↓	↓	0.645
1	8	"	"	0"	0.38"	↓	↓	0.935
1	9	"	"	0"	0.38"	↓	↓	0.929
1	10	"	"	0"	0.32"	↓	↓	0.810
1	10	"	@ 3' from FB11	0"	0.212"	↓	↓	0.621
1	11	"	@ Midspan	1/4"	0.36"	↓	↓	0.698

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 8/23/07	SHEET 23 OF 61
FIELD NOTES	CREW: RDB, DY, MAI	
DESCRIPTION: SUPERSTRUCTURE NOTES		

SPAN	PANEL	CHANNEL	LOCATION	LOW (LOSS WIDTH)	TF	W	BFH	Top flg area rem.
1	12	Ext	@ 2.3' from FB12	5/8"	0.31"	no losses	no losses	0.627
1	12	"	@ Midspan	0"	0.34"	"	"	0.917
2	1	"	"	0"	0.32"	"	"	0.715
2	2	"	"	0"	0.33"	"	"	0.920
2	3	"	@ 3' from FB3	0"	0.35"	"	"	0.750
2	3	"	@ Midspan	0"	0.37"	"	"	0.825
2	4	"	–	–	–	"	"	0.957
2	5	"	–	–	–	"	"	0.995
2	6	"	–	–	–	"	"	0.857
2	7	"	–	–	–	"	"	0.987
2	8	"	Est 1/16" – 1/8" losses	0"	0.28" (est)	"	"	0.710
2	9	"	–	–	–	"	"	0.987
2	10	"	@ Midspan	0"	0.36"	"	"	0.945
2	11	"	"	0"	0.36"	"	"	0.910
2	12	"	"	0"	0.35"	"	"	0.896

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

GENERAL NOTES FOR FLOOR BEAMS:

- Random areas of 1/16 in. to 1/8 in. section loss on bottom flanges near connections to bottom chord of truss.
- Impacted rust visible at ends of floor beams between top flange and concrete deck. Thickness of impacted rust varies from 1/8 in. to ½ in. See section A – A on sheet 21 D-meter readings taken at few random locations ranged from 1.21 in to 1.24 in. remaining (1.21 in. original thickness).
- Peeling paint exposing mill scale.

GENERAL NOTES FOR DIAGONAL WIND BRACING

- Random areas of upto ¼ in. impacted rust between back to back bracing angles. For areas of even greater impacted rust see sketches on sheets 27 - 31
- Random locations of sand and debris on horizontal gusset plates along north truss.
- Peeling paint exposing mill scale.

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/07	SHEET 25 OF 61
FIELD NOTES	MAI, RDB, DY	
DESCRIPTION: SUPERSTRUCTURE NOTES		

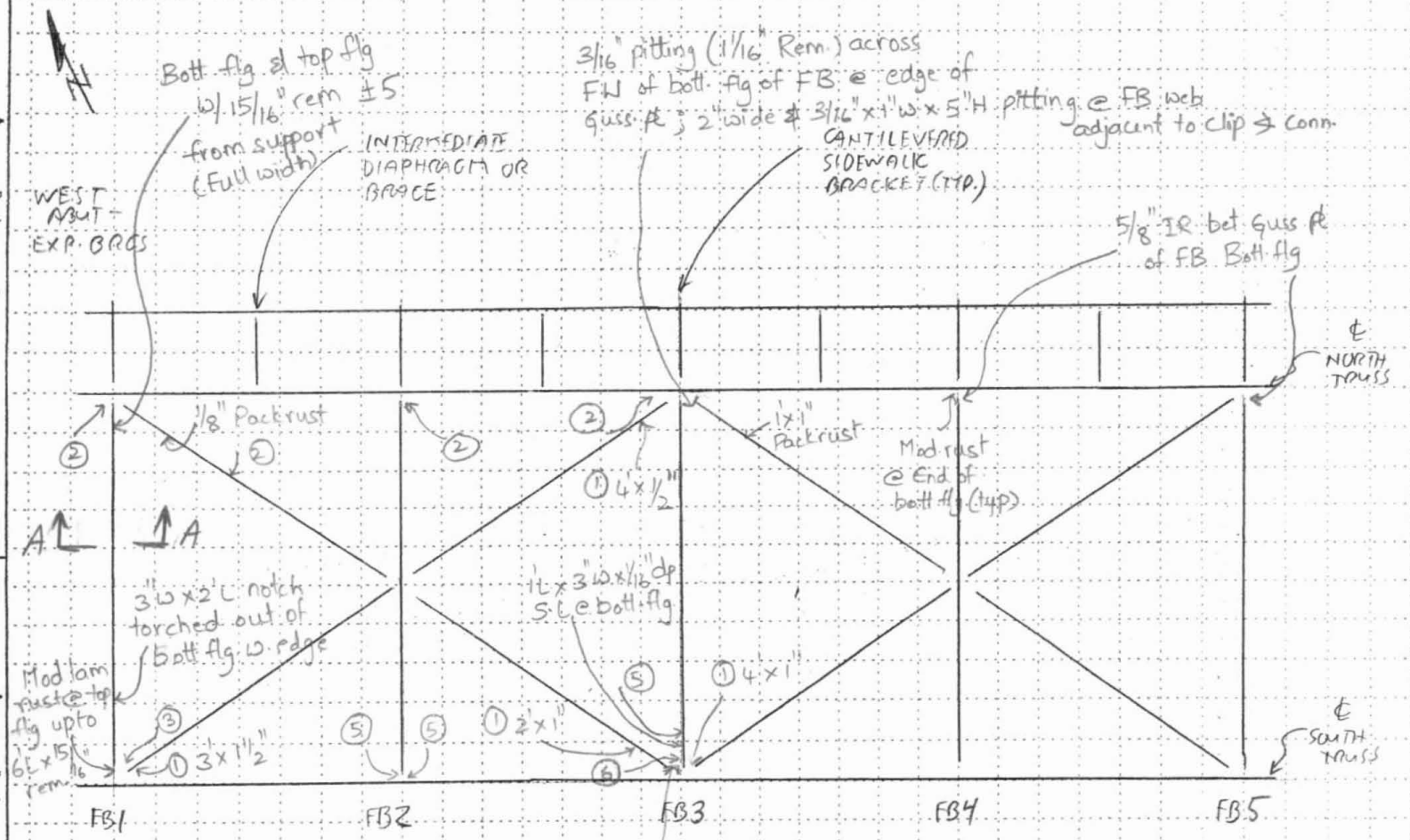
DETERIORATION NOTES

① Imp Rust bet back to back angles
② Newer Gusset Pl / bracing member bolted in PLACE.
③ Mod lam rust @ Bott flg 15/16" remaining (1 3/16" original) ±2' L
④ 10" x 6" H x 1' w pitt @ Top of FB web next to Conn. clip ∡
⑤ 1/8" - 3/16" x 2" w x 5' L @ T.F of FB (west)
⑥ 1' x 3" x 9/16" rem (3/4" orig) @ base of web (w. Ele)

G. NOTES:

- Typical 1/16" – 1/8" random pitting along the top flg of end FB1 on the joint side
- Typical ± 1" remaining thickness @ random locations along the bottom flg of floor beam 1 on the joint side
- upto 1' x 1' w x 3/16" pitting painted over @ bott of truss bott flg to FB gusset plate
- Hvy graffiti @ end FB's (FB 1)
- Acc. of sand & debris on top of gusset pl's
- upto 10% peeling paint of the total steel structure
- Typ. 1" Avg remaining @ worst S.L & 7/8" avg rem. only @ edge of bott flg & and upto 1/8" estimated S.L on top flg of FB 13 on joint side upto 1/8" x 2" H pitting @ bott of web worst case @ ±4" @ south of ℄ (3/16" dp) (one loc of 15/16" rem x FW)
- Random horizantal Gusset pl's w/lam rust ± 1/16" dp loss
- Painted over pitting @ random locations

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company



GENERAL NOTES

- FOR GENERAL AND DETERIORATION NOTES SEE SHEETS 24 & 25

Revision | Date | Crew | Company

Revision | Date | Crew | Company

AI Engineers, Inc.

FIELD NOTES

DESCRIPTION: SUPERSTRUCTURE FRAMING

JOB NO. 170-2729

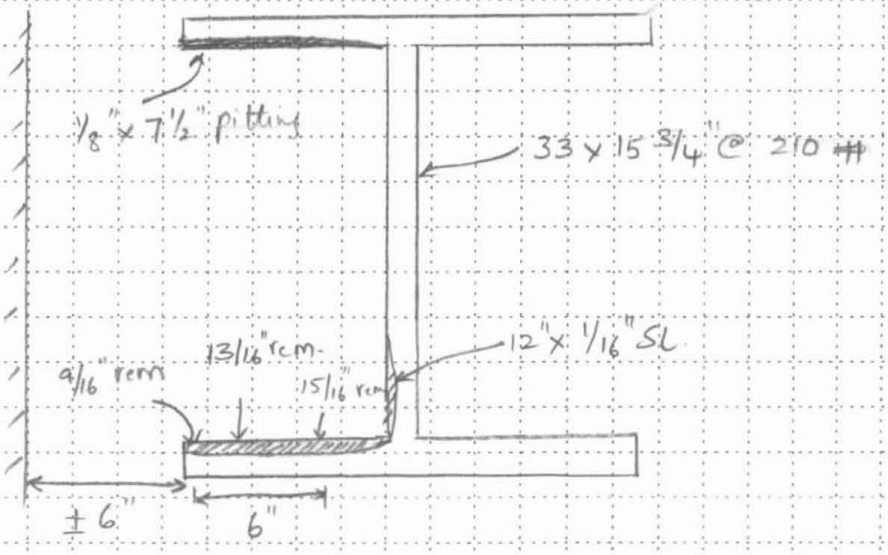
DATE: 08-23-07

CREW: RDB, MAI, DY

BRIDGE NO: 00488

SHEET 26 OF 61

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08-23-07	SHEET 26 A OF 61
FIELD NOTES	CREW: RDB, MAI, DY	
DESCRIPTION: SUPERSTRUCTURE		



SECTION A-A
@ MIDSPAN

% losses

T.F = (7.5" x 1/8") / 19.09" = 5%

web = (12 x 1/16") / 22.96 in² = 3.5%

BF = (7.5" x 0.48") / 19.09 = 19%

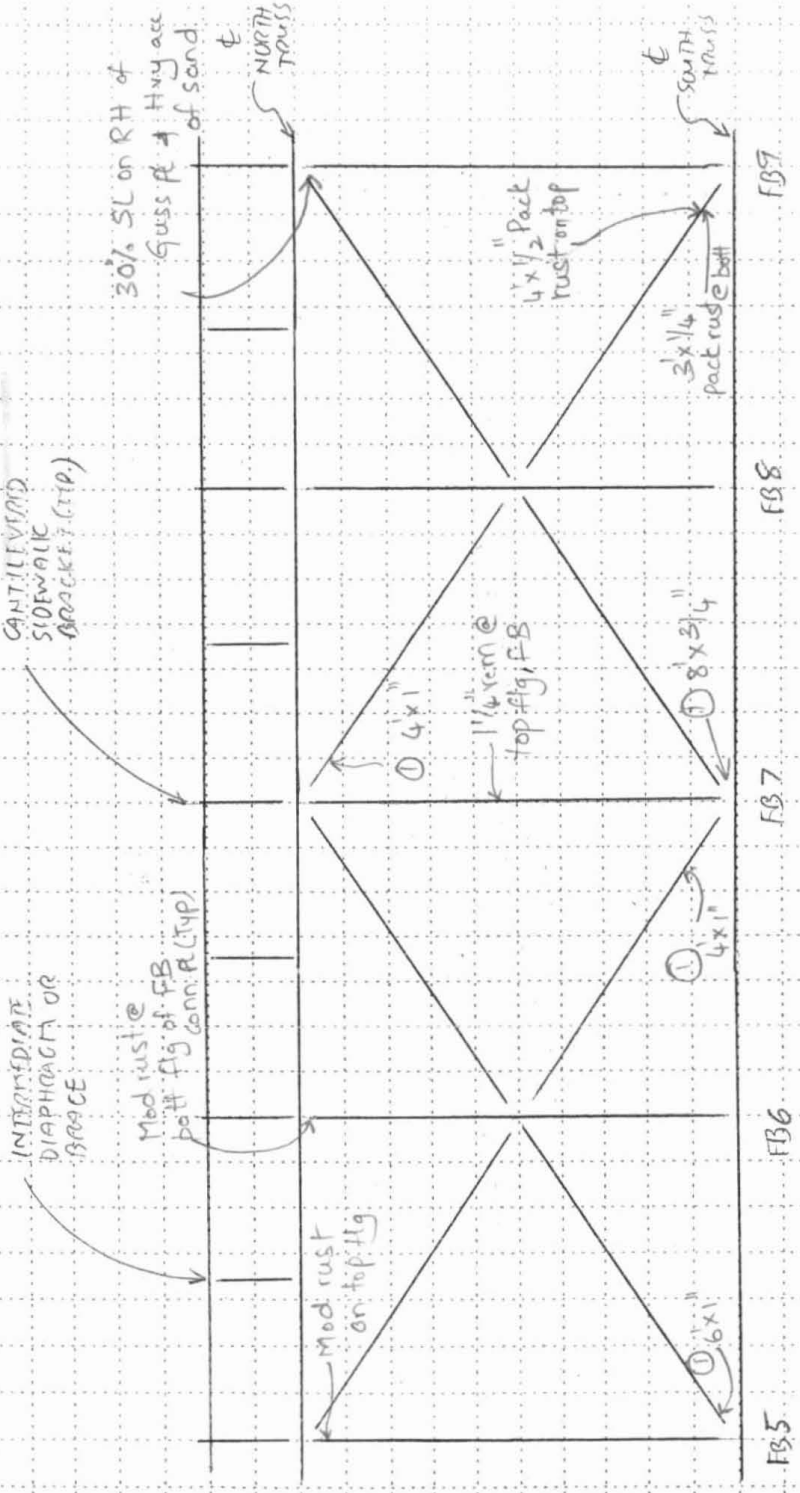
$$\text{TOTAL \% LOSS @ SECTION} = \frac{7.5"(1/8") + 12"(1/16") + 7.5"(.48")}{19.09\,in^2 + 22.96\,in^2 + 19.09\,in^2}(100)$$

$$= \frac{5.3\,in^2}{61.14\,in^2}(100)$$

= 8.6% CROSS SECTION AREA

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/07	SHEET 27 OF 61
FIELD NOTES	CREW: MAI, RDB, DY	
DESCRIPTION: SUPERSTRUCTURE FRAMING		

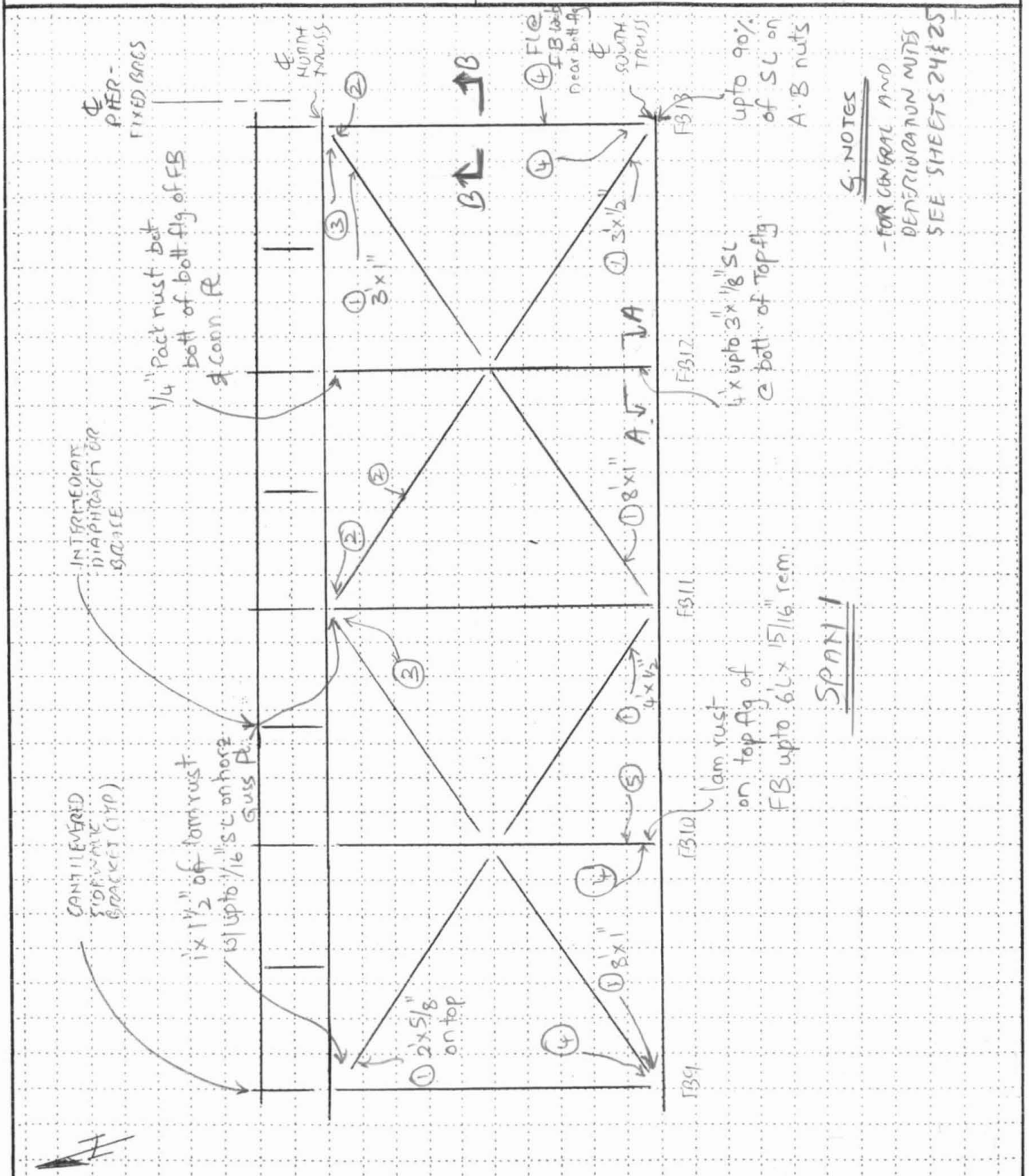


GENERAL NOTES

- FOR GENERAL AND DETAIL DRAWING NOTES SEE SHEETS 24 & 25

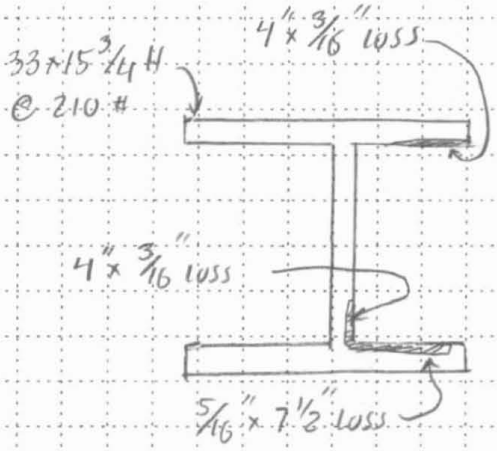
Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 8/23/07	SHEET 28 OF 61
FIELD NOTES	CREW: MAI, RDB, DY	
DESCRIPTION: SUPERSTRUCTURE FRAMING		



Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/07	SHEET 28A OF 61
FIELD NOTES	CREW: MAI, RDB, DY	
DESCRIPTION: SUPERSTRUCTURE FRAMING		



