EXECUTIVE SUMMARY

PROJECT:	County Engineers Association of Ohio Bridge Inspection/Load Rating
LOCATION:	Madison County, Ohio
FACILITY CARRIED:	Grewell Road (County Road 131)
SFN:	4930975

Controlling Ratings:

Loading	Gross Vehicle Weight (Tons)	Rating (Tons)	Rating Factor	Member	Controlling Location
Inventory HS	36	15.9 (HS8.8)	0.44	L6/L14	Tension Resistance
Operating HS	36	26.5 (HS14.7)	0.74	L6/L14	Tension Resistance
Ohio Legal Loads (%)	-	78%	0.78	-	-
2F1	15	25.6	1.71	L6/L14	Tension Resistance
3F1	23	25.8	1.12	L6/L14	Tension Resistance
4F1	27	26.1	0.96	L6/L14	Tension Resistance
5C1	40	31.0	0.78	L6/L14	Tension Resistance

COMMENTS: **This bridge is not currently posted. Please see above for controlling ratings and posting recommendations.**

A few representative photos are presented below:

Burgess & Niple, Inc
5085 Reed Road
Columbus, OH 43220

BURGESS & NIPLE

Madison County, Ohio

Fracture Critical Member and Fatigue Prone Connection Identification Plan

Reference: ODOT Manual of Bridge Inspection, Part 1, Section 2.11

ODOT District: 6

County-Route-SLM: MAD-0131-0030

Structural File Number: 4930975

Access: The truss was inspected from the deck and lower chord. All fracture critical truss members were inspected at arm's reach. The floor system was inspected from the ground.

Fatigue Life Study: Year of Study N/A Remaining Fatigue Life N/A

Load Path Redundant: No, this structure is fracture critical

Structurally Redundant: No, single simple span

Internally Redundant: No, all members are rolled sections

Figure 1 – SFN 4930975 – Elevation looking northeast

Location: District 6, Madison County, Monroe Township. The bridge is located on Grewell Road (County Road 131) 0.3 miles east of County Road 5. It carries east and west bound traffic over Little Darby Creek. See Figure 2 for location map.

Structure Description: This structure consists of a single span, 140-foot pony truss. It carries two lanes of traffic with a 28- foot roadway clearance. The superstructure is composed of rolled sections of weathering steel connected with a combination of shop welded and field bolted gusset plates. The deck is concrete with steel stay-in-place forms and an asphalt overlay.