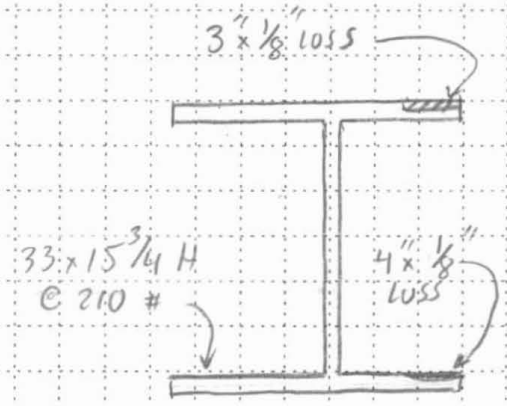
SECTION B-B (NTS)
@ FLOORBEAM MIDSPAN

SECTION B-B % LOSSES

TOP FLANGE $= \frac{3/16''(4'')}{19.09 in^2}(100) = 4\%$

WEB $= \frac{3/16''(4'')}{22.96 in^2}(100) = 3.2\%$

BOTTOM FLANGE $= \frac{5/16''(7\frac{1}{2}'')}{19.09 in^2}(100) = 12.3\%$



SECTION A-A (NTS)
@ 2' FROM BOTTOM CHORD

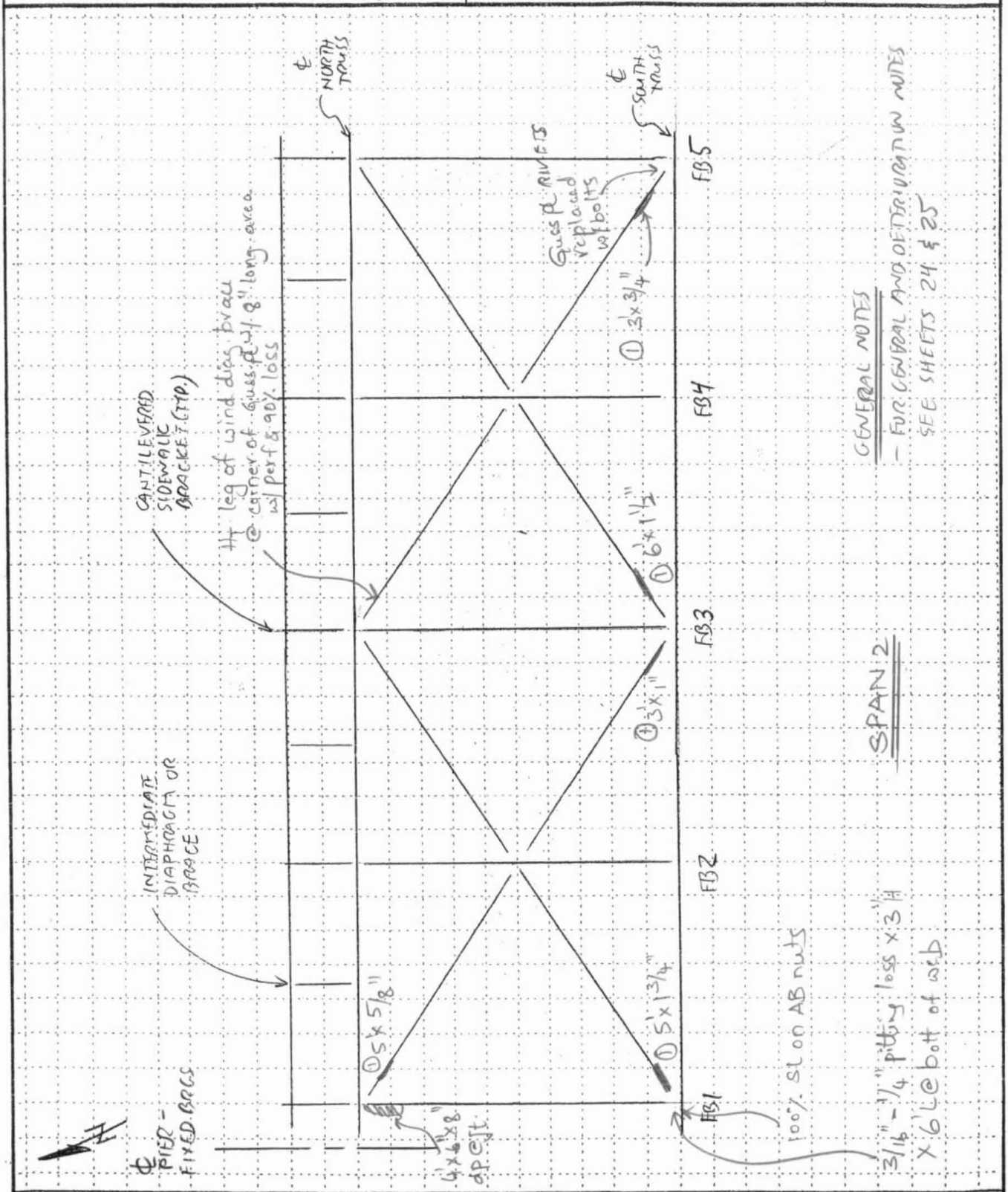
SECTION A-A % LOSSES

TOP FLANGE $= \frac{1/8''(3'')}{19.09 in^2}(100) = 2\%$

BOTTOM FLANGE $= \frac{1/8''(4'')}{19.09 in^2}(100) = 2.6\%$

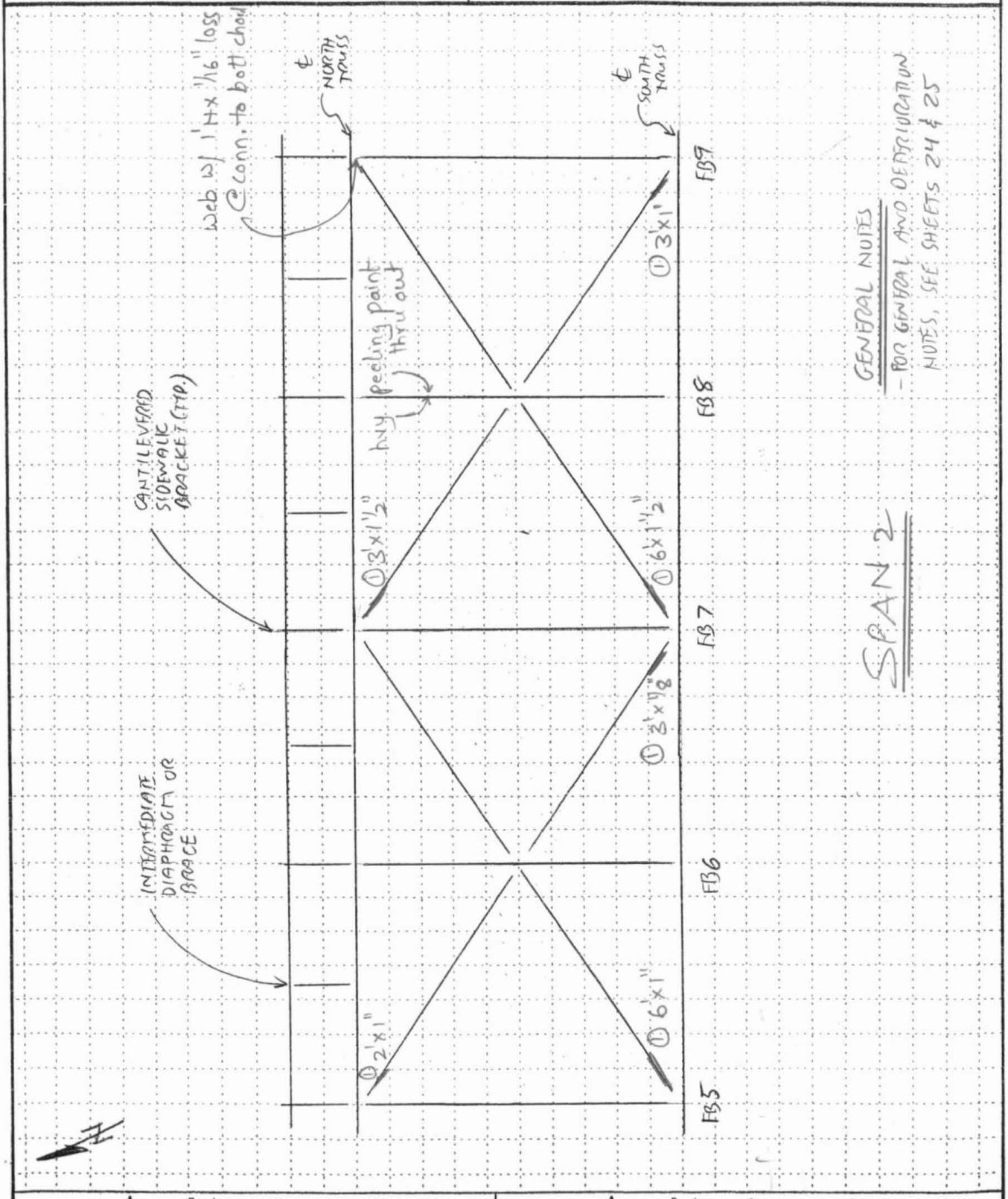
Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/07	SHEET 29 OF 61
FIELD NOTES	CREW: RDB, DY, MAI	
DESCRIPTION: SUPERSTRUCTURE FRAMING		



Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 8/23/07	SHEET 30 OF 61
FIELD NOTES	CREW: RDB, DY, MAI	
DESCRIPTION: SUPERSTRUCTURE FRAMING		

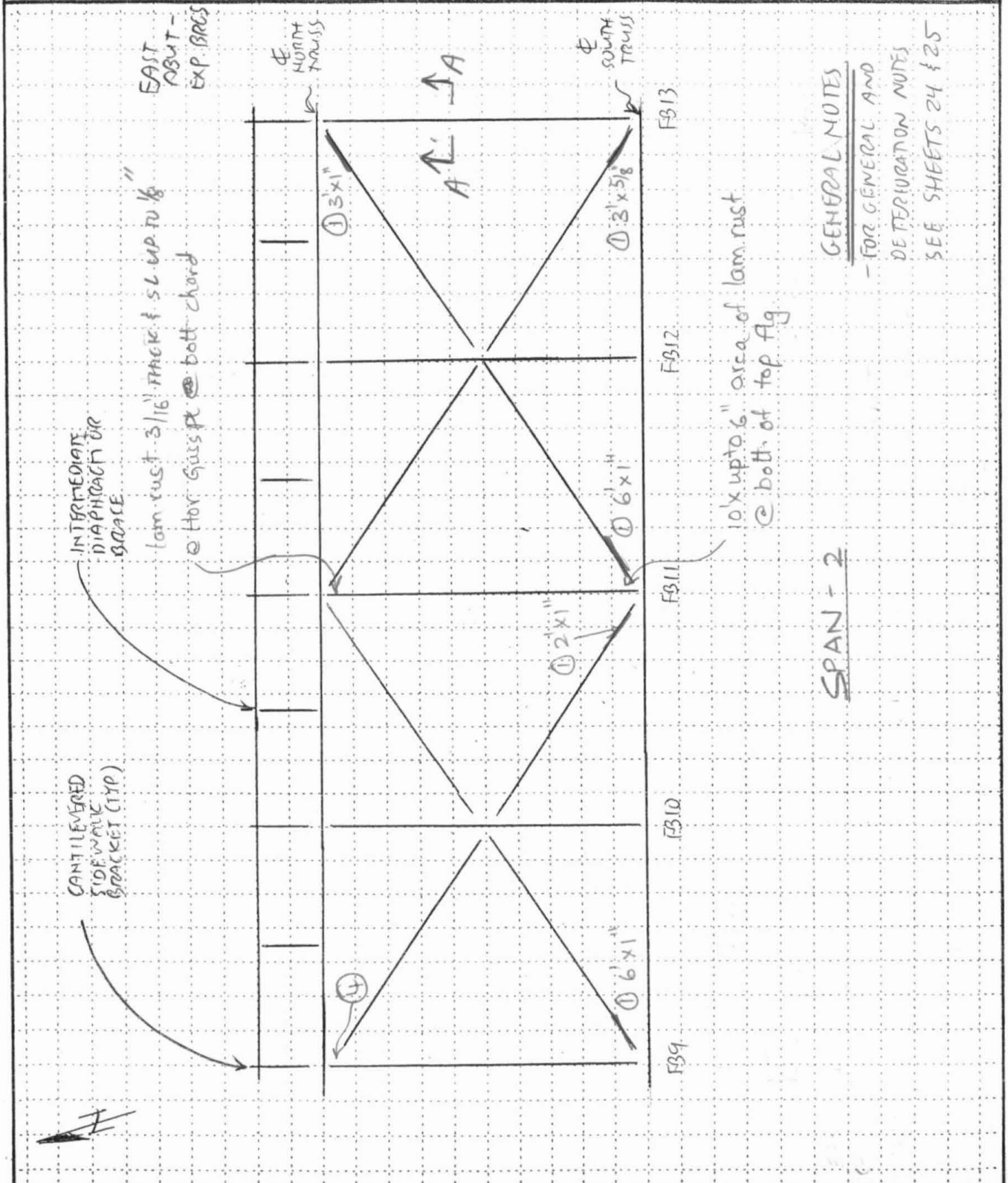


GENERAL NOTES
- FOR GENERAL AND DETERIORATION NOTES, SEE SHEETS 24 & 25

SPAN 2

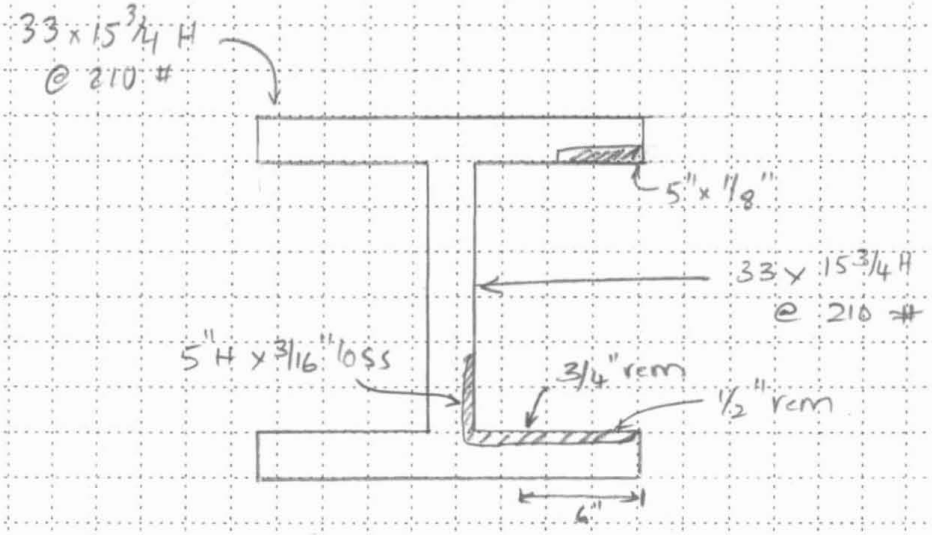
Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/07	SHEET 31 OF 61
FIELD NOTES	CREW: RDB, DY, MAI	
DESCRIPTION: SUPERSTRUCTURE FRAMING		



Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/23/07	SHEET 31A OF 61
FIELD NOTES	CREW: RDB, MAI, DY	
DESCRIPTION: SUPERSTRUCTURE FRAMING		



SECTION A-A (NTS)
@ MIDSPAN

web – (5" × 3/16") / 22.96 = 4%

both flg – $\left(7.5'' \times \frac{0.71 + 0.46}{2}\right) / 19.09$ = 23%

Top flg – (5" × 1/8") / 19.09 = 3.3%

TOTAL % LOSS @ SECTION $= \frac{5''(3/16'') + 5''(1/8'') + 7\frac{1}{2}''(.59'')}{19.09\ in^2 + 22.96\ in^2 + 19.06\ in^2}(100)$

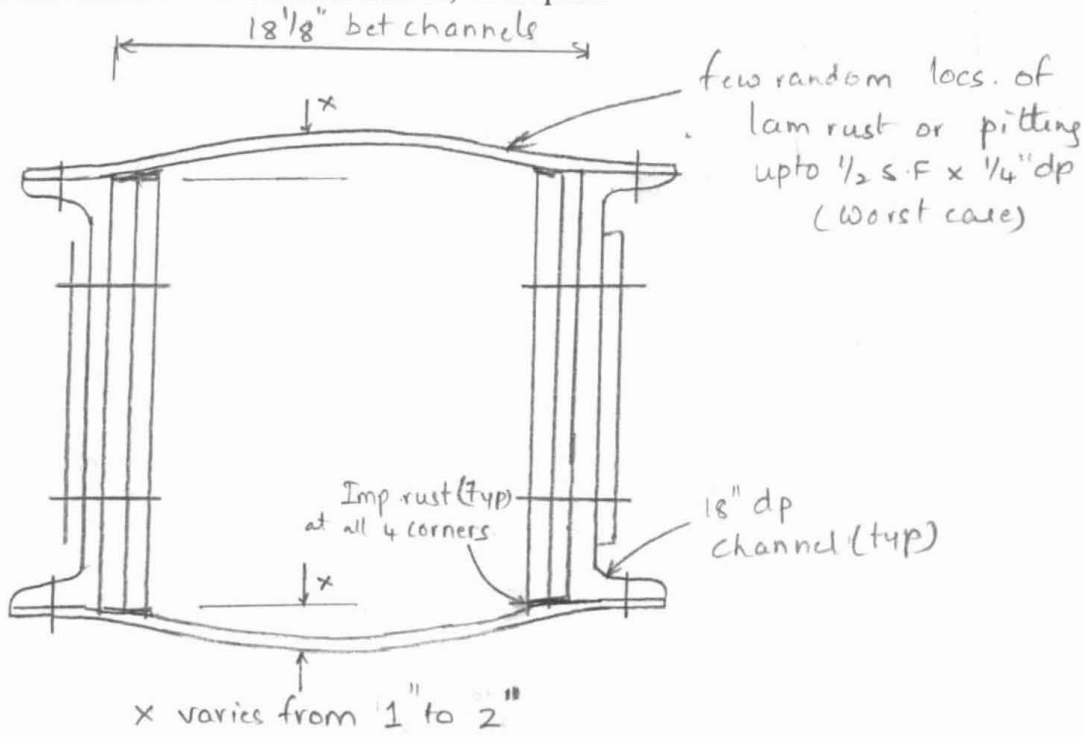
$= \frac{6\ in^2}{61.14\ in^2}(100)$

= 9.8 % OF CROSS SECTION AREA

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

GENERAL TRUSS NOTES:

- All truss members and connections inspect~~ion~~ED hands on.
- Mod to heavy sand and dirt accumulation and minor random pitting up to 1/16 in typical. On all bottom bracing connection plates except for top of top chords which are clean.
- Some sand trapped inside the sidewalk pocket penetrations for the vertical truss members of the sidewalk truss (north truss).
- Heavy sand and debris cleaned off for this inspection. Random heavy laminar rust and up to 50% section loss on horizontal cover plate and rivet heads over sidewalk truss bearings.
- Up to ¾ in impacted rust between the lower chord flanges and horizontal batten plates causing bowing of the batten plates as shown below. This condition is worse on the sidewalk truss (north) than on the roadway truss (south truss). See sketch below
- Very light spotty rust typical along the underside of top cover plate of top chord (also flaky paint)
- 1/16 in to 1/8 in section loss across top of top flange of lower chord channels at random batten plates and gusset plates.
- Up to 3 in H x 1/8 in deep pitting on vertical gusset plate common at all gusset plates at odd numbered floor beams on north trusses, both spans.



CROSS SECTION THRU BOTTOM CHORD AT BATTEN PLATE TYPICAL.

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO. 00488
	DATE: 09/10/07	SHEET 33 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: SUPERSTRUCTURE NOTES		

G. NOTES - CONT'D

a) Misdrilled holes @ top flange of N & S channels of top chord @ random locations

b) There are 17 - 2"x3" metal tabs welded to the bott flg of N & S channels of lower chord between L4 & L6 (total 34) (No signs of distress noted).

c) minor pack rust between railing & connection channels to the truss.

d) Accumulation of sand on top of top battin plates @ random locations

e) minor grafitti on truss above sidewalk

f) Previously noted deterioration is not noted means not found @ time of inspection.

g) upto 100% S.Loss on rivet heads @ random locations along inside vertical gussel plate & latural bracing connection plates

h) Areas upto 1/4" dp gouge on north flg of vertical member due to torch in span 2

g) 2 - locations of 4" ϕ weld remnants on the north flg of all verticals (2' & 4 1/2" down from bott of top chord) previously railing attachmants in span 2 south truss (no signs of distress)

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 09/10/07	SHEET 34 OF 61
FIELD NOTES	RDB, DY	
DESCRIPTION: SUPERSTRUCTURE NOTES		

DETERIORATION NOTES:

① Impact rust bet corner of gusset pl & truss member

② Est loss on truss member behind or adj to handrail

③ up to 1/8" - 1/4" dp pitting

④ 4" x 3/4" x 1/8" dp SL on bott. flg of channel (N side N-channel)

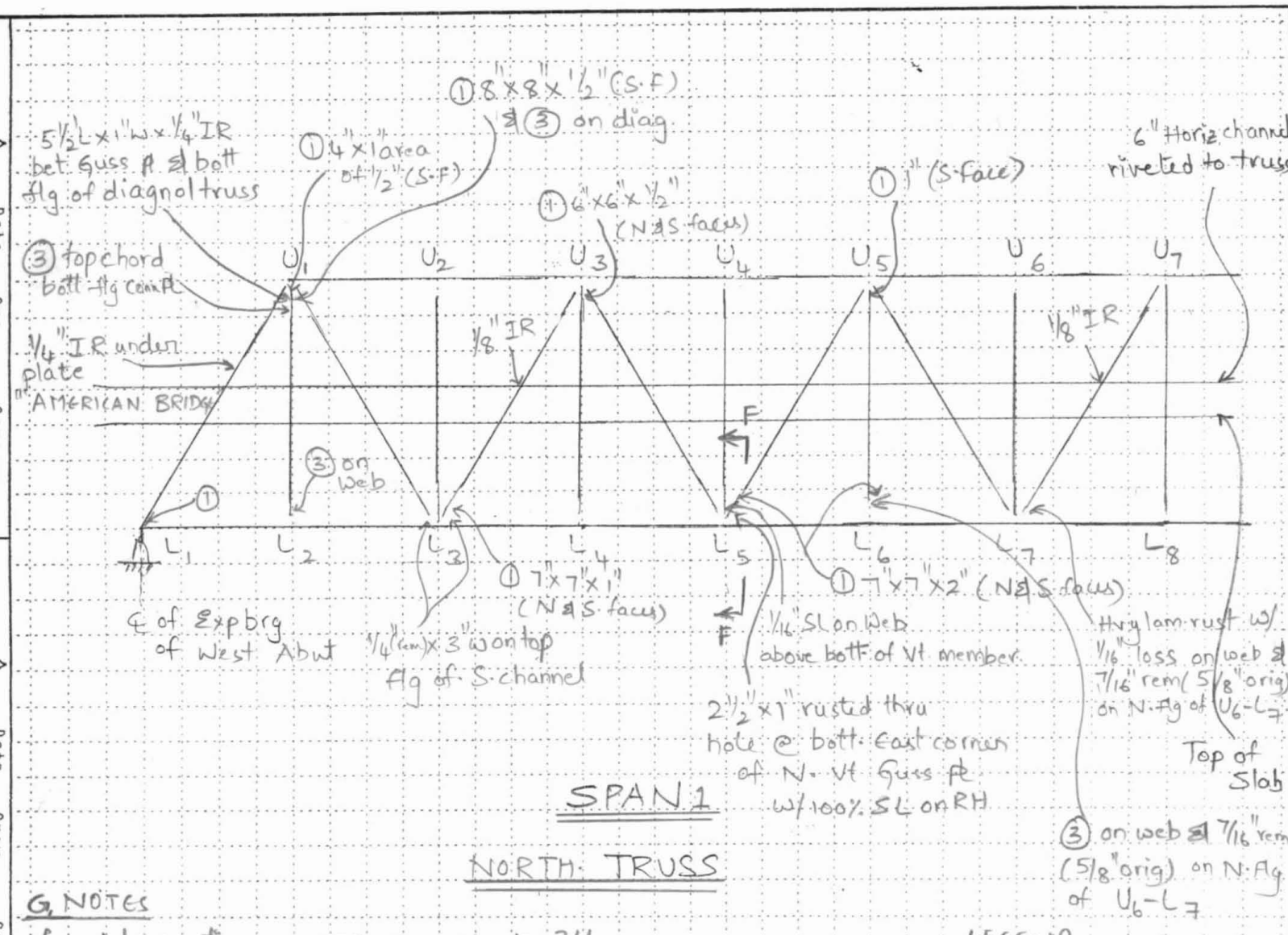
⑤ 1/8" pitting x 2'L x 3'H on N side on N. Gusset pl

⑥ FW x 4" x 1/4" dp SL @ top of vert. Gusset slice pl (S chord)

⑦ 6"L x 3" x 7/8" rem (1" orig) @ bottom flg of N-channel

⑧ 3" x 1 1/2" x 9/16" dp loss in ℄ Elev of vertical member flg and ∡ to FB @ vert. gusset pl

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company



SPAN 1

NORTH TRUSS

G. NOTES

- for deterioration NOTES see sheet 34
- for general notes see sheets 32 & 33
- for section F-F see sheet 36

LEGEND

S.F - south face
N.F - North face
I.R - IMPACTED RUST

Revision | Date | Crew | Company
Revision | Date | Crew | Company
Revision | Date | Crew | Company
Revision | Date | Crew | Company

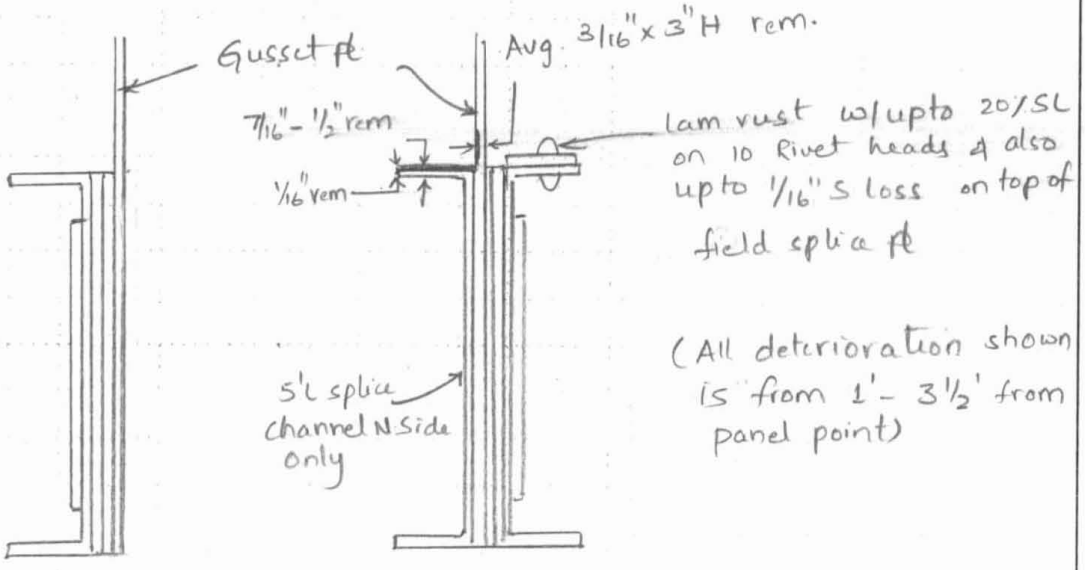
FIELD NOTES

AI Engineers, Inc.

JOB NO: 170-2729 BRIDGE NO: 00488

DATE: 9/10/07 SHEET 36 OF 61

DESCRIPTION: SUPERSTRUCTURE NOTES CREW: RDB, DY



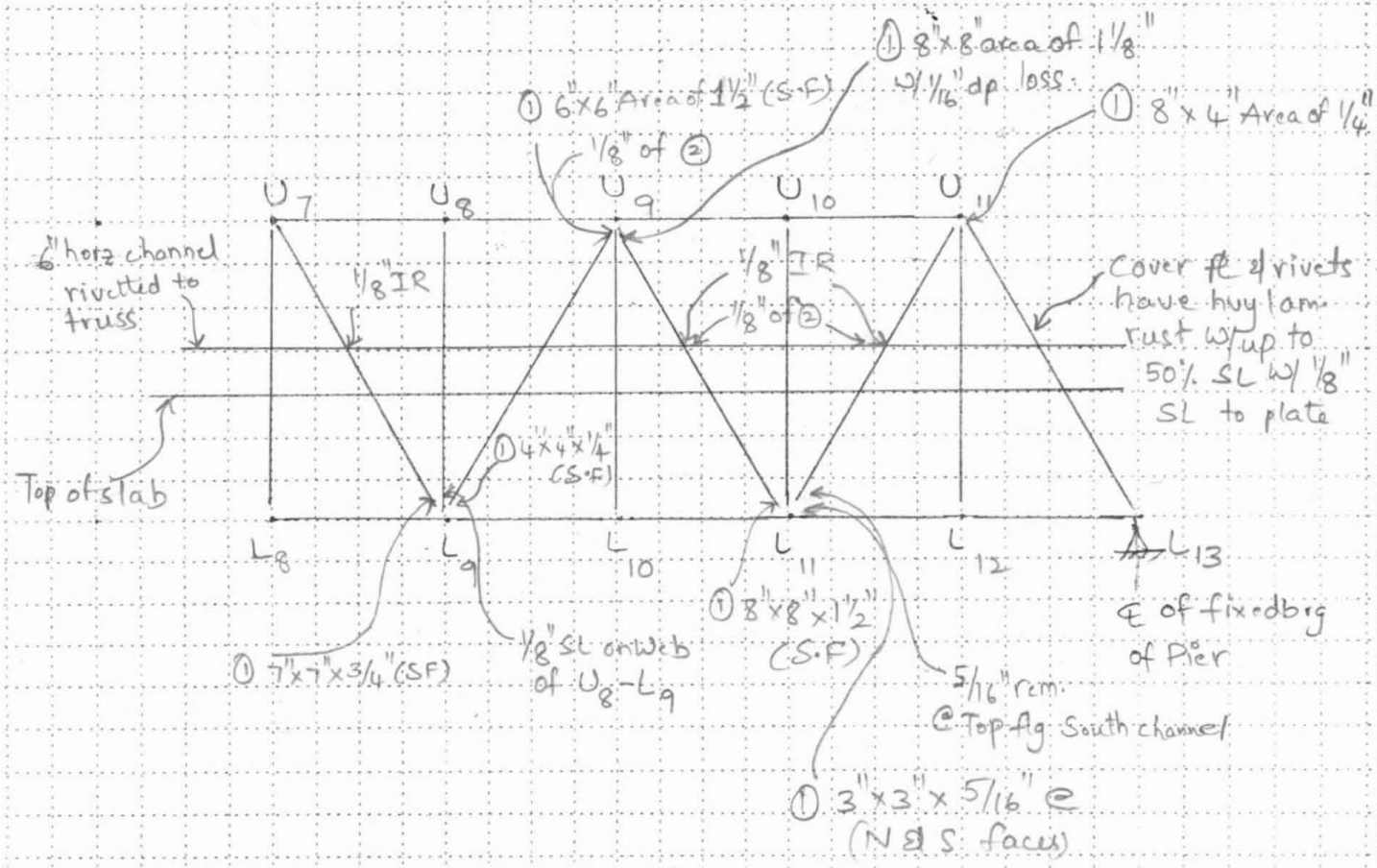
SECTION F-F

(NTS)

LEGEND

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

Revision 1	Date	Crew	Company	Revision 2	Date	Crew	Company
Revision 3	Date	Crew	Company	Revision 4	Date	Crew	Company



SPAN 1

NORTH TRUSS

G. NOTES

- for general notes see sheet no. 32 & 33
- for deterioration notes see sheet 34

LEGEND

S.F - SOUTH FACE
NF - NORTH FACE
IR - IMPACTED RUST

Revision | Date | Crew | Company

Revision | Date | Crew | Company

Revision | Date | Crew | Company

Revision | Date | Crew | Company

AI Engineers, Inc.

FIELD NOTES

DESCRIPTION: SUPERSTRUCTURE FRAMING

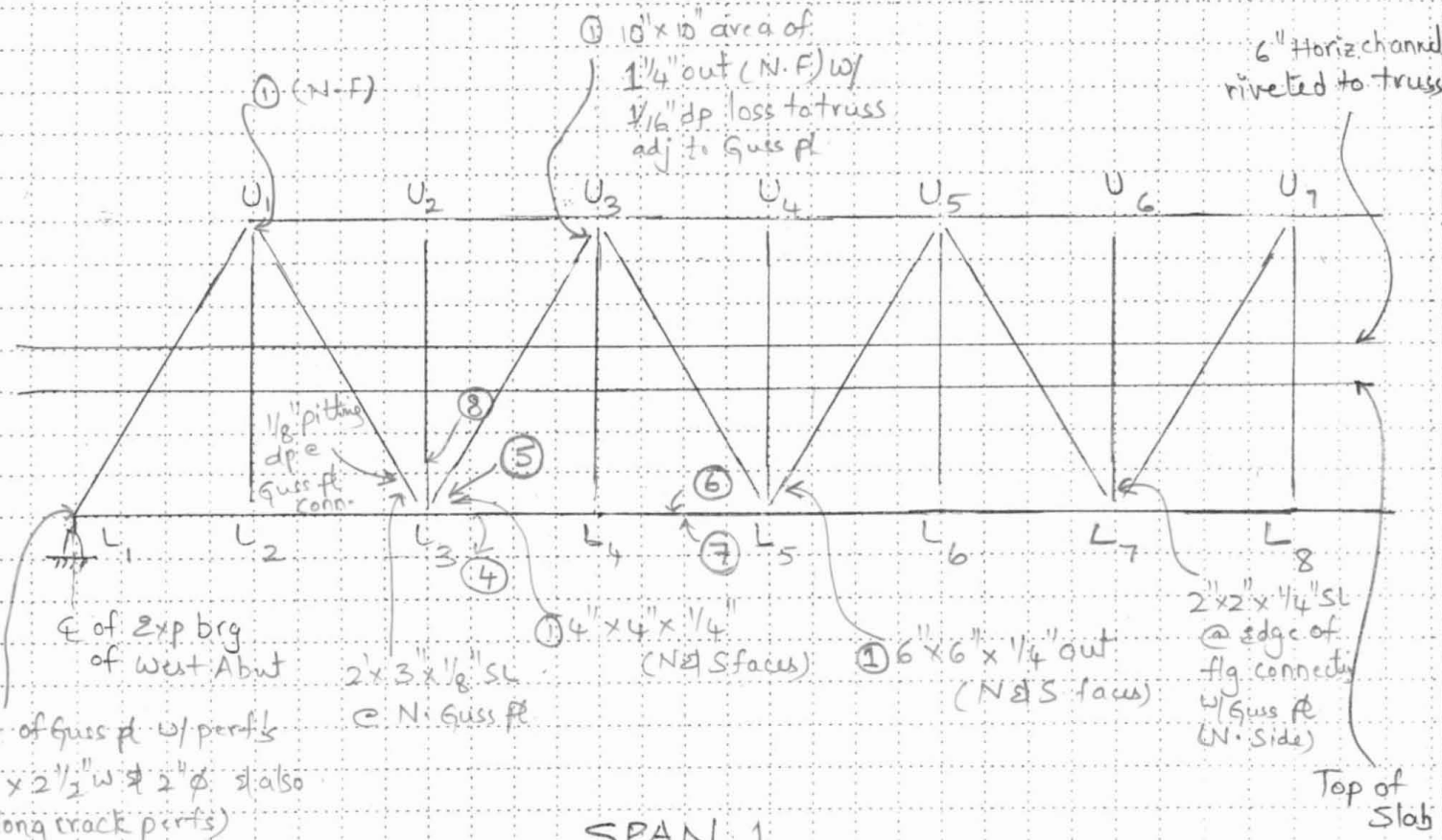
CREW: RDB, DY

DATE: 9/10/07

JOB NO. 170-2729

BRIDGE NO: 00488

SHEET 37 OF 61



SPAN 1

SOUTH TRUSS

G NOTES -

- for g. notes see sheet 32 & 33
- for deterioration notes see sheet 34

LEGEND

N.F - North face
SF - SOUTH FACE

Revision	Date	Crew	Company

AI Engineers, Inc.

FIELD NOTES

DESCRIPTION: SUPERSTRUCTURE FRAMING

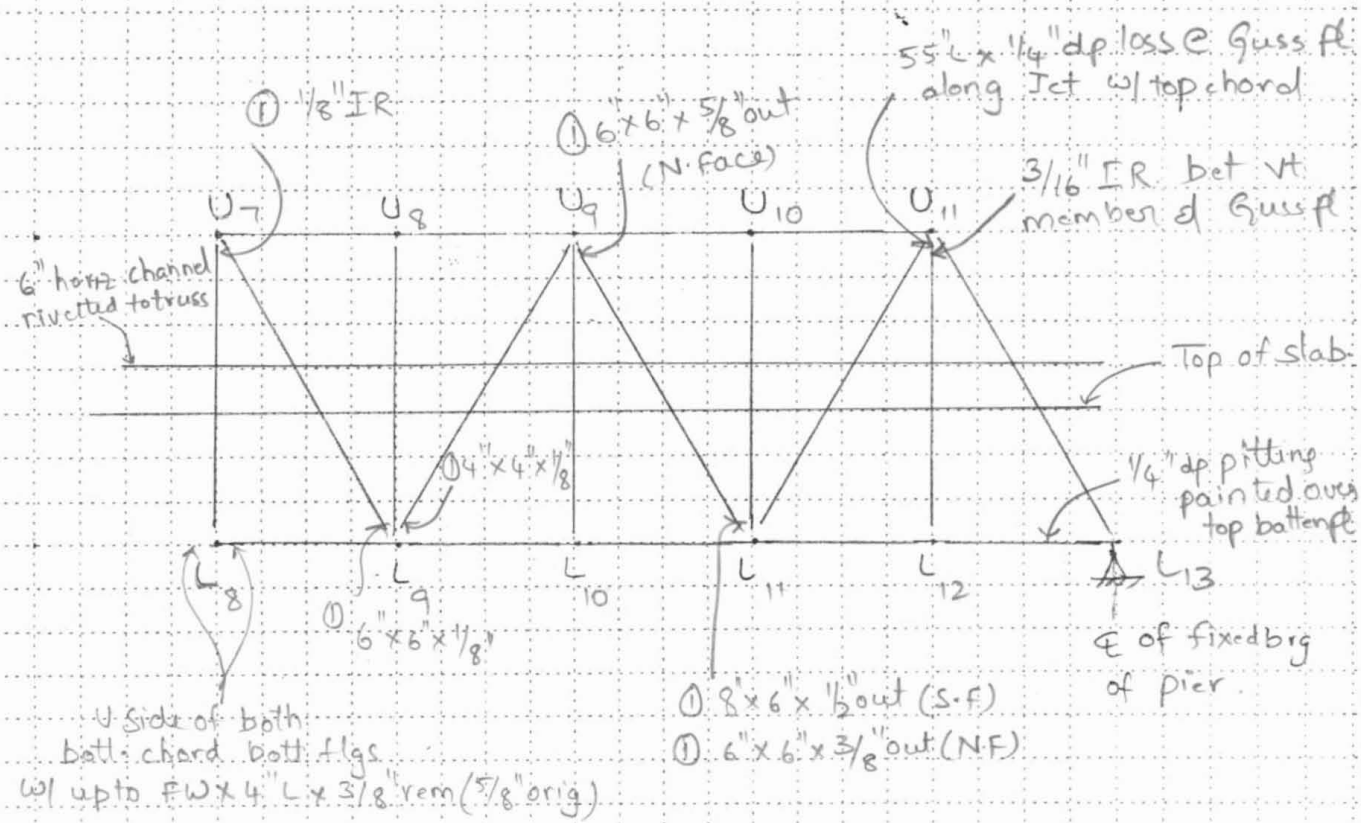
CREW: RDB, DY

DATE: 9/10/07

JOB NO. 170-2729

SHEET 38 OF 61

BRIDGE NO: D0488



SPAN 1

SOUTH TRUSS

G. NOTES

- for g.notes see sheets 32 & 33
- for deterioration notes see sheet 34

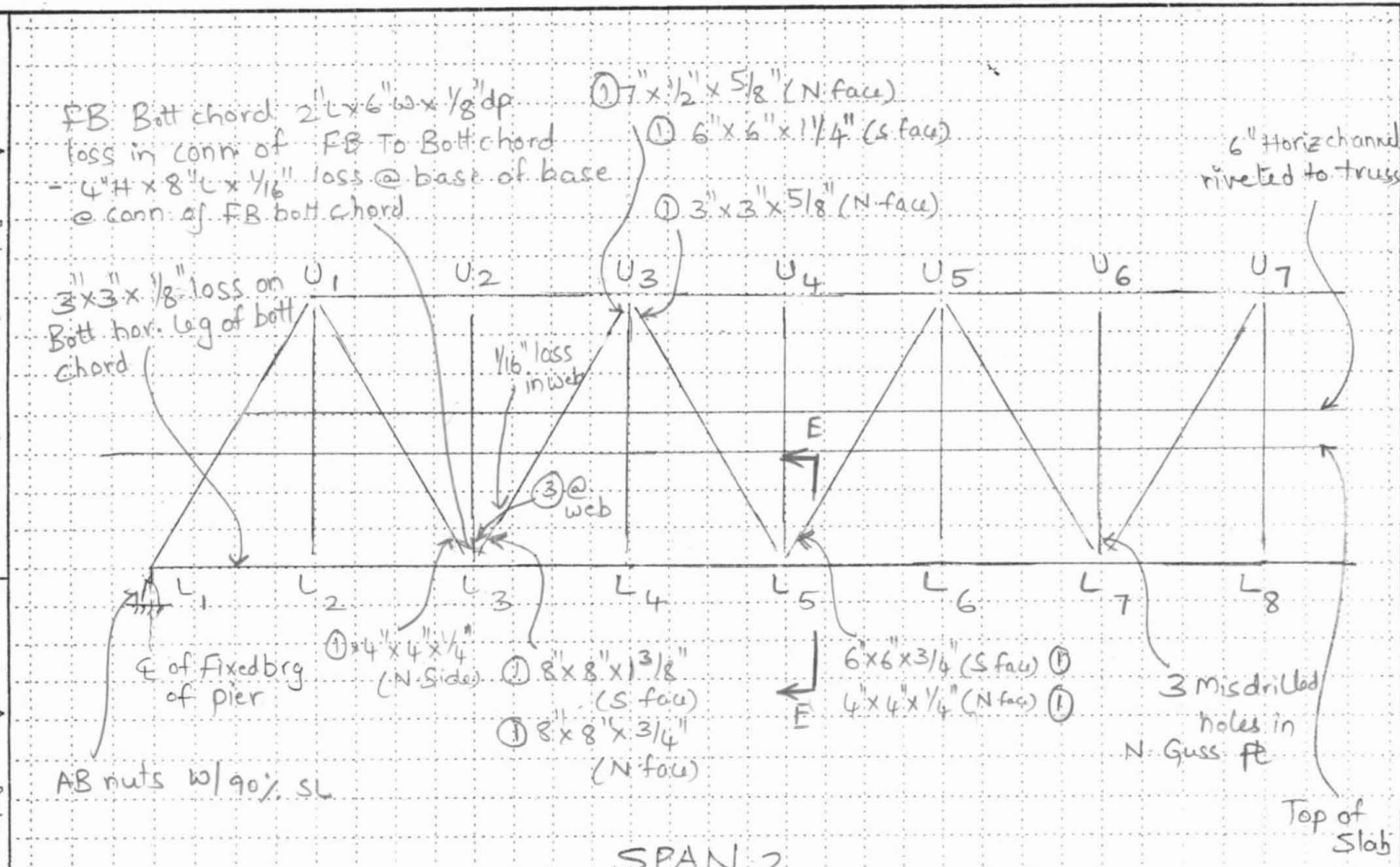
LEGEND

SF - SOUTH FACE
NF - NORTH FACE
IR - IMPACTED RUST

Revision | Date | Crew | Company
Revision | Date | Crew | Company
Revision | Date | Crew | Company
Revision | Date | Crew | Company

Revision	Date	Crew	Company

Revision	Date	Crew	Company



SPAN 2

NORTH TRUSS

G. NOTES

- for g notes see sheet 32 & 33
- for section E-E see sheet 41
- for deterioration notes see sheet 34

Revision	Date	Crew	Company

Revision	Date	Crew	Company

AI Engineers, Inc.