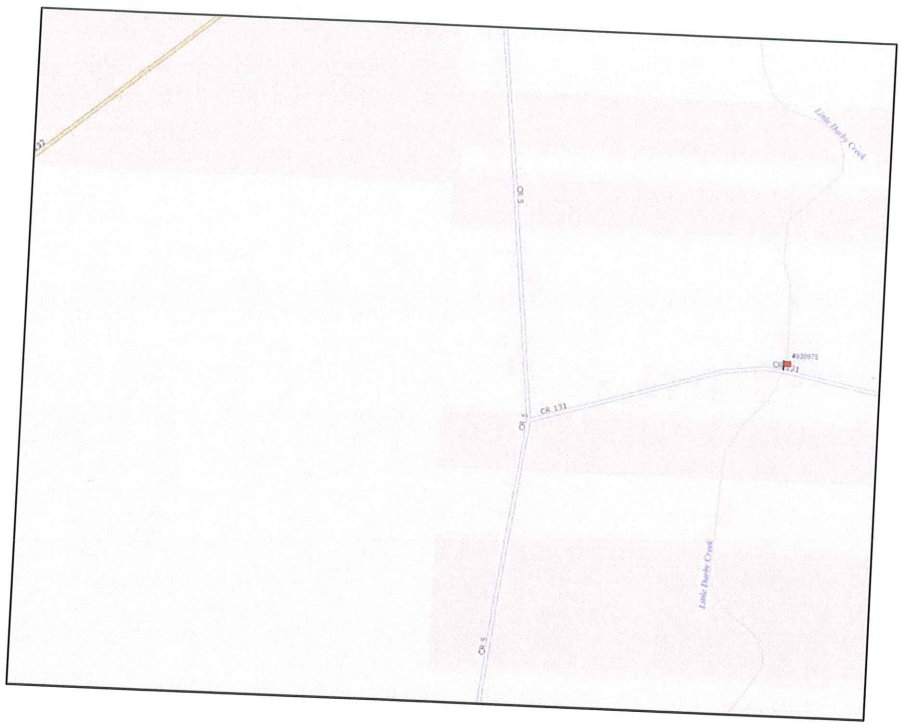


Figure 2 – SFN 4930975; East of County Road 5 on Grewell Road (County Road 131) over Little Darby Creek in Madison County, Monroe Township

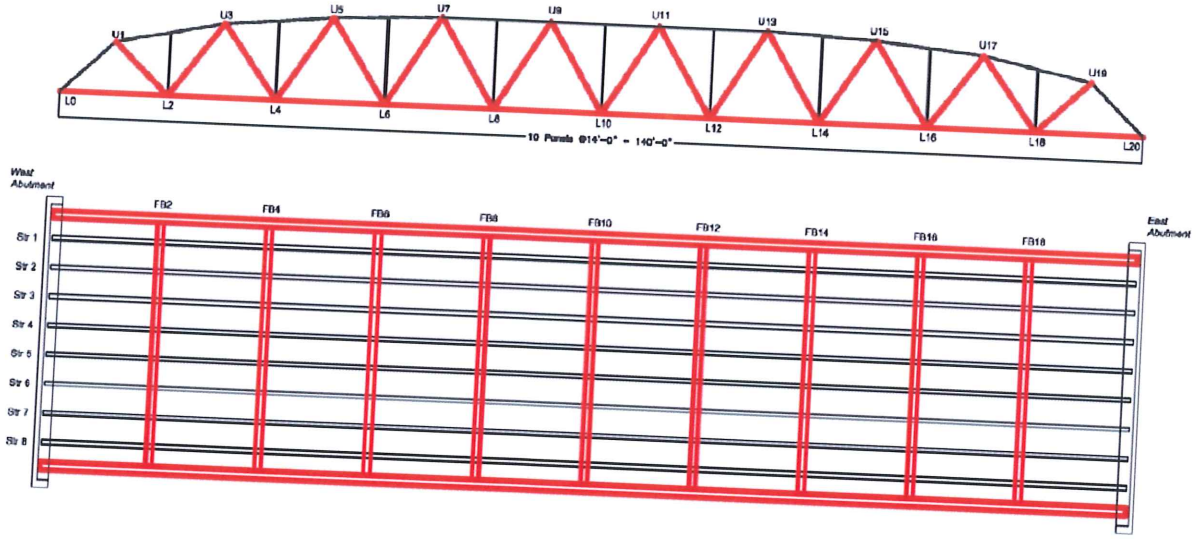


Figure 3 – Highlighted red Floorbeams, Lower Chords and Diagonals tension members are fracture critical

Fatigue Prone Details

References: AASHTO LRFD Bridge Design Specs Table 6.6.1.2.3-1 and AASHTO Standard Specs, Sixteenth Edition, Table 10.3.1B

Photo Reference	Category	Distribution	Description
4	E	Widespread	Longitudinal fillet welds connecting the members to gusset plates
4	C	Widespread	Transverse fillet welds connecting the members to gusset plates
4	F	Widespread	Shear stress on the throat of fillet welds
5	E	Isolated	Fillet welds connecting guardrail posts to the exterior stringers
6	E	Widespread	Lower lateral bracing connection welded to the bottom flange and web of floorbeams
7	E	Widespread	Longitudinally loaded welded attachments on the top and bottom flanges of the lower chord

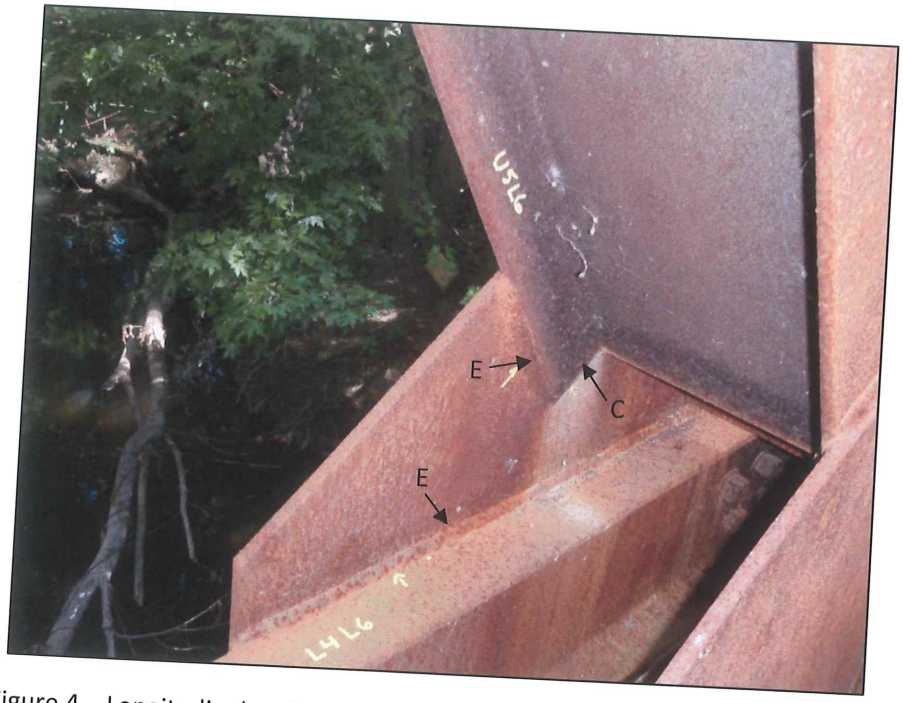


Figure 4 – Longitudinal and transverse fillet welds connecting truss members to the gusset plates.

Figure 5 – Guardrail post connection to Stringer 8. Note: Welds on the web of the stringer.

Figure 6 – Lower Lateral Bracing connection to Floorbeam 4. Note: Fillet welds on the web and bottom flange of the floorbeam.

Figure 7 – Looking at L4-L6, north truss. Note: Welded attachments on the top and bottom flanges of the lower chord.

CEAO/Madison County Load Rating Inspections

Structure File Number:	**4930975**	Feature Intersected:	**Little Darby**
Inspection Date:	**8/26/2010**	Facility Carried	**Grewell Road**

Load Rating Condition Comments:

Element:	Comment:
Floorbeams	Typically 1/16-inch section loss exists on the bottom flange and the web of the floorbeams between stringers 1 and 8. Stringer 8 between the rear abutment and floorbeam 1 exhibits 1/8-inch section loss to the bottom flange for the full length.
Stringers	Typically 1/16-inch section loss exists on the bottom flange and the web of the stringers for the full length.

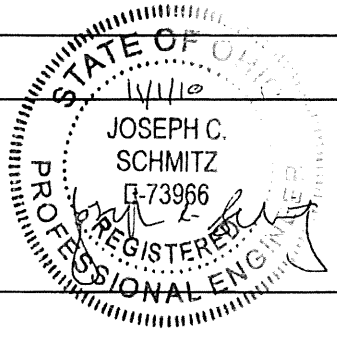
BRIDGE LOAD RATING REPORT

PROJECT:	County Engineers Association of Ohio Bridge Inspection/Load Rating
LOCATION:	Madison County, Ohio
FACILITY CARRIED:	Grewell Road (County Road 131)
SFN:	4930975
Bridge Description:	Single span pony truss bridge. A588 weathering steel. Deck width is 28'-0", steel stay-in-place forms and varying thickness asphalt wearing surface. Equivalent deck thickness = 6.64" (concrete)
Span(s) (c/c Bearings):	140'-0"
Alignment:	Tangent
Bridge Plan Information:	1993 original construction plans
Material Strengths:	Fy (steel) = 50 ksi
Rating Method:	Truss member ratings are based on allowable stress methodology. Floor system member ratings are based on load factor methodology.
Rating Software:	BAR7, Microsoft Excel
Special Assumptions:	Field measurements were taken to verify existing plans and were within reasonable tolerance to assume plans are correct. Load rating is performed with existing plan data.
Comments	Section loss was observed on the bottom flanges and webs of floorbeams and stringers. These losses were included in the rating. **This bridge is not currently posted. Based on the results of the main member load rating, no posting is required.**