DESCRIPTION: SUPERSTRUCTURE FRAMING

FIELD NOTES

CREW: RDB, DY

DATE: 9/10/7

JOB NO. 170-2729

BRIDGE NO: 00488

SHEET 40 OF 61

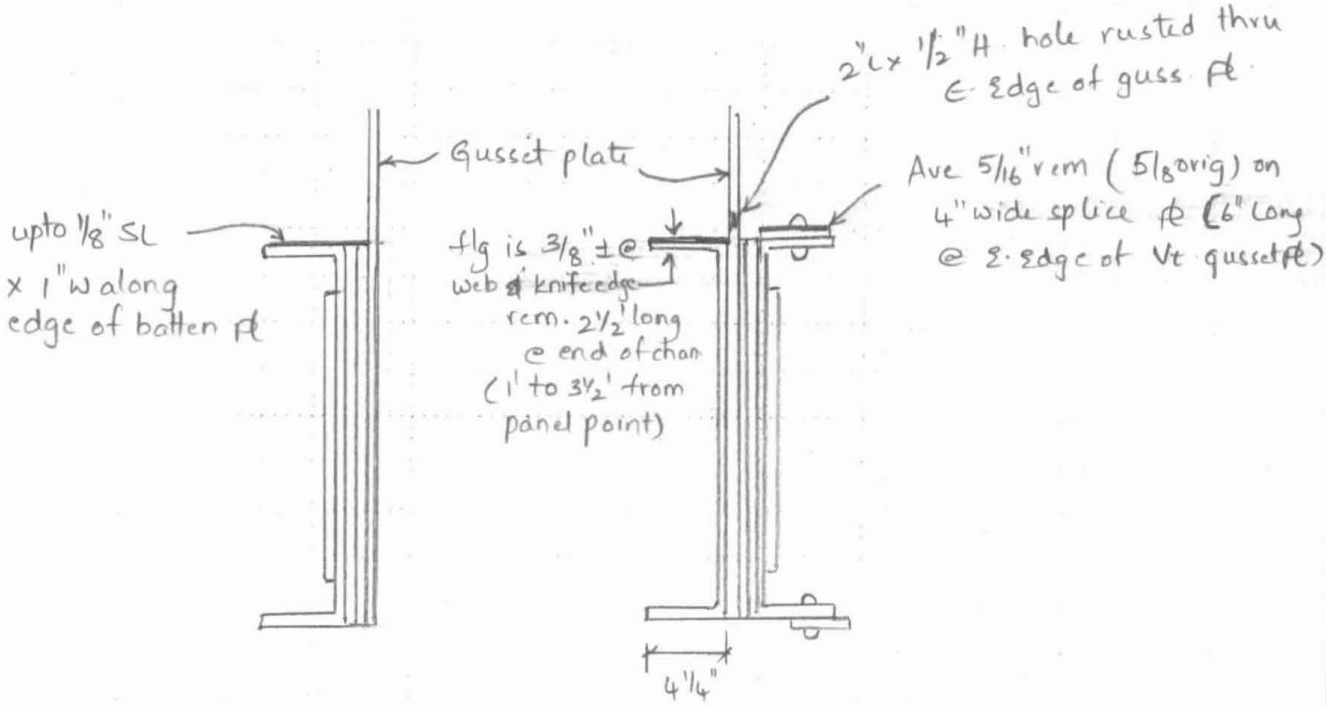
AI Engineers, Inc.

FIELD NOTES

JOB NO: 170-2729 BRIDGE NO: 00488

DATE: 9/10/07 SHEET 41 OF 61

DESCRIPTION: SUPERSTRUCTURE NOTES CREW: RDB, DY



SECTION ℄ - ℄

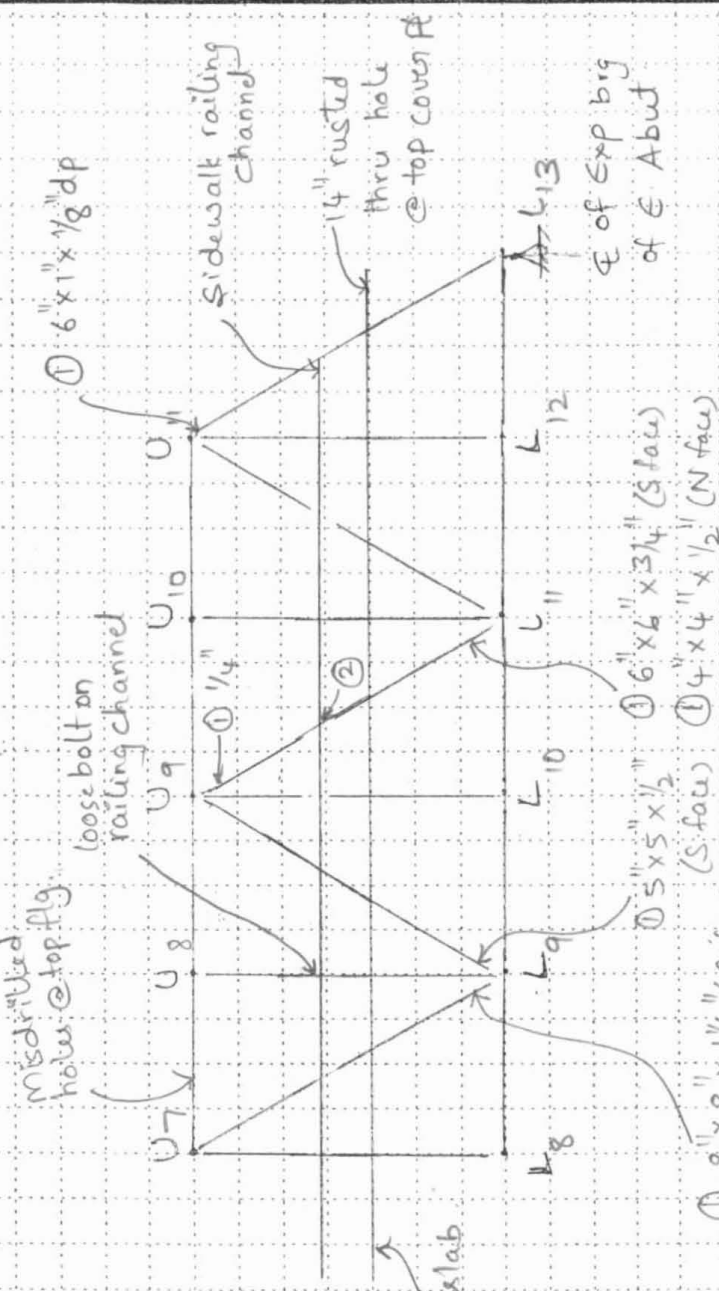
(NTS)

LEGEND

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

Revision 1	Date	Crew	Company	Revision 2	Date	Crew	Company
Revision 3	Date	Crew	Company	Revision 4	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 09/10/07	SHEET 42 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: SUPERSTRUCTURE FRAMING		



SPAN 2

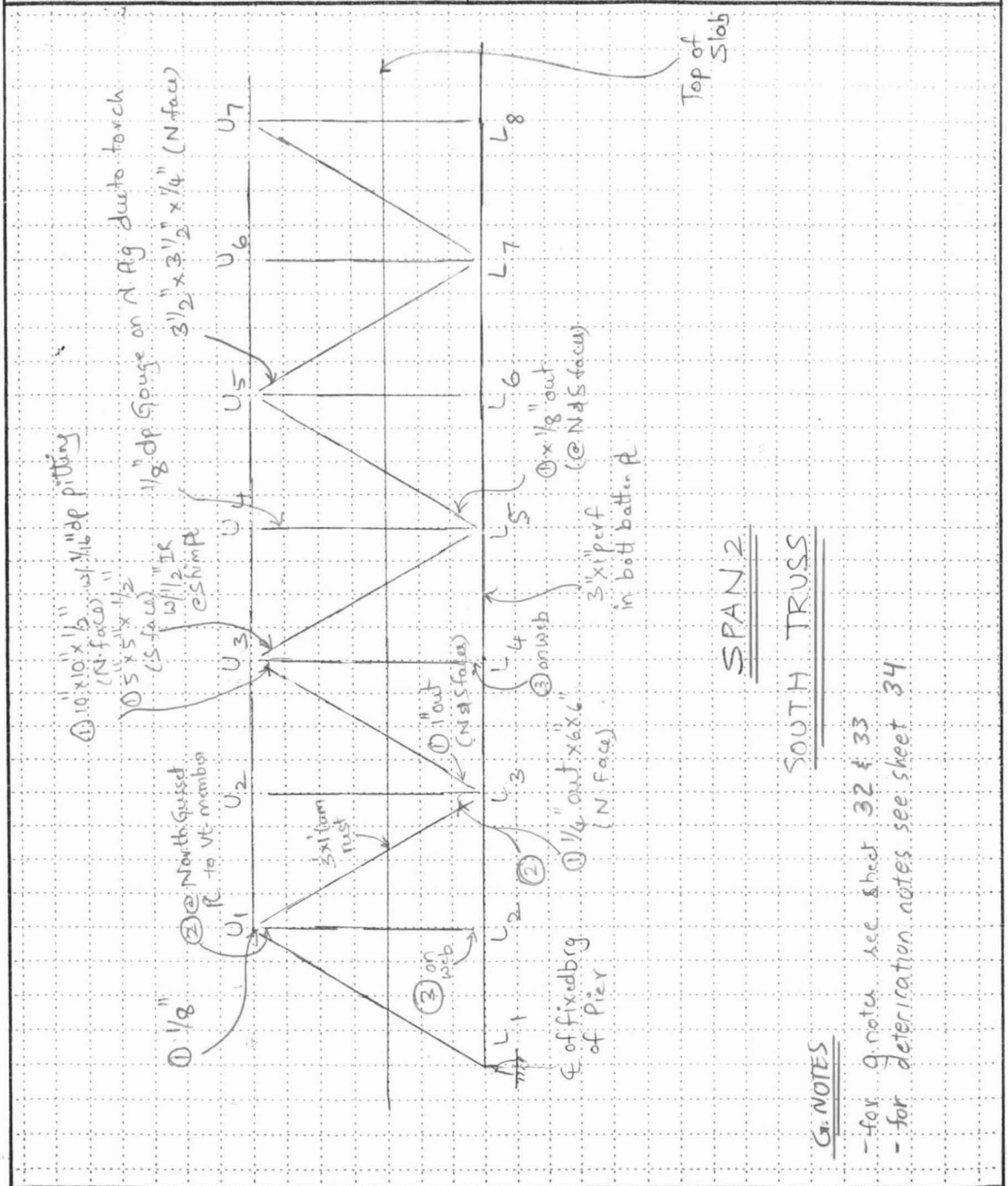
NORTH TRUSS

G NOTES

- for 9 notes see sheet 32 & 33
- for deterioration notes see sheet 34

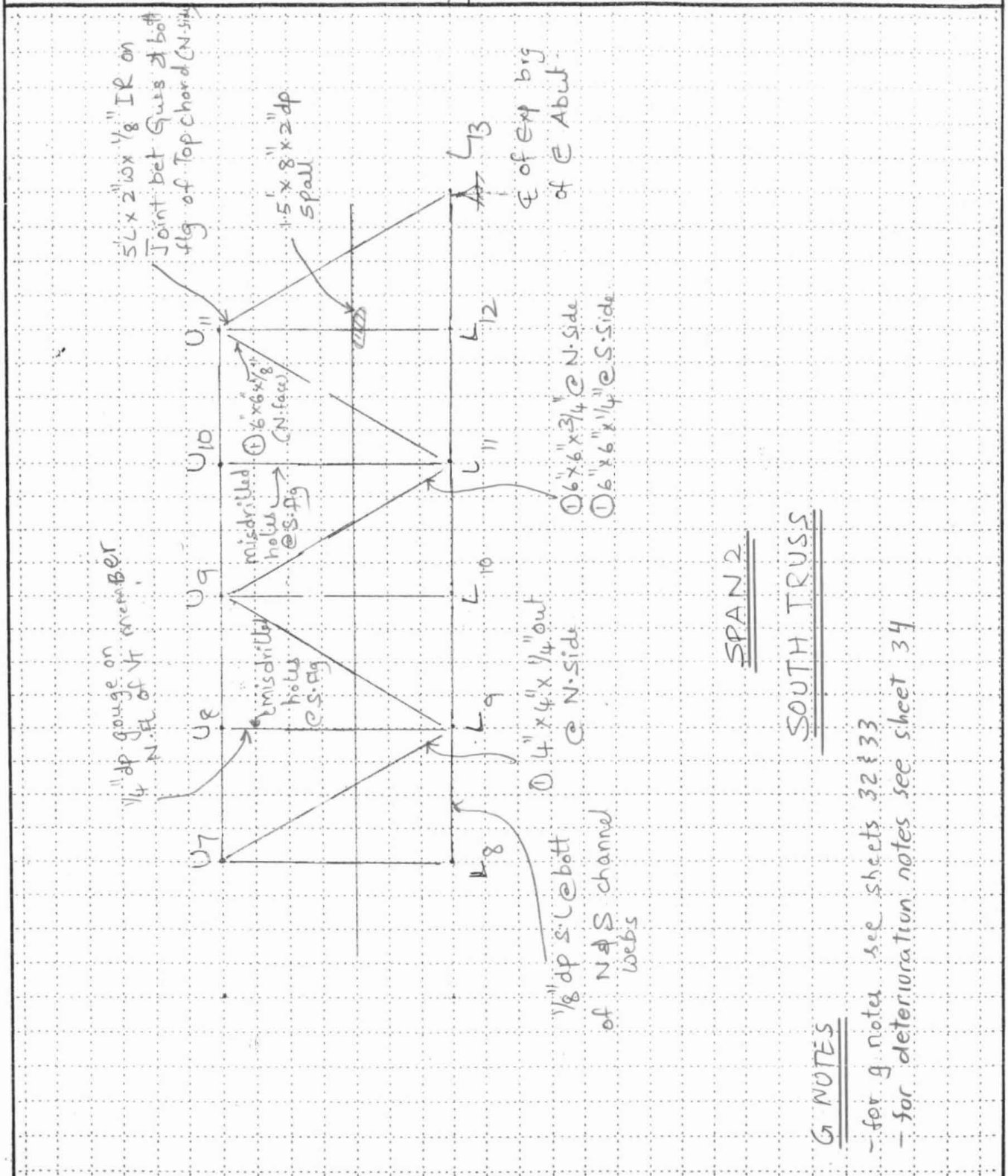
Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 9/10/07	SHEET 43 OF 61
FIELD NOTES	CREW: RDB, D4	
DESCRIPTION: SUPERSTRUCTURE FRAMING		



Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 09/10/07	SHEET 44 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: SUPERSTRUCTURE FRAMING		



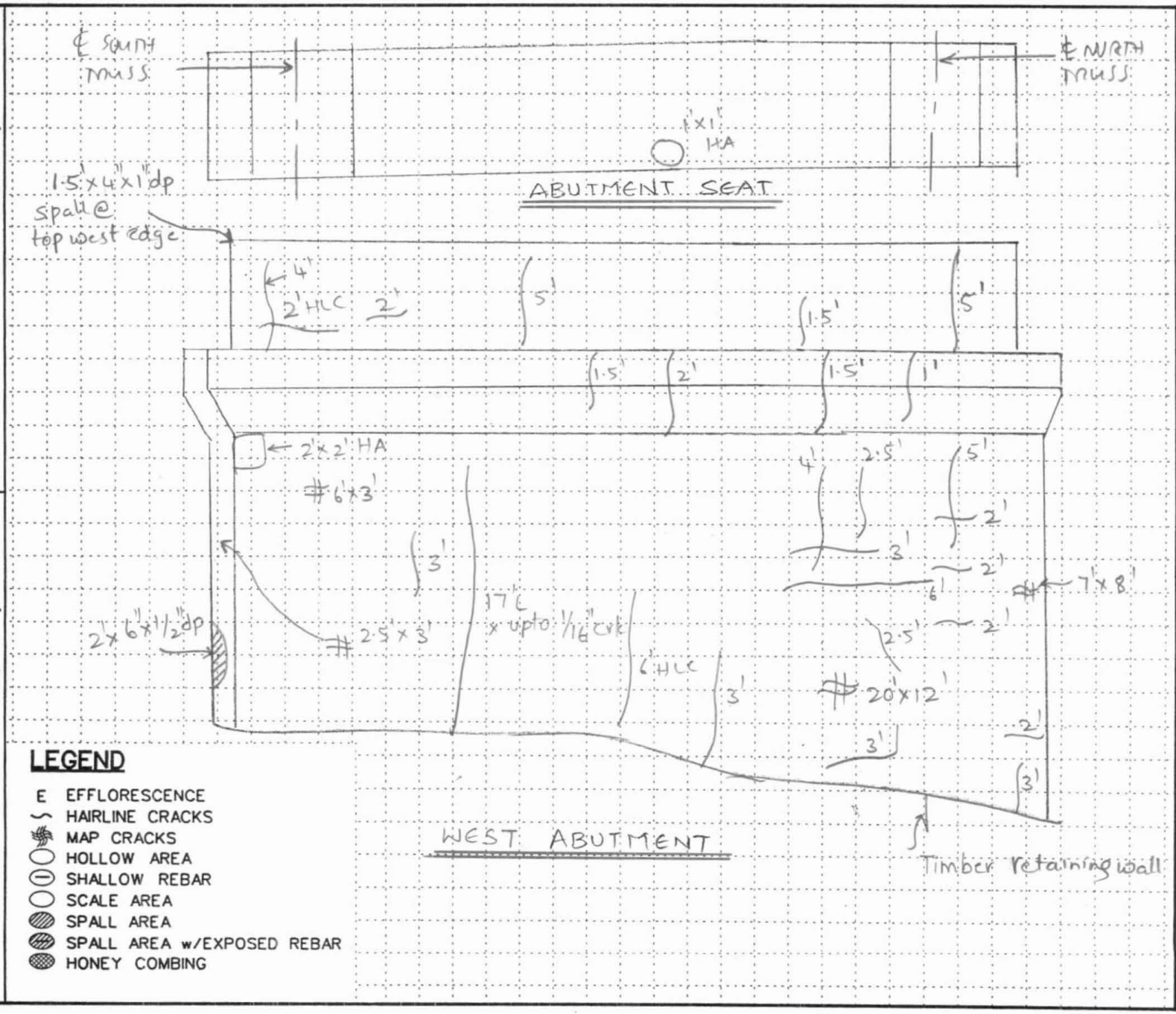
SPAN 2

SOUTH TRUSS

G NOTES

- for g notes see sheets 32 & 33
- for deterioration notes see sheet 34

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company



Revision | Date | Crew | Company

Revision | Date | Crew | Company

Revision | Date | Crew | Company

Revision | Date | Crew | Company

AI Engineers, Inc.