Structure Rating Summary:

Loading	Gross Vehicle Weight (Tons)	Rating (Tons)	Rating Factor	Member	Location
Inventory HS	36	31.8 (HS17.6)	0.88	Interior FB	Flexure
Operating HS	36	52.6 (HS29.2)	1.46	U6U7/U13U14	Compression
Ohio Legal Loads (%)	-	151%	1.51	-	-
2F1	15	33.7	2.25	Interior FB	Flexure
3F1	23	36.3	1.58	Interior FB	Flexure
4F1	27	40.8	1.51	Interior FB	Flexure
5C1	40	60.4	1.51	U6U7/U13U14	Compression

Rated By:	Jai H. Lee, PE (e-mail: jlee@burnip.com)
Checked By:	Joseph C. Schmitz, PE (e-mail: jschmitz@burnip.com)
Company:	Burgess & Niple, Inc. 5085 Reed Road Columbus, Ohio 43220 Phone: (614) 459-2050 Fax: (614) 451-1385
Date:	9/13/2010



STRINGER SPAN LENGTHS (SIMPLE)

SPAN #	1	2	3	4	5	6	7	8
LENGTH	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00

SPAN #	9	10
LENGTH	14.00	14.00

STRINGER LOCATIONS

STRINGER #	1	2	3	4	5	6	7	8
DISTANCE	3.06	6.81	10.56	14.31	18.06	21.81	25.56	29.31

TRUSS GEOMETRY

PANEL NO.	PANEL WIDTH		VERTICAL POST H1	H2	H3	PANEL TYPE
1	7.00	N	6.67	0.00	0.00	1
2	7.00	Y	8.13	0.00	0.00	6
3	7.00	N	9.58	0.00	0.00	5
4	7.00	Y	10.25	0.00	0.00	6
5	7.00	N	10.92	0.00	0.00	5
6	7.00	Y	11.25	0.00	0.00	6
7	7.00	N	11.58	0.00	0.00	5
8	7.00	Y	11.58	0.00	0.00	6
9	7.00	N	11.58	0.00	0.00	5
10	7.00	Y	11.58	0.00	0.00	6

TRUSS DEAD LOADS

LOCAT	LOAD	LOCAT	LOAD	LOCAT	LOAD	LOCAT	LOAD
L 0	10.32	L 2	22.45	L 4	22.47	L 6	22.68
L 8	22.86	L 10	22.86	U 1	0.73	U 2	0.62
U 3	0.91	U 4	0.73	U 5	1.00	U 60	0.80
U 7	1.11	U 8	0.95	U 9	1.18	U 10	0.95

TRUSS MEMBER PROPERTIES

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 0L 1	17.64	17.64	324.0	50.0	0.00	0.00	0.00	0.00		0.0	17.64

	DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
	0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 1L 2	17.64	17.64	324.0	50.0	0.00	0.00	0.00	0.00		0.0	17.64

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 8L 9	23.60	23.60	468.0	50.0	0.00	0.00	0.00	0.00		0.0	23.60

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 9L10	23.60	23.60	468.0	50.0	0.00	0.00	0.00	0.00		0.0	23.60

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 0U 1	17.00	17.00	107.0	50.0	0.00	0.00	0.00	0.00		0.0	17.00

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 1U 2	17.00	17.00	107.0	50.0	0.00	0.00	0.00	0.00		0.0	17.00

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 2U 3	17.00	17.00	107.0	50.0	0.00	0.00	0.00	0.00		0.0	17.00

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 3U 4	21.10	21.10	195.0	50.0	0.00	0.00	0.00	0.00		0.0	21.10

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 2L 2	8.79	8.79	20.3	50.0	0.00	0.00	0.00	0.00		0.0	8.79

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 4L 4	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 6L 6	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 8L 8	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U10L10	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 1L 2	8.79	8.79	20.3	50.0	0.00	0.00	0.00	0.00		0.0	8.79

	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
DEPTH				
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 8U 9	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
DEPTH				
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 9L10	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
DEPTH				
0.0	0.00	0.00	0.00	0.000

STEEL MEMBER PROPERTIES

GROUP	SPAN	TYP	WF BM OF I OR VRT	WF BM AREA OR HRZ	FLANGE ANGLE THICK	FLANGE WIDTH	V AR	WF BM OR WEB PLATE DEPTH	WEB THICK
	RANGE	E	LEG	LEG	THICK	WIDTH	R	DEPTH	THICK
F 2	0.00	W	4004.35	31.91	0.9300	10.070		27.29	0.5075
			TPW	TPT	BPW	BPT	COMP	FY	FY TOP	FY BOT	CG TOP	CG BOT
			0.00	0.0000	10.07	-0.0630	N	50.0	0.0	0.0	0.000	0.000
	RANGE		M OF I	AREA	THICK	WIDTH	V	DEPTH	THICK
F 3	0.00	W	4004.35	31.91	0.9300	10.070		27.29	0.5075
			TPW	TPT	BPW	BPT	COMP	FY	FY TOP	FY BOT	CG TOP	CG BOT
			0.00	0.0000	10.07	-0.0630	N	50.0	0.0	0.0	0.000	0.000
	RANGE		M OF I	AREA	THICK	WIDTH	V	DEPTH	THICK
S	0.00	W	230.16	8.07	0.4400	6.520		12.34	0.1975
			TPW	TPT	BPW	BPT	COMP	FY	FY TOP	FY BOT	CG TOP	CG BOT
			0.00	0.0000	6.52	-0.0630	N	50.0	0.0	0.0	0.000	0.000

LATERAL BRACE POINTS AND STIFFENER SPACINGS

BOG CODE	SPAN	COD E	NO. OF SPCS	SPACING	COD E	NO. OF SPCS	SPACING	COD E	NO. OF SPCS	SPACING	COD E	NO. OF SPCS	SPACING
BF	2	T	1	2.18	C	1	28.00		0	0.00		0	0.00
			0	0.00		0	0.00		0	0.00		0	0.00
BF	3	T	1	2.18	C	1	28.00	T	1	0.00		0	0.00
			0	0.00		0	0.00		0	0.00		0	0.00

BRIDGE ANALYSIS AND RATING (BAR7) 334541

PROGRAM P4353000 10/20/2010 09:16
VERSION 7.13.0.0 LAST UPDATED 05/07/2010 DOCUMENTATION 04/2010

INPUT: 423097~3.DAT

RAT: JHL // CHK: JCS // SINGLE SPAN PONY TRUSS. A588 WEATHERING STEEL, FY = 50KSI. Y-O-C = 1993. OHIO LEGAL LOADS

STRUCTURE ID - 00000004930975 - MADISON CO. GREWELL RD.

PROJECT IDENTIFICATION

BRG TYPE	SLC LEV	LANES	LIVE LOAD	OUT-PUT	IMP FACT	GAGE DIST	PASS DIST	FAT-IGUE	CONC DECK	SPEC	RE-DIST	DIR	S OVER FACTOR	END PAN
TFS		D	4	B	0.00	0.0	0.0						0.00	

SKEW CORR HYB FACTOR
0.000

BRIDGE CROSS SECTION AND LOADING

DECK WIDTH	OVERHANG OR SPACING	CL OF GIRDER OR TRUSS TO CURB	ROADWAY WIDTH	DISTRIBUTION FACTORS SHEAR	MOMENT	DEFLECT
28.00	0.00	2.18	28.00	0.500	0.417	0.250

SLAB THICKNESS	HAUNCH	DEAD LOADS DL1	DL2	F'C	N	SYMMETRY
6.64	0.00	0.000	0.000	0.000	0.	Y

LIVE LOAD LOCATION	NO. OF PANELS	END COND.	CORS	HINGE AT	TEMP CHANGE	END BRG.
L	20	R		L 0	0.	L

STRINGER DL1	FLOORBEAM DL1	UNIT WEIGHT DECK CONCRETE	GUSSET ANALYSIS
0.022	0.017	0.	