DESCRIPTION: FIELD NOTES SUBSTRUCTURE

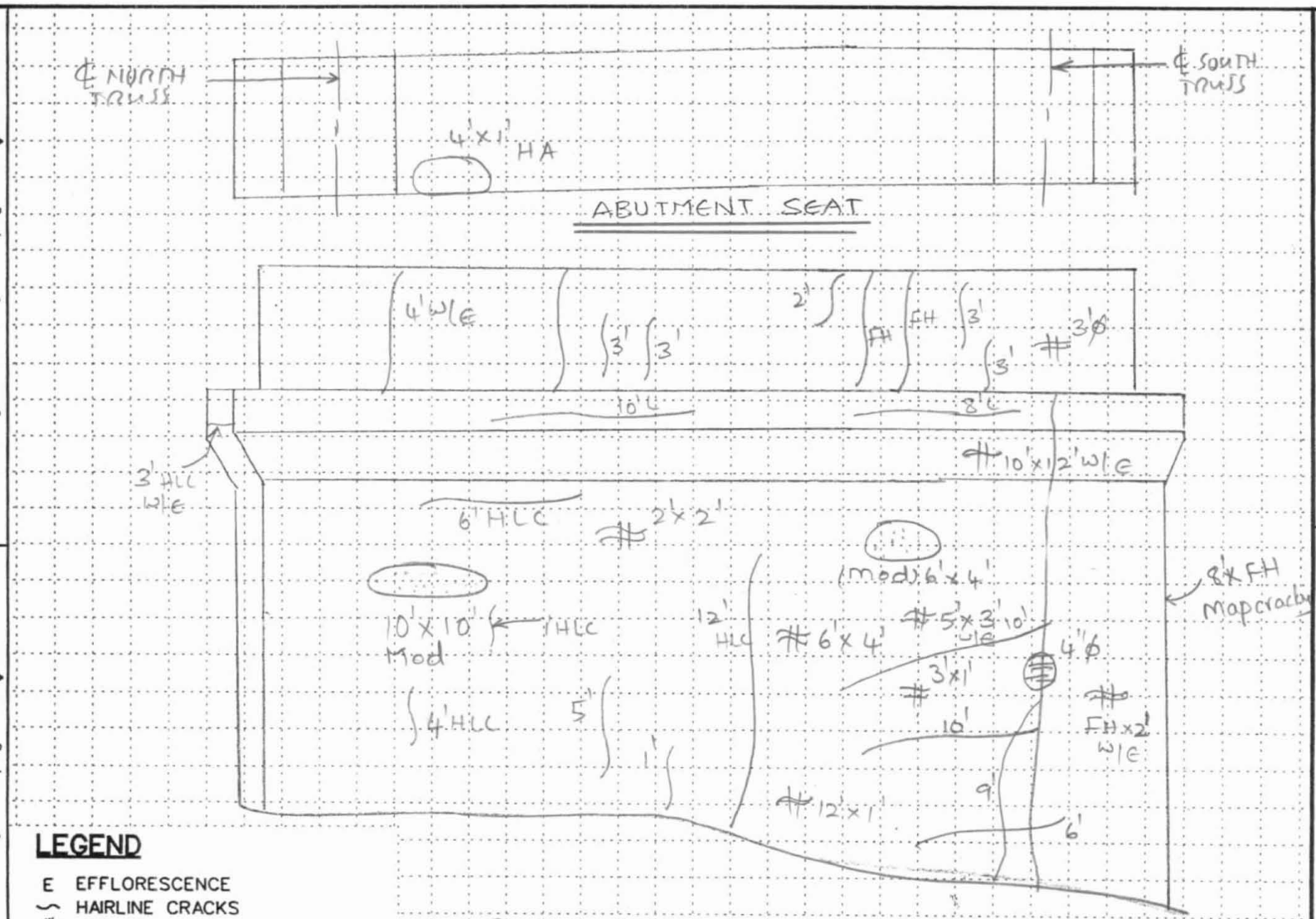
CREW: RDB_DY

DATE: 08/16/07

JOB NO. 170-2729

BRIDGE NO: 00488

SHEET 45 OF 61



EAST ABUTMENT

G. NOTES

1) Random Conc patches w/ Mapcracking sounds solid

2) Hvy Sand on Abut Seat

LEGEND

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

Revision	Date	Crew	Company

Revision	Date	Crew	Company

AI Engineers, Inc.

FIELD NOTES

DESCRIPTION: SUBSTRUCTURE

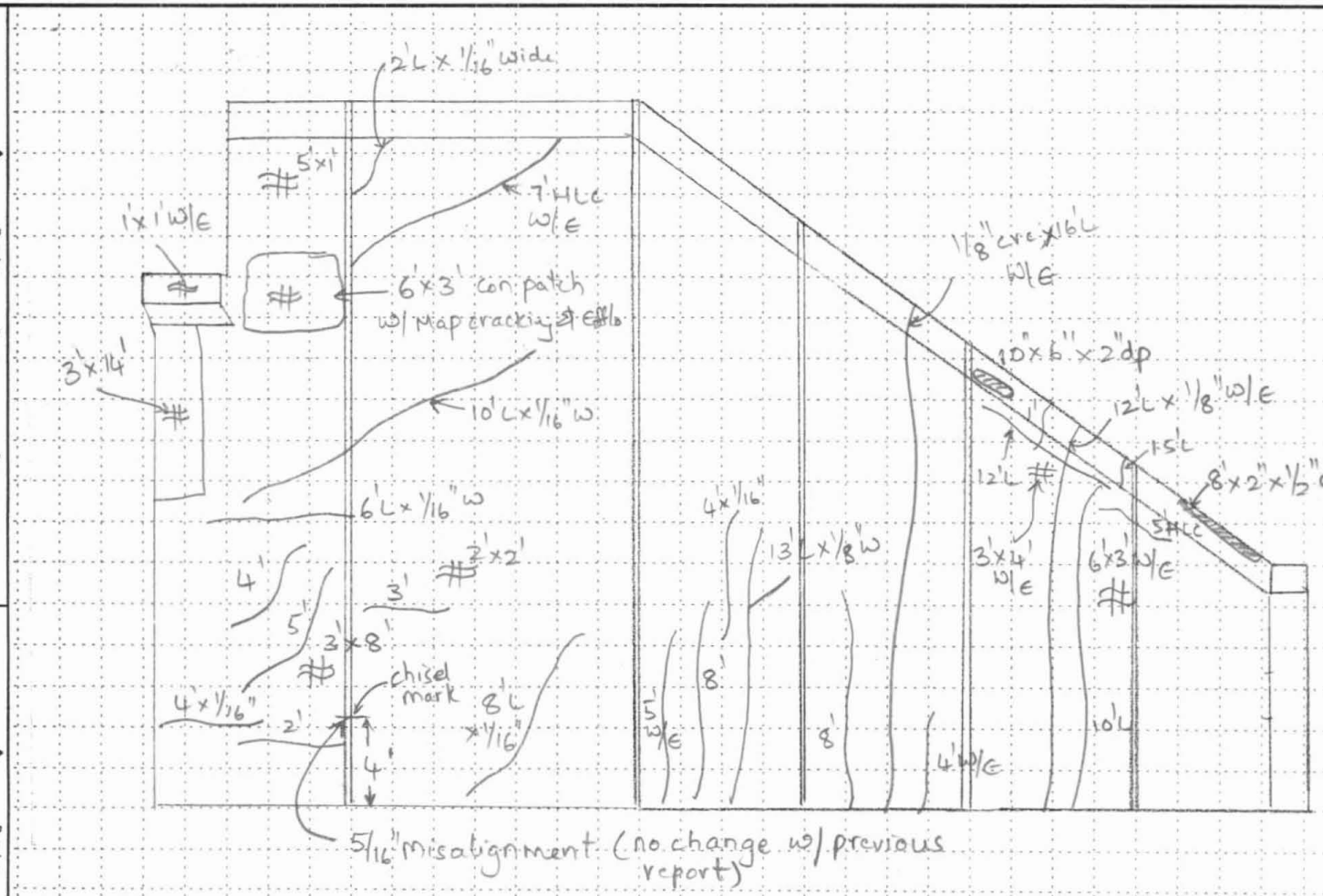
CREW: RDB, DY

JOB NO. 170-2729

DATE: 08/16/07

BRIDGE NO: 00488

SHEET 46 OF 61



LEGEND

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

NORTHWEST WINGWALL

G. Notes

1) Minor Grafitti @ random locations
2) Mod mass growth along top of Wingwall. Random small concrete patches sounds solid
3) Joint filler material cracking & breaking out

Revision	Date Crew Company
Revision	Date Crew Company
Revision	Date Crew Company
Revision	Date Crew Company

AI Engineers, Inc.

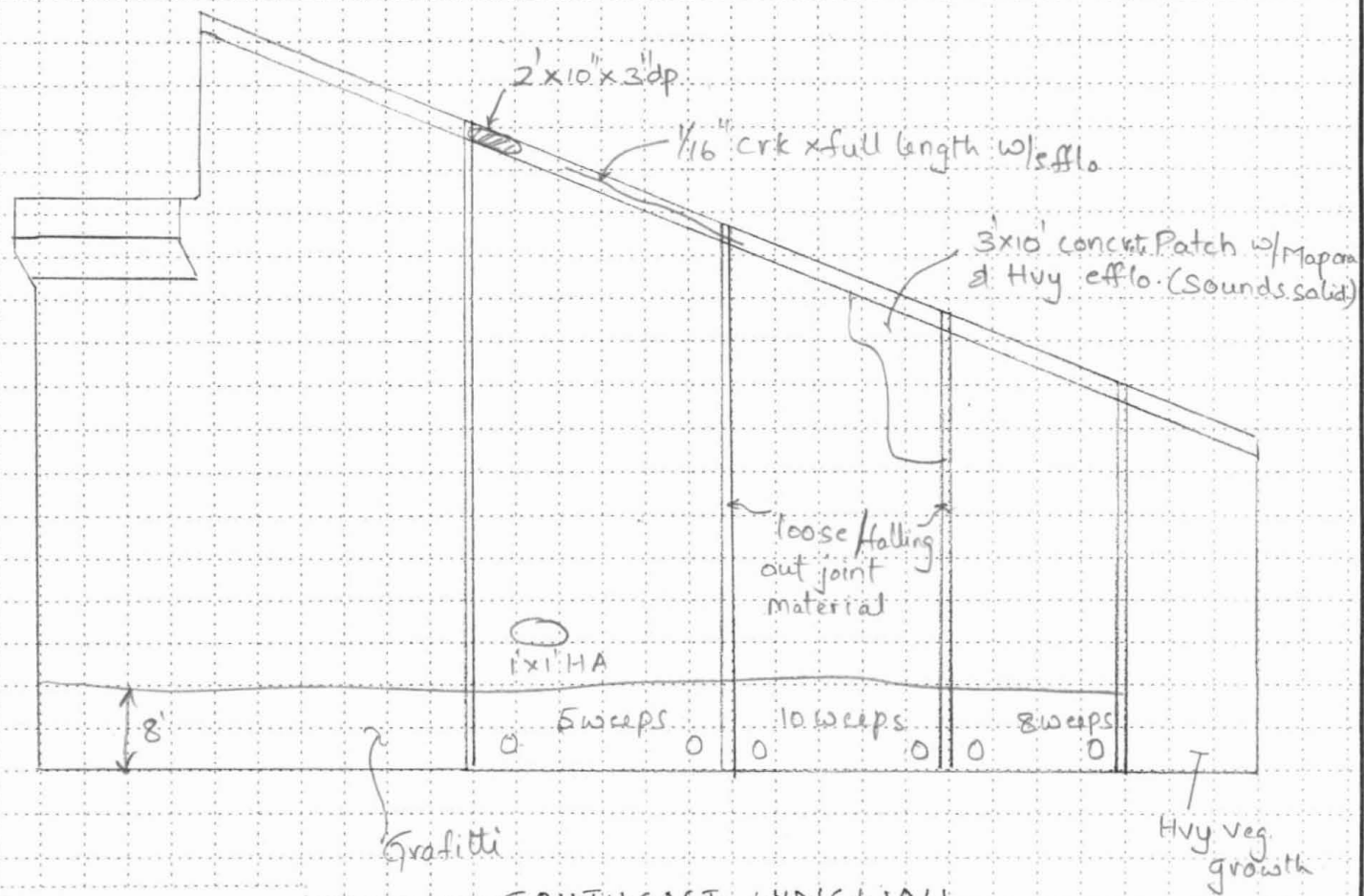
DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO. 170-2729 | BRIDGE NO: 00488

DATE: 8/16/07 | SHEET 47 OF 61

CREW: RDB, DY



SOUTHEAST WINGWALL

LEGEND

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

G. Notes

1) 100% Mapcracking on entire South East WW face w/50% efflo & Mapcracking upto 1/16" wide @ rand. locations
2) Grafitti @ Bottom of wingwall
3) Random concrete patches w/ Mapcracking & efflo, patches sound solid unless noted

Revision | Date | Crew | Company

Revision | Date | Crew | Company

Revision | Date | Crew | Company

Revision | Date | Crew | Company

AI Engineers, Inc.

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

CREW: RDB, DY

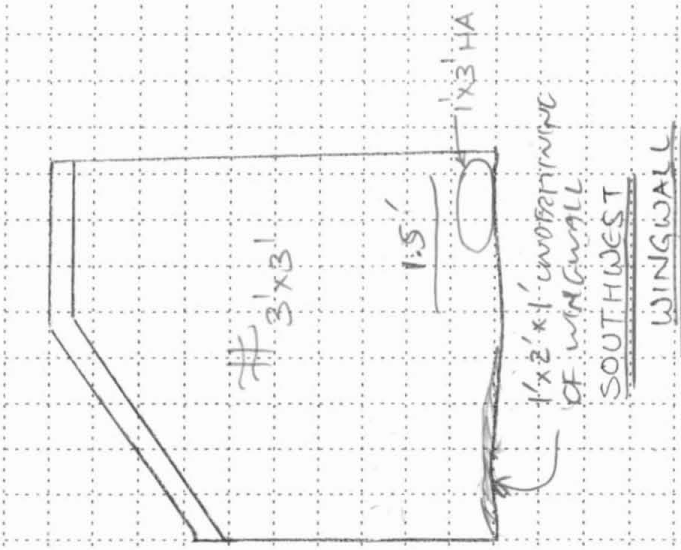
DATE: 08/16/07

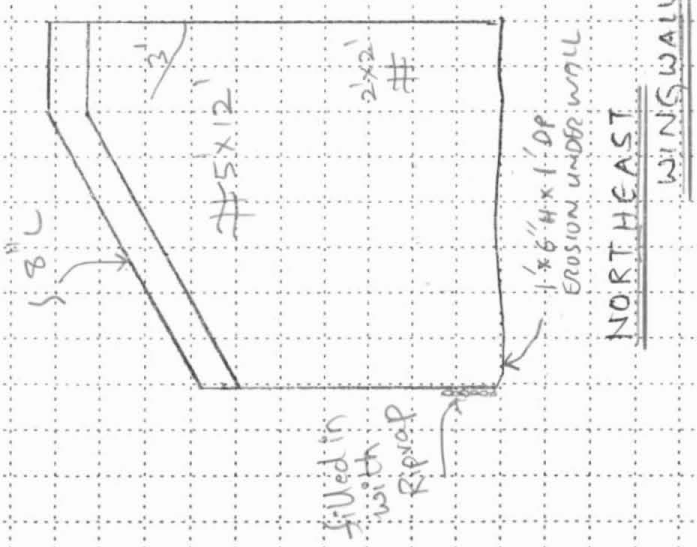
JOB NO. 170-2729

BRIDGE NO: 00488

SHEET 48 OF 61

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 08/16/07	SHEET 49 OF 61
FIELD NOTES	CREW: RDB, DY	
DESCRIPTION: SUBSTRUCTURE		



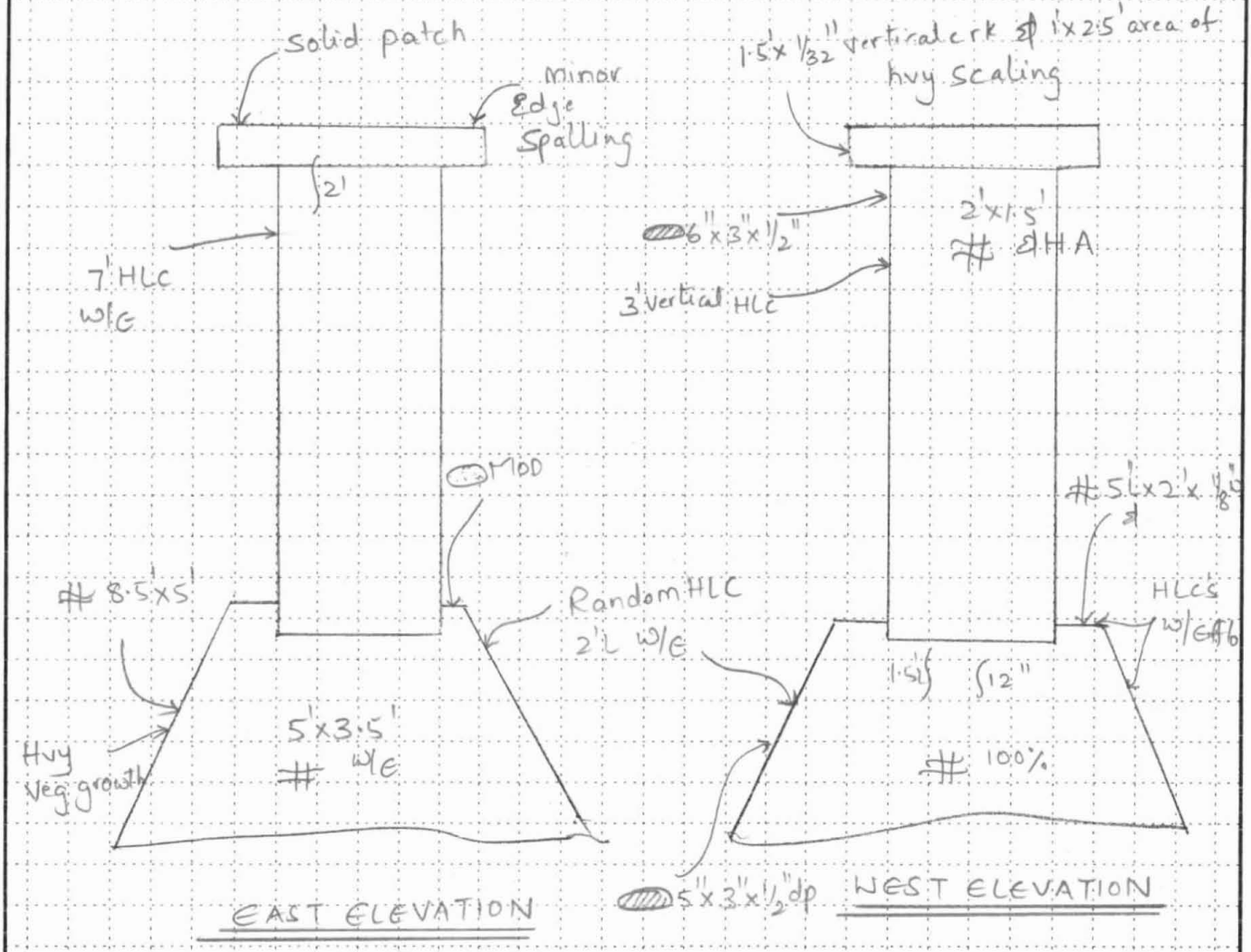


LEGEND

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 09/10/07	SHEET 50 OF 61
FIELD NOTES	CREW: RDB_D4	
DESCRIPTION: SUBSTRUCTURE		

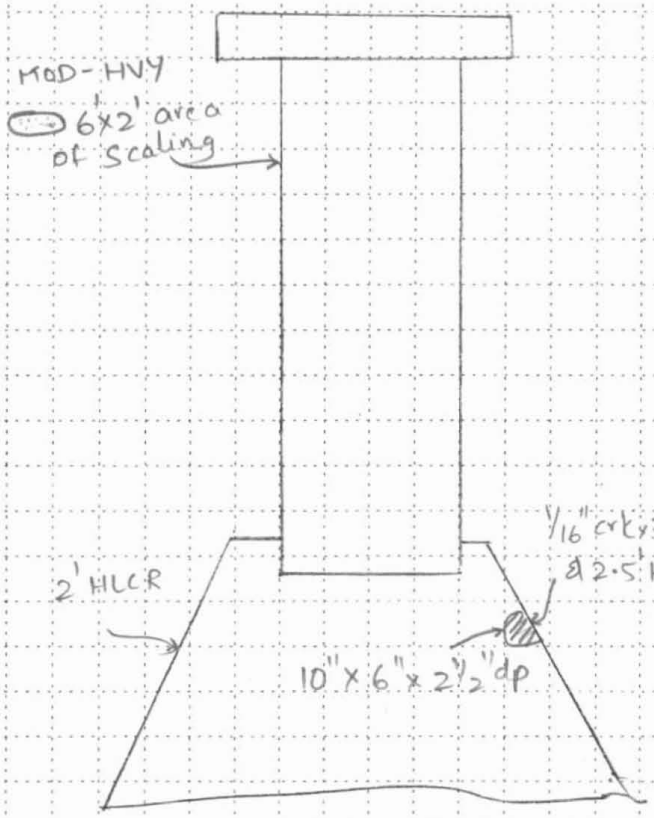


LEGEND

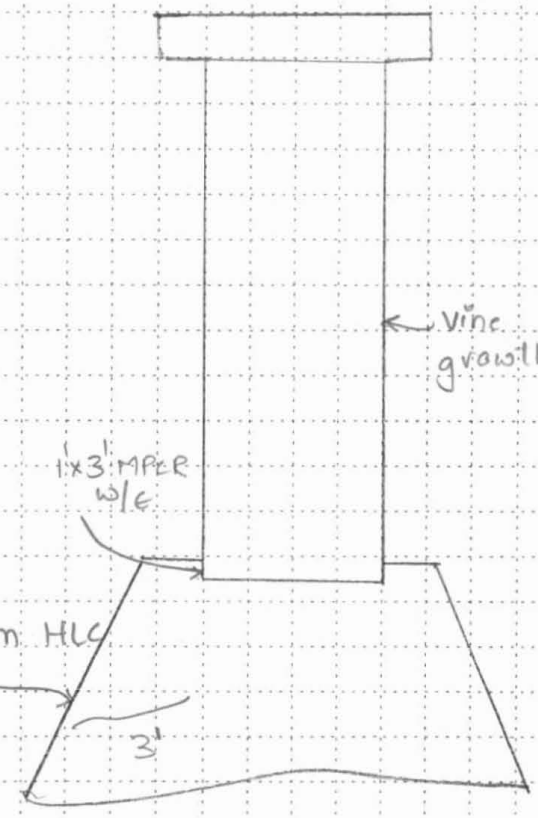
- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.	JOB NO. 170-2729	BRIDGE NO: 00488
	DATE: 09/10/07	SHEET 51 OF 61
FIELD NOTES	CREW: RDB, DY.	
DESCRIPTION: SUBSTRUCTURE		



WEST ELEVATION



EAST ELEVATION

NORTH COLUMN

LEGEND

- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEY COMBING

Revision	Date	Crew	Company	Revision	Date	Crew	Company
Revision	Date	Crew	Company	Revision	Date	Crew	Company

AI Engineers, Inc.

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 00488 Date 08/16/07

Town: WINDHAM., CT Photographer: RDB

Carried / Crossed: Route 66 over New England Central Railroad

Film Frame #	Image Description
1	Bridge ID.
2	Bridge from West App.
3.	West App from Bridge
4	East App from Bridge
5.	Bridge from East App
6.	North elevation Elevation (span 2)
7	South elevation
8	Underside of deck & framing in span 2
9.	East Abut Elevation
10	South East WW elevation
11	Pier Elev under North truss
12	Pier Elev under South truss
13	West Abut Elev (note: crib wall)
14	North east wingwall elevation
15	Rocker Bearing under North truss over E Abut
16	Debris on E. Abutment (Note Bearing on
	under South Truss)
17	North Elevation
18	General view of parapet, Side walk, fence, railing
	along North fascia
19	Ash Plug joint w/ pot holes @ East Abut
20	trailing End transition @ East Abut (Missing
	bolts & minor damage)

AI Engineers, Inc.

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 00488 Date 8/16/07

Town: WINDHAM, CT Photographer: RDB

Carried / Crossed: Route 66 over New England Central Railroad)

Film Frame #	Image Description
21	Damage along the NorthEast Guard rail.
22	cracking along E. App pavement
23	plug joint @ the pier.
24	General view of overlay in span 1 (Note
	Minor cracking)
25	Leading End transition @ W. Abut (note
	Settled transition curb)
26	Scaling & cracks along Northwest Approach
	Sidewalk
27	Spall along the sidewalk of Northtruss @ W. Abut
28	Adhesion separation along North shoulder of
	W. Abutment
29	cracks along the North parapet near W. Abut
30	Spall around the AB @ transition end of South parapet
31	random cracks along the lips of sidewalk along
	the Northtruss (starting to break up)
32	Sidewalk w/ mod/hvy scaling & concrete patches
33	Drain half covered w/ overlay in span 2 (Similar
	@ random locations)
34	POTHOLES IN THE WILLIMANTIC WASTE PAPER COMPANY DRIVEWAY
	AT THE TRANSITION TO THE EAST APPROACH PAVEMENT
35	COLLISION DAMAGE TO NORTHEAST GUARDRAIL BOXING GLOVE
	TYPE END TERMINAL

AI Engineers, Inc.

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 00488 Date 08/23/7

Town: WINDHAM, CT Photographer: D4.

Carried / Crossed: ROUTE 66 OVER NEW ENGLAND CENTRAL RAILROAD

Film Frame #	Image Description
1	Rust hole @ Diagnol bracing @ North truss
	panel point L_3 span 2
2.	Section loss along the top flange of the channel
	bet North truss L_4 & L_5, span 2
3	BENT BOTTOM CHORD BATTEN PLATE BETWEEN NORTH TRUSS PANEL
	POINTS L4 & L5. NOTE PACK RUST BETWEEN PLATE & BOTTOM CHORD, span 2
4.	Pack rust upto 1 1/2" bet North Gusset pl &
	truss member @ L_3, North truss, in span 2
5.	West side of FB7 in span 2 @ North truss; (note debris & rust)
6	Haunch spalls along east side of FB5 near
	South truss (note: short drain) in span 2
7	fixed bearing @ North truss pier
8.	Drain pipe @ East side of South truss in span 2
	@ FB7
9	View of underside of Deck betw FB7 & FB8
	in span 2
10	transverse crack w/efflo underside of sidewalk
	@ FB7 in span 2
11.	Spall along the haunch between FB1 of span 2
	& FB13 of span 1 @ North truss
12	" " "
	" " @ South truss
13.	Section loss & pitting @ East side of FB13 in span 1

AI Engineers, Inc.

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

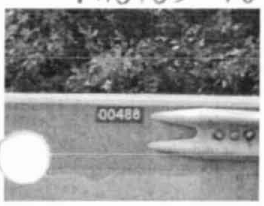
Bridge No. 00488 Date 09-10-07

Town: Windham, CT Photographer: DY

Carried / Crossed: Route 66 over New England Central railroad.

Film Frame #	Image Description
1	Imp. rust bet back to back angles @ bottom of diagnol.
	bracing member @ South truss @ L_1. in span 2
2	100% SL on AB nuts over North Truss fixed brg
3	Rusted thru hole @ bott batten pl @ L_4 & L_5
	of South truss in span 2 (also hvy Pack rust
	b/w bet).
4	100% SL on AB nuts @ Exp. brg @ South truss
	over E. Abut
5	Section loss on AB nuts @ Exp brg @ North truss over
	West Abut
6	IR @ top of top batten plate @ L_2 North truss span 1
7	bent bottom batten plate due to Pack rust @ L_3
	North truss span 1
8	Rusted thru hole @ bot. East corner of N. Guss pl @
	L_5 over North truss (note 100% SL on RH) sp 1
9	Section loss along the TF of channel betw L_5 & L_6
	North truss – span 1
10	SL @ bottom of bottom chord @ L_8 near batten
	plate on S truss in span 1
11	RUST HOLE IN BOTTOM CHORD TOP PLATE FOR NORTH TRUSS
	AT PANEL POINT L13 IN SPAN 2
12	PACK RUST AT CORNER OF TOP CHORD VERTICAL GUSSET PLATE FOR
	NORTH TRUSS AT PANEL POINT L3 IN SPAN 2

PHOTOS FOR FIELD PHOTO LOG DATED 08-16-07 SHEET 56 OF 61



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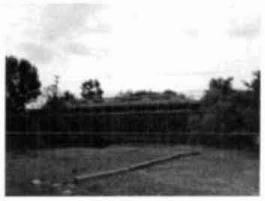
temp 002

temp 003

temp 004

temp 005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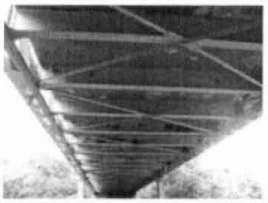
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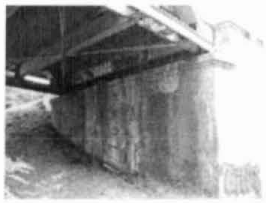
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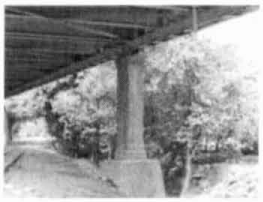
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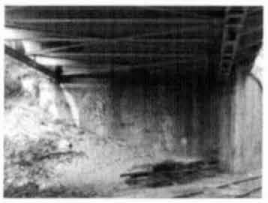
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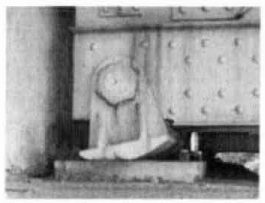
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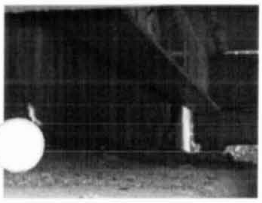
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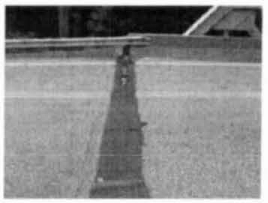
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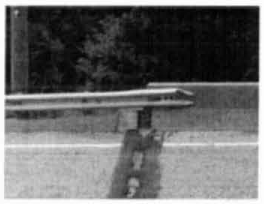
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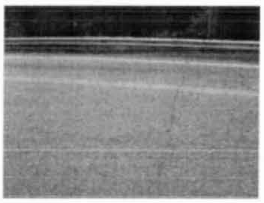
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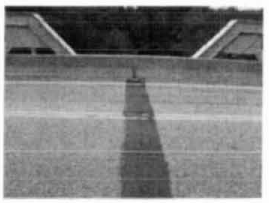
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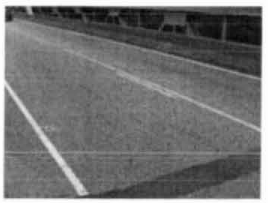
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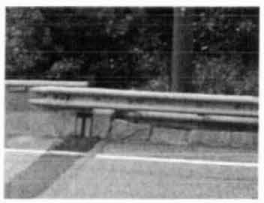
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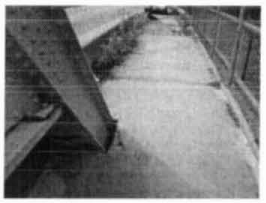
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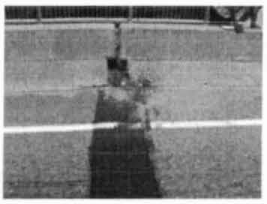
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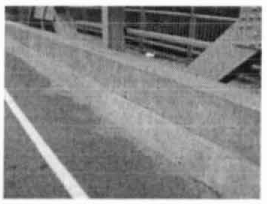
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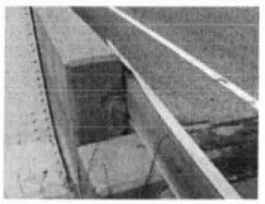
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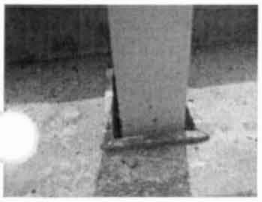
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PHOTOS FOR FIELD PHOTO LOG DATED 08-23-07

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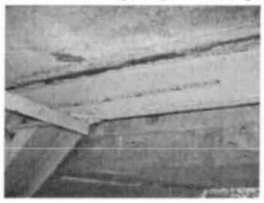

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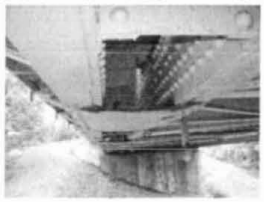

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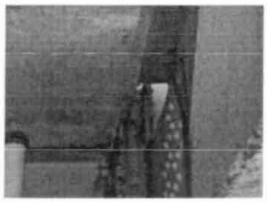

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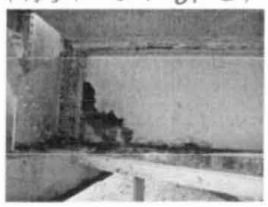

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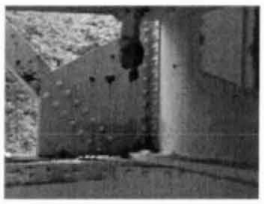

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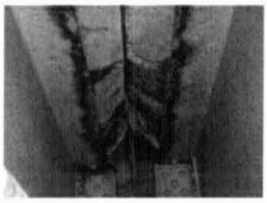

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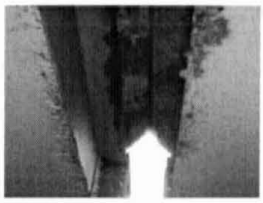

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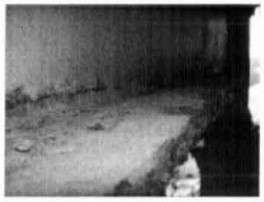

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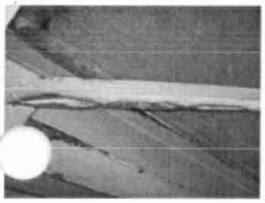
PHOTOS FOR FIELD PHOTO LOG DATED 09-10-07



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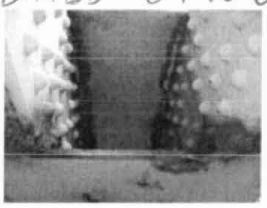

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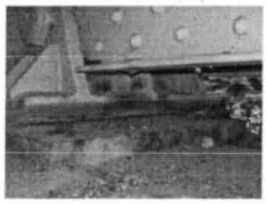

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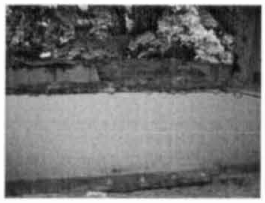

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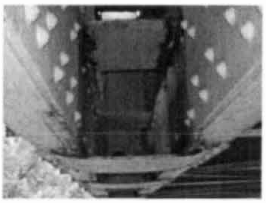

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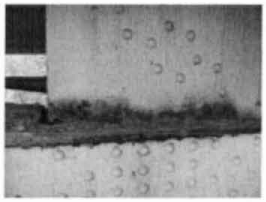

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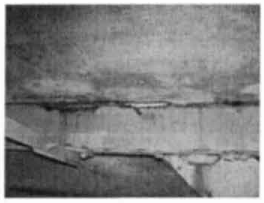

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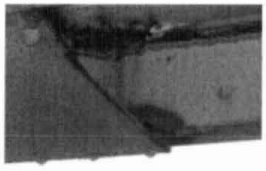


temp 010

temp 011

temp 012

AI Engineers, Inc.

REPORT PHOTO LOG

Project No:	170-2729
Bridge No:	00488
Town:	Windham, CT
Carried/Crossed:	Route 66 over New England Central Railroad

Photo Frame No.	Photo Description
1	Bridge identification number.
2	South elevation.
3	North elevation.
4	Bridge from the west approach.
5	West approach from the bridge.
6	East Approach from the bridge.
7	Bridge from the east approach.
8	View of the bituminous concrete overlay in Span 1. Note the cracking.
9	Underside of deck and framing in Span 2.
10	Spall along the deck underside between Floorbeams FB1 and FB13 near the North Truss at the pier. Note the section loss along the floorbeam flanges.
11	Haunch spalls along the east side of Floorbeam FB5 near the South Truss in Span 2.
12	View of the north parapet in Span 1. Note the cracking in the sloped concrete curb and parapet and the PVC drain pipe for the sidewalk.

AI Engineers, Inc.

REPORT PHOTO LOG

Project No:	170-2729
Bridge No:	00488
Town:	Windham, CT
Carried/Crossed:	Route 66 over New England Central Railroad

Photo Frame No.	Photo Description
13	Settled granite transition curb along the south side of the west approach.
14	View of the sidewalk, railing and chain link fence along the North Truss.
15	Cracks in the lip around a truss vertical.
16	Spall in the sidewalk around the truss diagonal at the West Abutment.
17	Transverse crack with efflorescence along the sidewalk underside at Floorbeam FB7 in Span 2.
18	Severe scaling, cracks and patches along the west approach sidewalk.
19	Section loss along the top flange of the sidewalk support channel between North Truss Panel Points L4 and L5 in Span 2.
20	Partially paved over scupper drain along the south curb in Span 2.
21	Potholes with exposed steel plate along the asphaltic plug joint at the East Abutment.
22	Rocker expansion bearing for the North Truss at the East Abutment.
23	Rocker expansion bearing for North Truss at the West Abutment. Note the section loss to the anchor bolt nuts and debris under the rocker.
24	Fixed bearings for the North Truss at the pier.

AI Engineers, Inc.

REPORT PHOTO LOG

Project No:	170-2729
Bridge No:	00488
Town:	Windham, CT
Carried/Crossed:	Route 66 over New England Central Railroad

Photo Frame No.	Photo Description
25	Section loss to the fixed bearing anchor bolt nuts for the North Truss at the pier.
26	Section loss and pitting along the east side of the Floorbeam FB13 web and bottom flange in Span 1.
27	Pack rust between the vertical gusset plate and the North Truss at Panel Point L3 in Span 2.
28	Pack rust between the vertical gusset plate and the North Truss at Panel Point U3 in Span 2.
29	Bent lower chord batten plate between North Truss Panel Points L4 and L5. Note the pack rust between the plate and the lower chord.
30	Rust hole in the North Truss lower chord top plate at Panel Point L13 in Span 2.
31	Pack rust between lateral bracing angles at South Truss Panel Point L1 in Span 2.
32	Rust hole in the lateral bracing at North Truss Panel Point L3 in Span 2.
33	East Abutment elevation.
34	Southeast Wingwall elevation. Note the graffiti along the wall.
35	Elevation of the north pier column.
36	Heavy accumulation of sand on the East Abutment seat.

AI Engineers, Inc.

REPORT PHOTO LOG

Project No:	170-2729
Bridge No:	00488
Town:	Windham, CT
Carried/Crossed:	Route 66 over New England Central Railroad

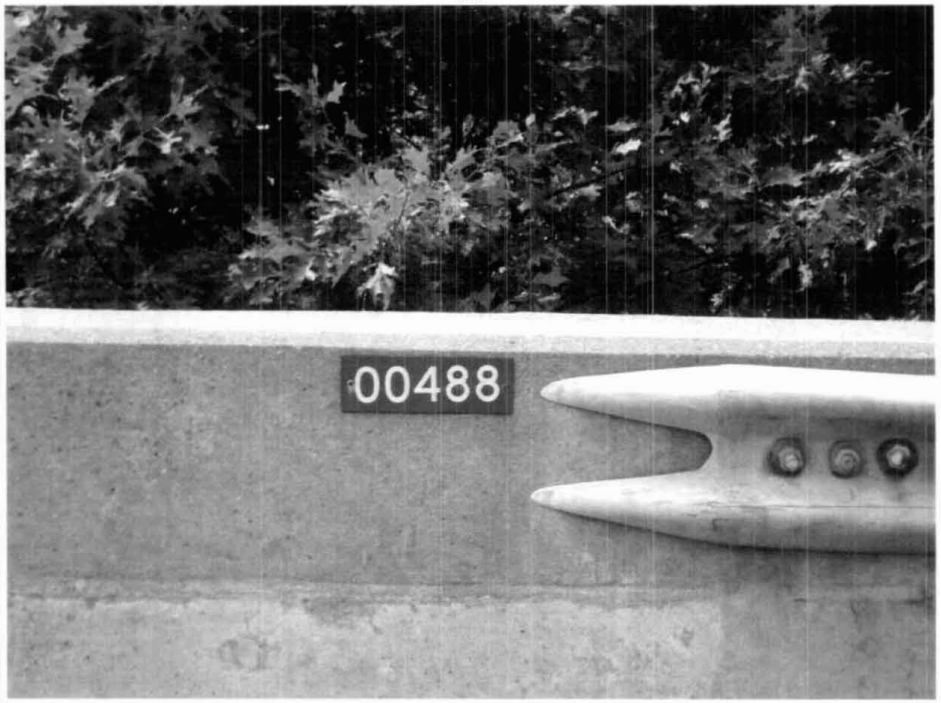
Photo Frame No.	Photo Description
37	Cracking along the east approach pavement.
38	Damage along the northeast metal beam guide rail.