SPAN LENGTHS (SIMPLE)

SPAN #	1
LENGTH	140.00

TRAFFIC LANE LOCATIONS

LANE #	1	2	3	4	5	6
DIST						
WIDTH						
% LL						

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 2L 3	17.64	17.64	324.0	50.0	0.00	0.00	0.00	0.00		0.0	17.64

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 3L 4	17.64	17.64	324.0	50.0	0.00	0.00	0.00	0.00		0.0	17.64

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 4L 5	17.64	17.64	324.0	50.0	0.00	0.00	0.00	0.00		0.0	17.64

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 5L 6	17.64	17.64	324.0	50.0	0.00	0.00	0.00	0.00		0.0	17.64

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 6L 7	23.60	20.22	468.0	50.0	0.00	0.00	0.00	0.00		0.0	23.60

DEPTH	UNSUPP FLANGE LENGTH	SECTION MODULUS SXC	MOMENT OF INERTIA IYC	TORSION INERTIA JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 7L 8	23.60	23.60	468.0	50.0	0.00	0.00	0.00	0.00		0.0	23.60

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 4U 5	21.00	21.00	195.0	50.0	0.00	0.00	0.00	0.00		0.0	21.00

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 5U 6	23.20	23.20	216.0	50.0	0.00	0.00	0.00	0.00		0.0	23.20

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 6U 7	23.20	19.89	216.0	50.0	0.00	0.00	0.00	0.00		0.0	23.20

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 7U 8	28.20	28.20	270.0	50.0	0.00	0.00	0.00	0.00		0.0	28.20

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 8U 9	28.20	28.20	270.0	50.0	0.00	0.00	0.00	0.00		0.0	28.20

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 9U10	28.20	28.20	270.0	50.0	0.00	0.00	0.00	0.00		0.0	28.20

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 2U 3	8.79	8.79	20.3	50.0	0.00	0.00	0.00	0.00		0.0	8.79

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 3L 4	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 4U 5	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 5L 6	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
L 6U 7	7.65	5.94	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.09

	UNSUPP FLANGE	SECTION MODULUS	MOMENT OF INERTIA	TORSION INERTIA
DEPTH	LENGTH	SXC	IYC	JXY
0.0	0.00	0.00	0.00	0.000

MEMBER ID	GROSS AREA COMPR	NET AREA TENS	MOMENT OF INERTIA	FY	UNBRACED LENGTH L	ECC	FLANGE WIDTH	C	FAT CAT	FU	GROSS AREA TENS
U 7L 8	7.65	7.65	17.3	50.0	0.00	0.00	0.00	0.00		0.0	7.65

SPECIAL LIVE LOADING 1

LANE LOADING

NUMBER OF AXLES	3% INCR	UNIFORM LANE LOAD	CONC LOAD MOMENT	CONC LOAD SHEAR	GAGE DISTANCE	PASSING DISTANCE	VARY LAST	MAX AXLE DIST
2		0.000	0.000	0.000	6.0	4.0		0.0

TRUCK LOAD

AXLE NO.	LOAD	DIST	AXLE NO.	LOAD	DIST	AXLE NO.	LOAD	DIST	AXLE NO.	LOAD	DIST
1	10.00	10.00	2	20.00	0.00						

SPECIAL LIVE LOADING 2

LANE LOADING

NUMBER OF AXLES	3% INCR	UNIFORM LANE LOAD	CONC LOAD MOMENT	CONC LOAD SHEAR	GAGE DISTANCE	PASSING DISTANCE	VARY LAST	MAX AXLE DIST
3		0.000	0.000	0.000	6.0	4.0		0.0

TRUCK LOAD

AXLE NO.	LOAD	DIST	AXLE NO.	LOAD	DIST	AXLE NO.	LOAD	DIST	AXLE NO.	LOAD	DIST
1	12.00	10.00	2	17.00	4.00	3	17.00	0.00			

SPECIAL LIVE LOADING 3

LANE LOADING

NUMBER OF AXLES	3% INCR	UNIFORM LANE LOAD	CONC LOAD MOMENT	CONC LOAD SHEAR	GAGE DISTANCE	PASSING DISTANCE	VARY LAST	MAX AXLE DIST
4		0.000	0.000	0.000	6.0	4.0		0.0

TRUCK LOAD

AXLE NO.	LOAD	DIST	AXLE NO.	LOAD	DIST	AXLE NO.	LOAD	DIST	AXLE NO.	LOAD	DIST
1	12.00	10.00	2	14.00	4.00	3	14.00	4.00	4	14.00	0.00

SPECIAL LIVE LOADING 4

LANE LOADING

NUMBER OF AXLES	3% INCR	UNIFORM LANE LOAD	CONC LOAD MOMENT	CONC LOAD SHEAR	GAGE DISTANCE	PASSING DISTANCE	VARY LAST	MAX AXLE DIST
5		0.000	0.000	0.000	6.0	4.0		0.0

TRUCK LOAD

AXLE AXLE AXLE AXLE

MEMBER: FLOORBEAM

LOAD	ALLOWABLE STRESS RATING FACTOR		TONS	X	FLBM	LOAD FACTOR RATING FACTOR		TONS	X	FLBM
SP-1 IR (CRITICAL)	1.37	B	20.5	16.18	3	1.35	O	20.2	16.18	3
OR (CRITICAL)	2.07	B	31.1	16.18	3	2.25	O	33.7	16.18	3
IR (POS MOM)	1.37	B	20.5	16.18	3	1.35	O	20.2	16.18	3
OR (POS MOM)	2.07	B	31.1	16.18	3	2.25	O	33.7	16.18	3
SP-2 IR (CRITICAL)	0.96	B	22.1	16.18	3	0.95	O	21.8	16.18	3
OR (CRITICAL)	1.45	B	33.5	16.18	3	1.58	O	36.3	16.18	3
IR (POS MOM)	0.96	B	22.1	16.18	3	0.95	O	21.8	16.18	3
OR (POS MOM)	1.45	B	33.5	16.18	3	1.58	O	36.3	16.18	3
SP-3 IR (CRITICAL)	0.92	B	24.9	16.18	3	0.91	O	24.5	16.18	3
OR (CRITICAL)	1.39	B	37.6	16.18	3	1.51	O	40.8	16.18	3
IR (POS MOM)	0.92	B	24.9	16.18	3	0.91	O	24.5	16.18	3
OR (POS MOM)	1.39	B	37.6	16.18	3	1.51	O	40.8	16.18	3
SP-4 IR (CRITICAL)	1.01	B	40.6	16.18	3	1.00	O	40.0	16.18	3
OR (CRITICAL)	1.54	B	61.4	16.18	3	1.67	O	66.6	16.18	3
IR (POS MOM)	1.01	B	40.6	16.18	3	1.00	O	40.0	16.18	3
OR (POS MOM)	1.54	B	61.4	16.18	3	1.67	O	66.6	16.18	3

RATING FACTOR CODES:
T - TOP STEEL STRESS/STRENGTH GOVERNS
B - BOTTOM STEEL STRESS/STRENGTH GOVERNS
C - CONCRETE STRESS/STRENGTH GOVERNS
R - REINFORCEMENT STRESS/STRENGTH GOVERNS
V - SHEAR STRESS/STRENGTH GOVERNS
blank - COMPACT MOMENT STRENGTH GOVERNS
O - OVERLOAD PROVISIONS GOVERN
I - MOMENT-SHEAR INTERACTION GOVERNS
F - SECTION DOES NOT MEET FLANGE PROJECTION/THICKNESS RATIO CRITERIA
W - SECTION DOES NOT MEET WEB DEPTH/THICKNESS RATIO CRITERIA

BAR7 v7.13.0.0 PROGRAM WAS EXECUTED COMPLETELY AND SUCCESSFULLY.