AI Engineers, Inc.

DATE:	**08-16-07**
JOB NO.:	**170-2729**

BRIDGE IDENTIFICATION:	**00488**
FEATURE CARRIED:	**Route 66**
FEATURE CROSSED:	**New England Central Railroad**
LOCATION:	**Windham, CT**

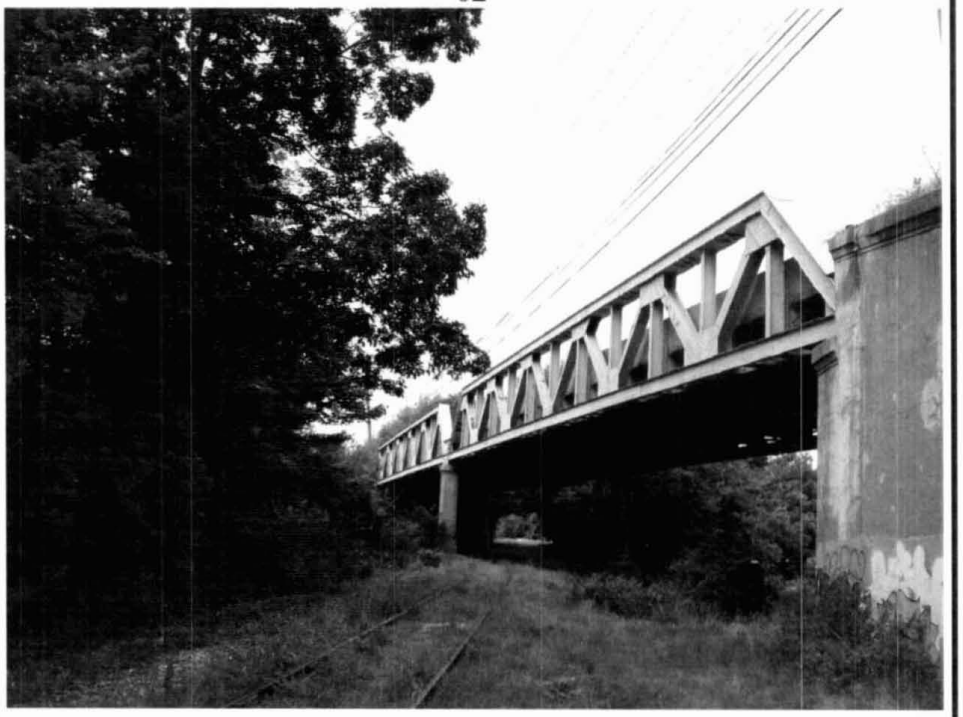
PHOTO NO.
01



DESCRIPTION: **Bridge identification number.**

PHOTO: 00488P01.JPG

PHOTO NO.
02



DESCRIPTION: **South elevation.**

PHOTO: 00488P02.JPG

AI Engineers, Inc.

BRIDGE IDENTIFICATION:	**00488**
FEATURE CARRIED:	**Route 66**
FEATURE CROSSED:	**New England Central Railroad**
LOCATION:	**Windham, CT**

DATE: **08-16-07**

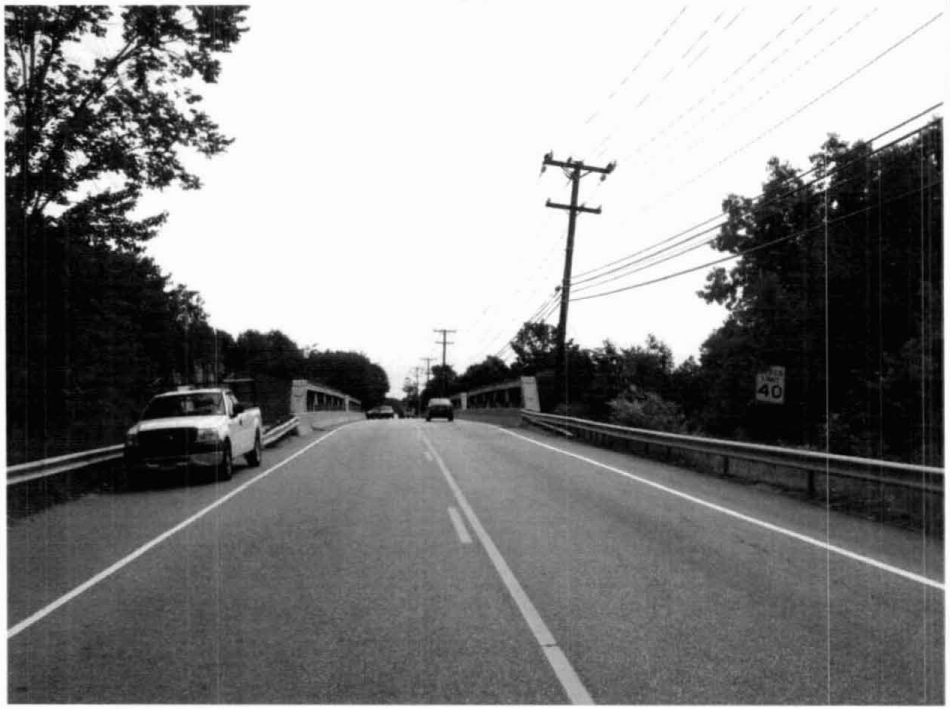
JOB NO.: **170-2729**

PHOTO NO.
03

DESCRIPTION: **North elevation.**

PHOTO: 00488P03.JPG

PHOTO NO.
04



DESCRIPTION: **Bridge from the west approach.**

PHOTO: 00488P04.JPG

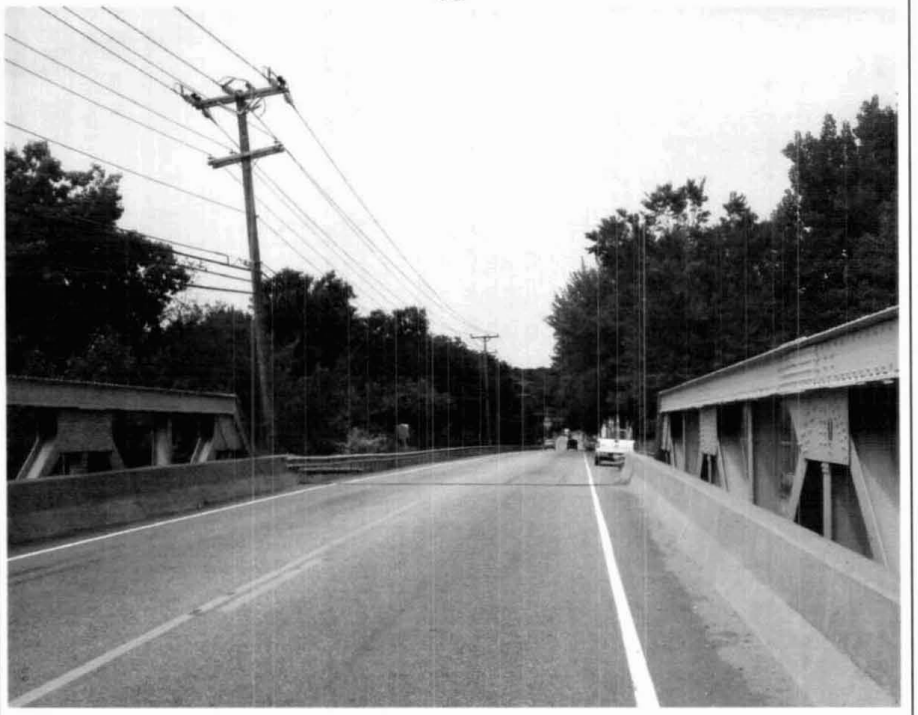
AI Engineers, Inc.

BRIDGE IDENTIFICATION:	**00488**
FEATURE CARRIED:	**Route 66**
FEATURE CROSSED:	**New England Central Railroad**
LOCATION:	**Windham, CT**

DATE: **08-16-07**

JOB NO.: **170-2729**

PHOTO NO.
05



DESCRIPTION: **West approach from the bridge.**

PHOTO: 00488P05.JPG

PHOTO NO.
06

DESCRIPTION: **East Approach from the bridge.**

PHOTO: 00488P06.JPG

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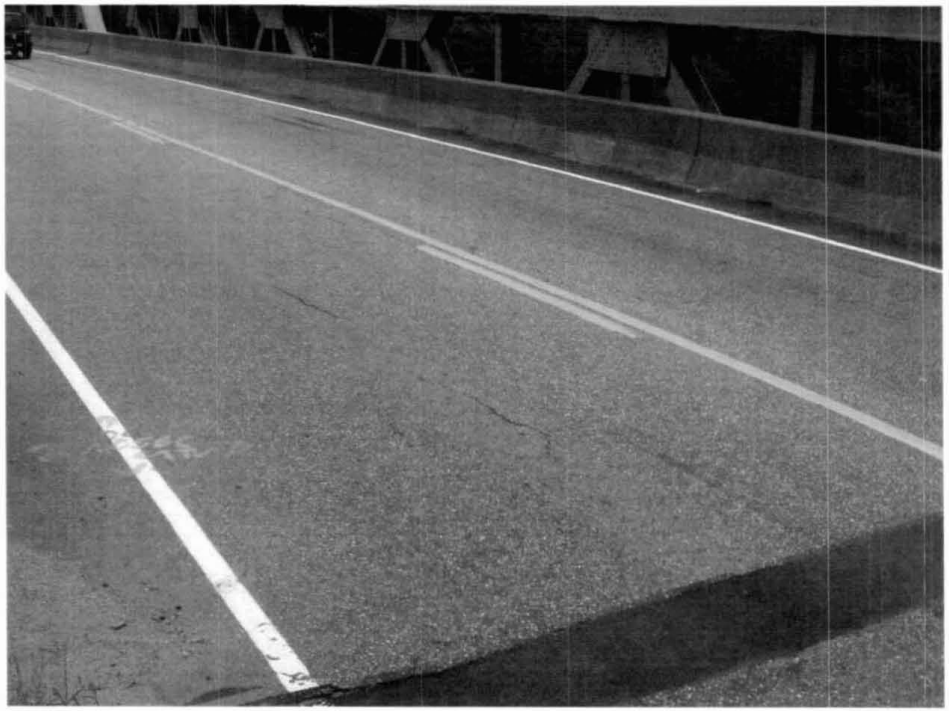
PHOTO NO.
07

DESCRIPTION: **Bridge from the east approach.**

PHOTO: 00488P07.JPG

PHOTO NO.
08



DESCRIPTION: **View of the bituminous concrete overlay in Span 1. Note the cracking.**

PHOTO: 00488P08.JPG

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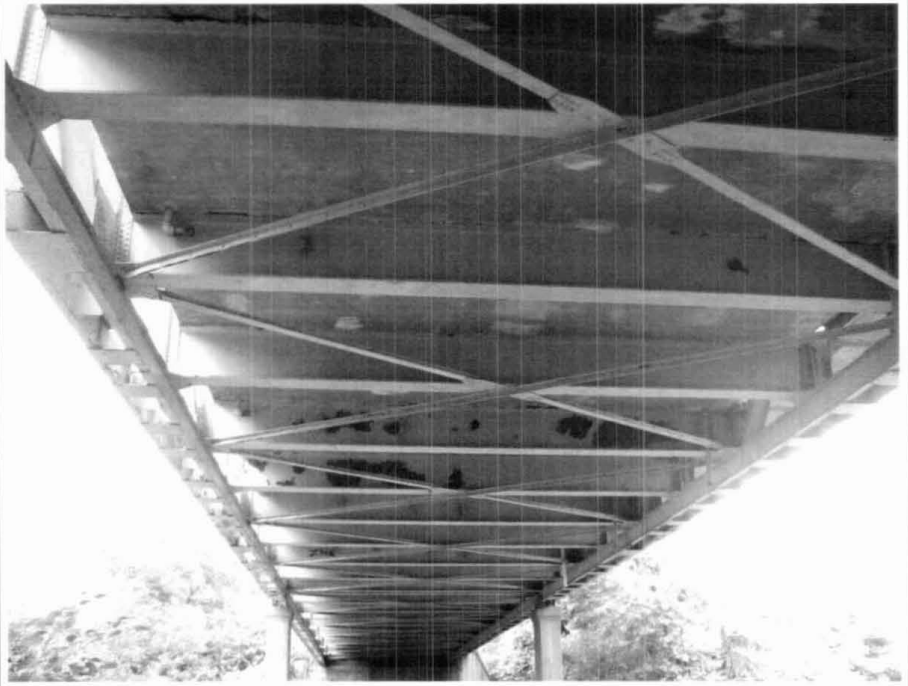
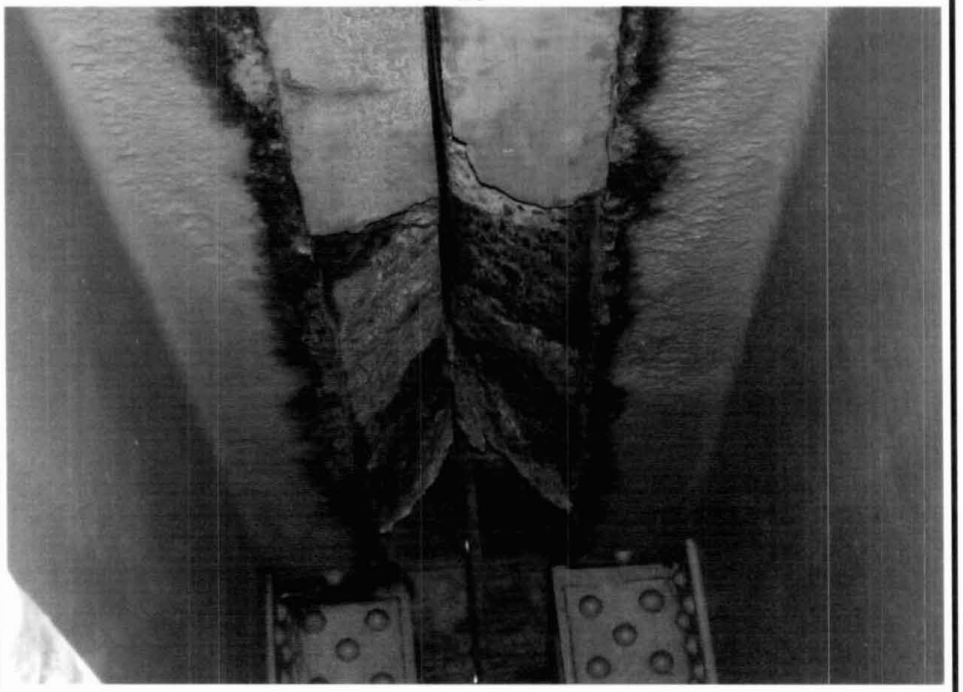
PHOTO NO.
09



DESCRIPTION: **Underside of deck and framing in Span 2.**

PHOTO: 00488P09.JPG

PHOTO NO.
10



DESCRIPTION: **Spall along the deck underside between Floorbeams FB1 and FB13 near the North Truss at the pier. Note the section loss along the floorbeam flanges.**

PHOTO: 00488P10.JPG

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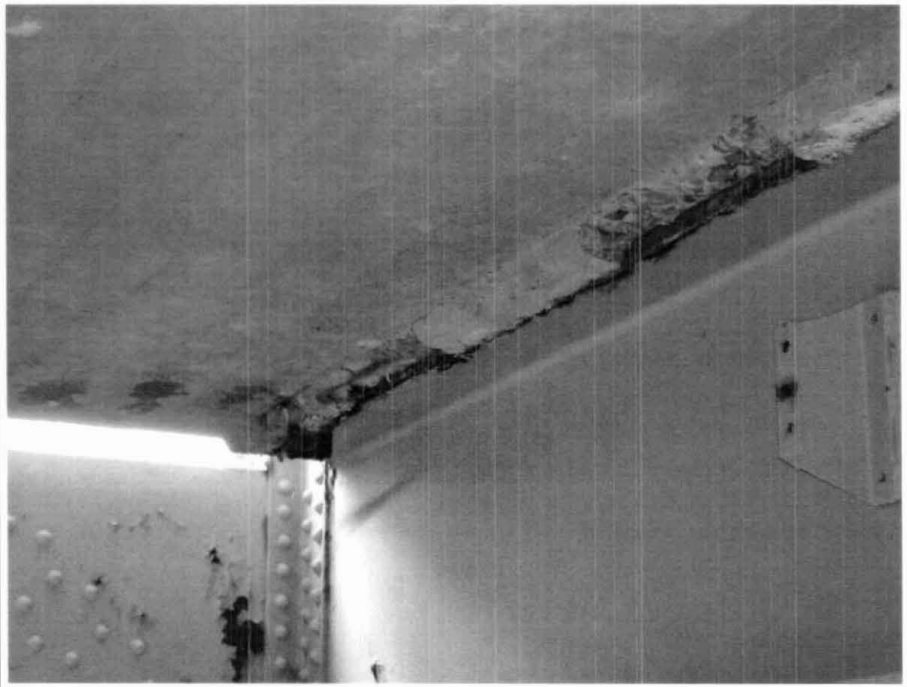
JOB NO.: **170-2729**

PHOTO NO.
11



DESCRIPTION: **Haunch spalls along the east side of Floorbeam FB5 near the South Truss in Span 2.**

PHOTO: 00488P11.JPG

PHOTO NO.
12

DESCRIPTION: **View of the north parapet in Span 1. Note the cracking in the sloped concrete curb and parapet and the PVC drain pipe for the sidewalk.**

PHOTO: 00488P12.JPG

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PHOTO NO.
13

DESCRIPTION: **Settled granite transition curb along the south side of the west approach.**

PHOTO: 00488P13.JPG

PHOTO NO.
14

DESCRIPTION: **View of the sidewalk, railing and chain link fence along the North Truss.**

PHOTO: 00488P14.JPG

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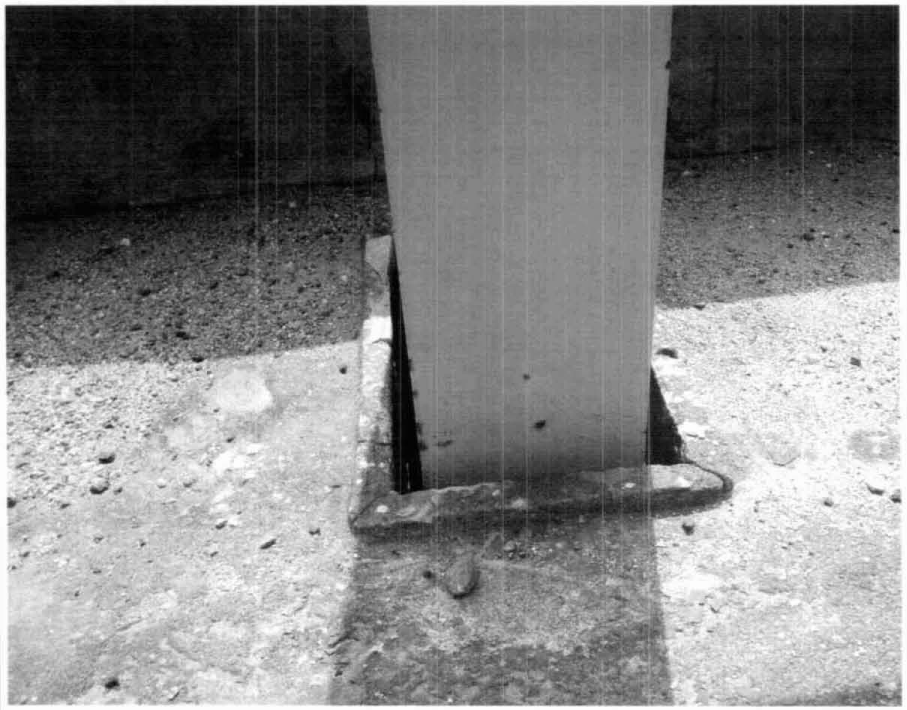
JOB NO.: **170-2729**

PHOTO NO.
15



DESCRIPTION: **Cracks in the lip around a truss vertical.**

PHOTO: 00488P15.JPG

PHOTO NO.
16

DESCRIPTION: **Spall in the sidewalk around the truss diagonal at the West Abutment.**

PHOTO: 00488P16.JPG

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PHOTO NO.
17

DESCRIPTION: **Transverse crack with efflorescence along the sidewalk underside at Floorbeam FB7 in Span 2.**

PHOTO: 00488P17.JPG

PHOTO NO.
18

DESCRIPTION: **Severe scaling, cracks and patches along the west approach sidewalk.**

PHOTO: 00488P18.JPG

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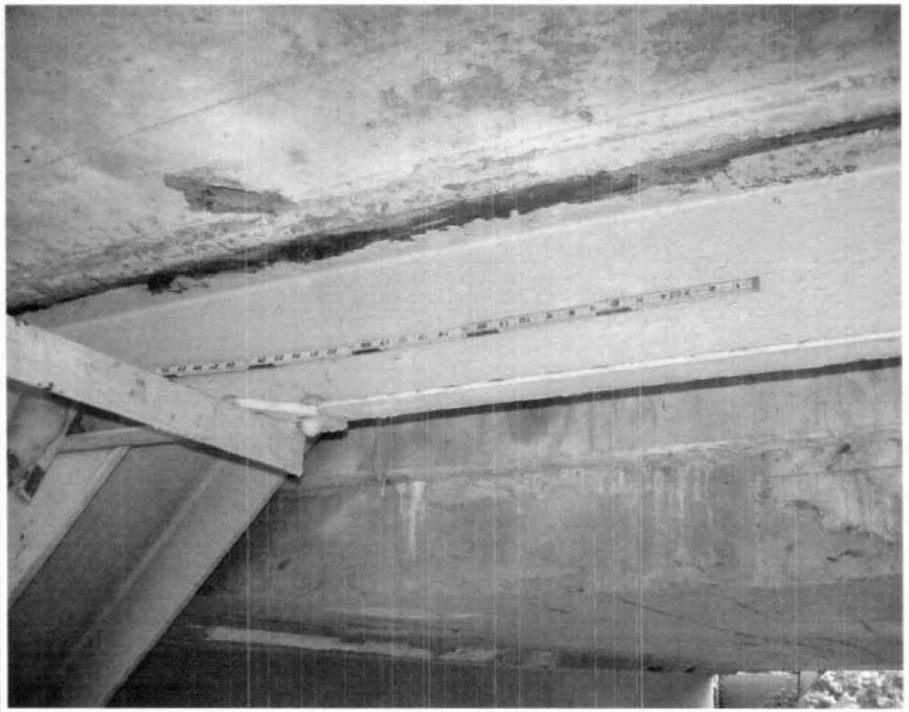
JOB NO.: **170-2729**

PHOTO NO.
19



DESCRIPTION: **Section loss along the top flange of the sidewalk support channel between North Truss Panel Points L4 and L5 in Span 2.**

PHOTO: 00488P19.JPG

PHOTO NO.
20

DESCRIPTION: **Partially paved over scupper drain along the south curb in Span 2.**

PHOTO: 00488P20.JPG

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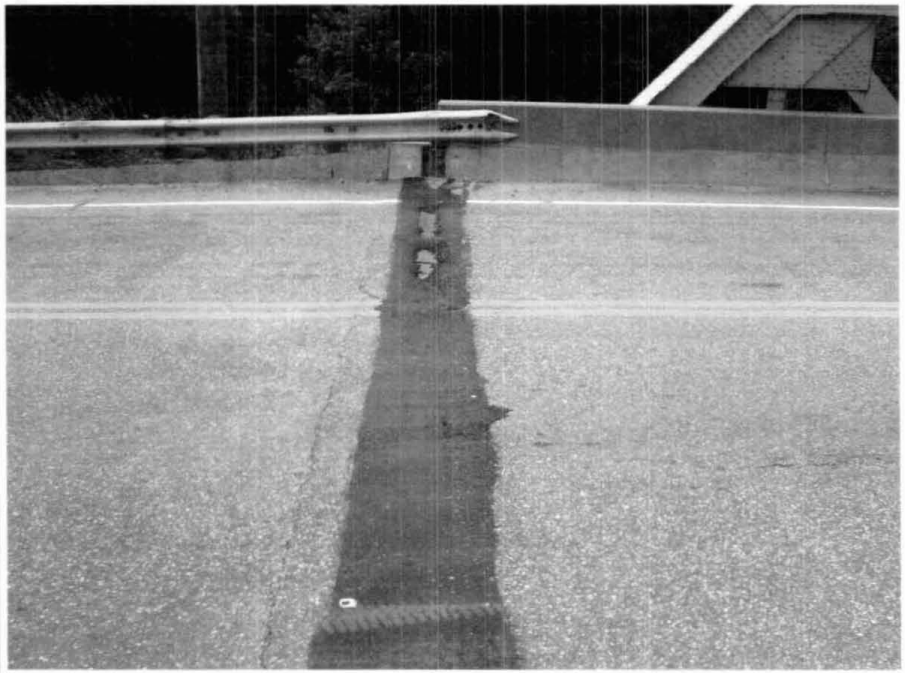
JOB NO.: **170-2729**

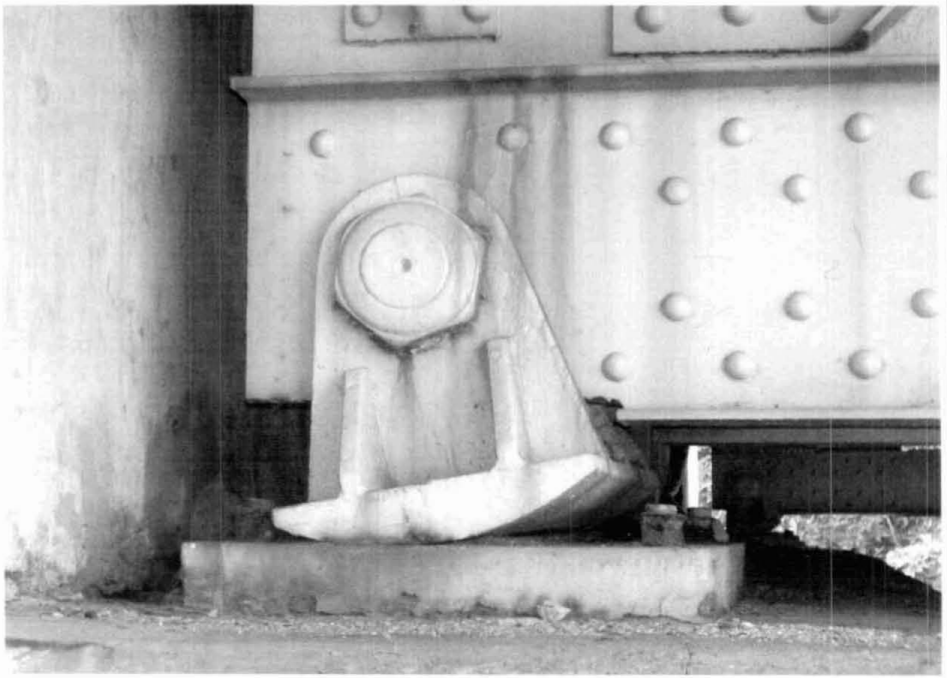
PHOTO NO.
21



DESCRIPTION: **Potholes with exposed steel plate along the asphaltic plug joint at the East Abutment.**

PHOTO: 00488P21.JPG

PHOTO NO.
22



DESCRIPTION: **Rocker expansion bearing for the North Truss at the East Abutment.**

PHOTO: 00488P22.JPG

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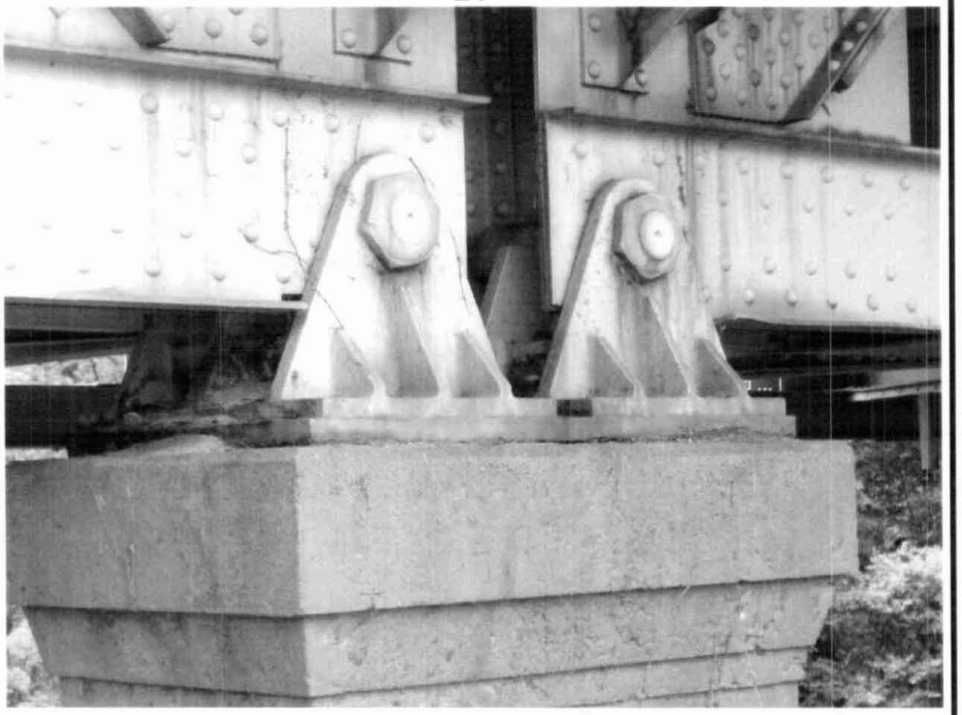
JOB NO.: **170-2729**

PHOTO NO.
23

DESCRIPTION: **Rocker expansion bearing for North Truss at the West Abutment. Note the section loss to the anchor bolt nuts and debris under the rocker.**

PHOTO: 00488P23.JPG

PHOTO NO.
24



DESCRIPTION: **Fixed bearings for the North Truss at the pier.**

PHOTO: 00488P24.JPG

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JOB NO.: **170-2729**

PHOTO NO.
25

DESCRIPTION: **Section loss to the fixed bearing anchor bolt nuts for the North Truss at the pier.**

PHOTO: 00488P25.JPG

PHOTO NO.
26

DESCRIPTION: **Section loss and pitting along the east side of the Floorbeam FB13 web and bottom flange in Span 1.**

PHOTO: 00488P26.JPG

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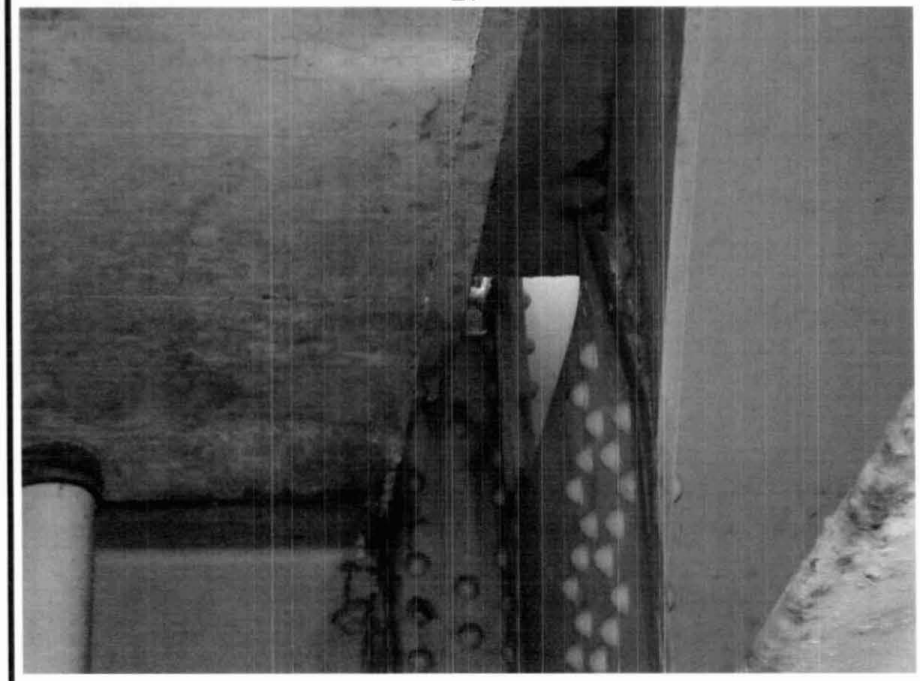
DATE: **08-16-07**

JOB NO.: **170-2729**

PHOTO NO.
27



DESCRIPTION: **Pack rust between the vertical gusset plate and the North Truss at Panel Point L3 in Span 2.**

PHOTO: 00488P27.JPG

PHOTO NO.
28

DESCRIPTION: **Pack rust between the vertical gusset plate and the North Truss at Panel Point U3 in Span 2.**

PHOTO: 00488P28.JPG

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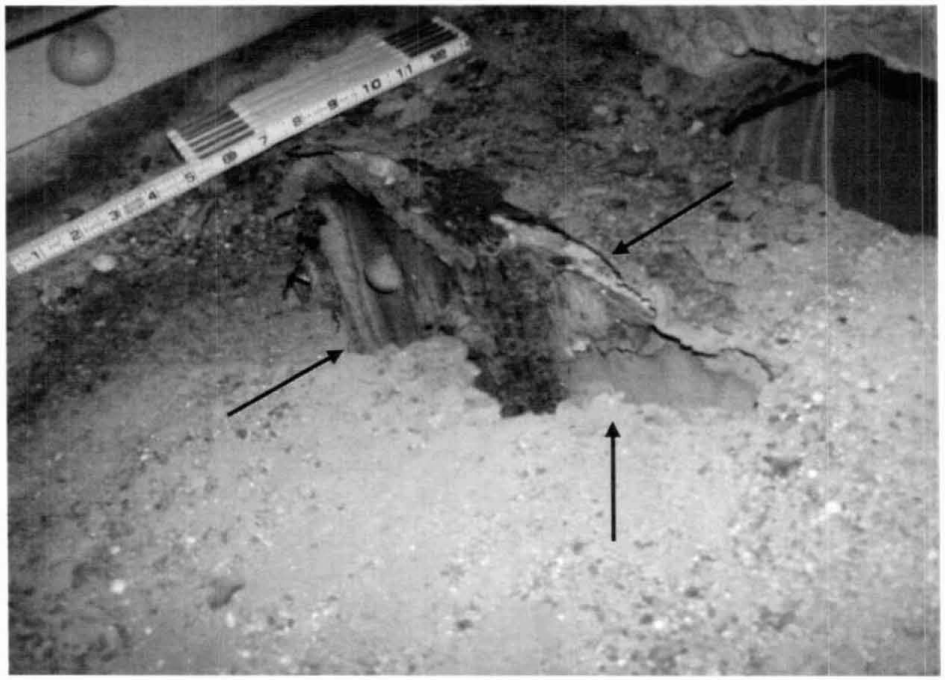
JOB NO.: **170-2729**

PHOTO NO.
29

DESCRIPTION: **Bent lower chord batten plate between North Truss Panel Points L4 and L5. Note the pack rust between the plate and the lower chord.**

PHOTO: 00488P29.JPG

PHOTO NO.
30



DESCRIPTION: **Rust hole in the North Truss lower chord top plate at Panel Point L13 in Span 2.**

PHOTO: 00488P30.JPG

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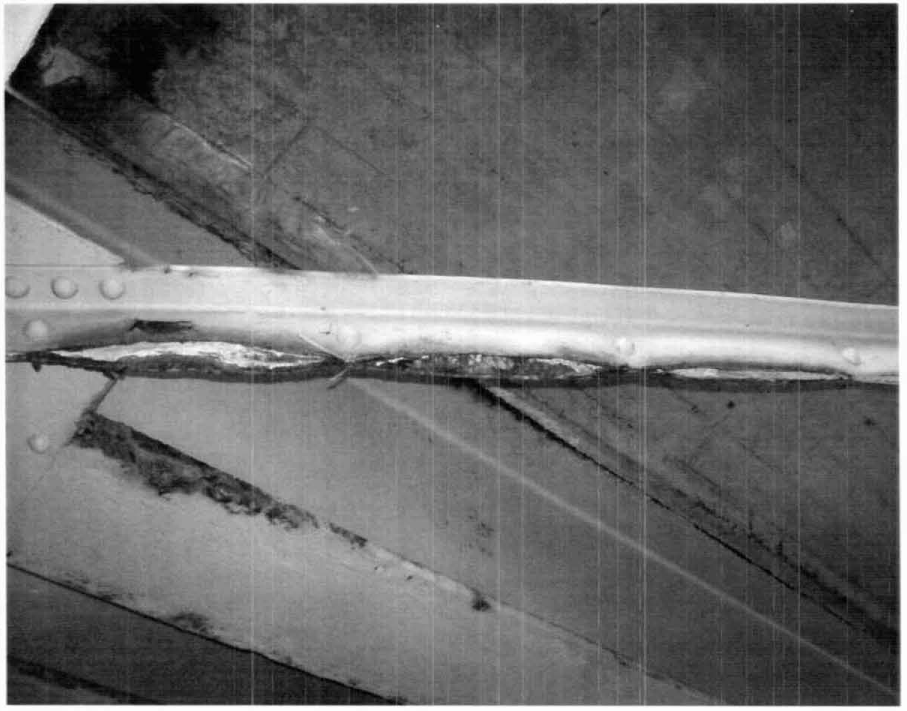
JOB NO.: **170-2729**

PHOTO NO.
31



DESCRIPTION: **Pack rust between lateral bracing angles at South Truss Panel Point L1 in Span 2.**

PHOTO: 00488P31.JPG

PHOTO NO.
32

DESCRIPTION: **Rust hole in the lateral bracing at North Truss Panel Point L3 in Span 2.**

PHOTO: 00488P32.JPG

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PHOTO NO.
33

DESCRIPTION: **East Abutment elevation.**

PHOTO: 00488P33.JPG

PHOTO NO.
34

DESCRIPTION: **Southeast Wingwall elevation. Note the graffiti along the wall.**

PHOTO: 00488P34.JPG

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JOB NO.: **170-2729**

PHOTO NO.
35

DESCRIPTION: **Elevation of the north pier column.**

PHOTO: 00488P35.JPG

PHOTO NO.
36

DESCRIPTION: **Heavy accumulation of sand on the East Abutment seat.**

PHOTO: 00488P36.JPG

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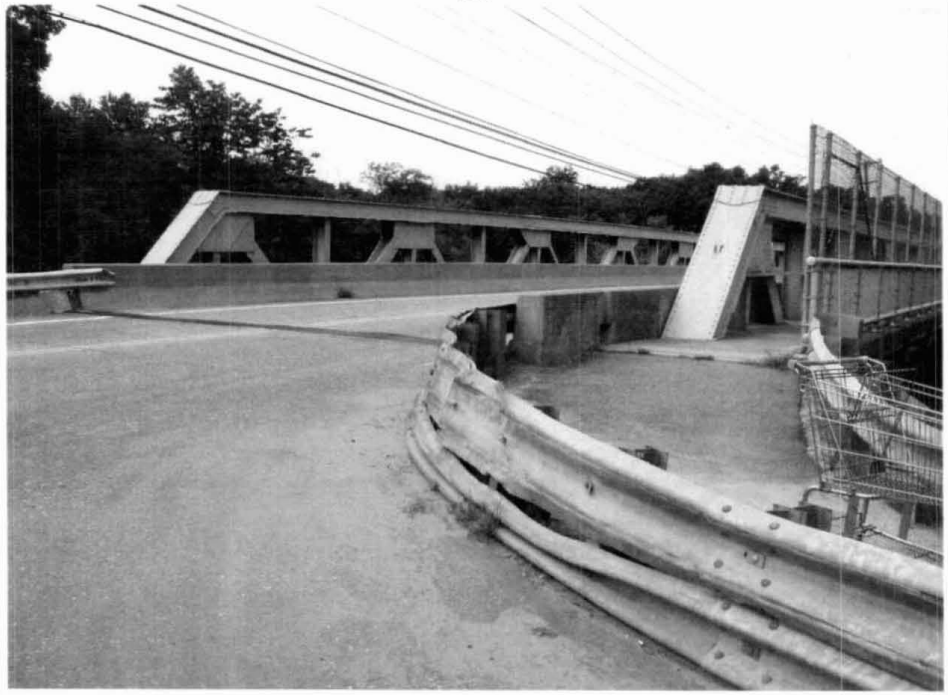
JOB NO.: **170-2729**

PHOTO NO.
37

DESCRIPTION: **Cracking along the east approach pavement.**

PHOTO: 00488P37.JPG

PHOTO NO.
38



DESCRIPTION: **Damage along the northeast metal beam guide rail.**

PHOTO: 00488P38.JPG