BRIDGE LOAD RATING REPORT
OFFICE OF STRUCTURAL ENGINEERING
OHIO DEPARTMENT OF TRANSPORTATION

SFN	BRIDGE NUMBER	DISTRICT
0933961	BUT-C0233-0459	8
1972	REHABILITATION YEAR	OVERALL STRUCTURE LENGTH (FT)
1940	1991	27.25
FEATURE INTERSECTED:	Taylor School Road over Mutton Run	
SPECIAL ASSUMPTIONS & COMMENTS:		

RATING & ANALYSIS OPTION: SELECT FROM LIST ON THE LEFT WHERE APPROPRIATE

LOAD RATING PURPOSE:	5- Initial Rating
RATING SOFTWARE	1- BARS
BASIS OF ANALYSIS:	1- Plan Information Available
METHOD OF ANALYSIS:	2- Load Factor (LF)
DESIGN LOADING (ORIGINAL):	5- HS-20

STATE OF OHIO
MICHAEL R. STURDEVANT
E-49864
REGISTERED
PROFESSIONAL ENGINEER

STRUCTURE RATING SUMMARY

LOADING TYPE	RATING FACTOR - RF (X.XX)	RATING LOAD
INVENTORY CURRENT DESIGN	1.13	HS-20-44
OPERATING CURRENT DESIGN	1.89	HS-20-44
OHIO LEGAL - 2F1	2.68	OHIO LEGAL LOADS OVERALL MINIMUM RATING FACTOR
OHIO LEGAL - 3F1	1.88	*150%*
OHIO LEGAL - 4F1	1.79	OHIO LEGAL LOADS OVERALL CONTROLLING TRUCK
OHIO LEGAL - 5C1	2.00	*OHIO LEGAL - 4F1*

RATED BY, PE#	REVIEWED BY, PE#	REPORT DATE
Michael Sturdevant, PE49864	Eric Adkins, PE74762	12/14/2012
AGENCY/FIRM	**PHONE NUMBER**	**EMAIL**
Stantec Consulting Services Inc.	513-761-1700	Michael.Sturdevant@stantec.com

BR-100 (REV2010)

SFN: 0933961 BRIDGE NO.: BUT-C0233-0459

STRUCTURE I.D. = 093-396

****
* STRUCTURE HEADER AND DESCRIPTION *
****

100-- 2 STANTEC MRS EA/I/O/P = FILE REQUESTS AND OUTPUT DATA EXCEPTIONS
TYPE = 121 YEAR = 91 LEN = 29.00 FT. WIDTH = 30.00 FT. 1 SPANS SP.LOAD =
INV.LL.TRK.= OP.LL.TRK.=

****
* STRUCTURE LOCATION AND PERMANENT IDENTIFICATION FACTORS *
****

200-- 5 BRIDGE= 0933961 DIST./CO.= H BUT CONST. ROUTE = C0233 CONST. SECT.= 0.459 CONST. STA.= 242+05.52
MICROFILM REEL NO. DESIGN PLANS= COMPUTATIONS= CORRESPONDENCE=
ROUTE I.D.= MARKED ROUTE =

****
* COMMENTS *
****

300-- 6 1 TAYLOR SCHOOL RD BRIDGE OVER MUTTON RUN;
400-- 6 2 INSPECTED & MAINTAINED BY BUTLER COUNTY ENGINEERS OFFICE;
500-- 6 3 27' SPAN C/C BRGS.; 10 DEG. SKEW lf; 30' F/F RAIL
600-- 6 4 10-3' WIDE 1983 STANDARD PRECAST REINFORCED CONCRETE BEAMS

****
* SPECIFICATIONS GENERALLY APPLICABLE TO STRUCTURE MEMBERS *
****

	STRUCT STEEL	REINF. CONCRETE	COMPOSITE STEEL/CONC	PRESTRESSED CONCRETE	IMPACT FACTOR INV	OP	POST	SPEC	TIMBER
700-- 7	FY= 0.	FY =60000.	FY = 0.	LOSS = 0. F"S = 0.	MAX =.00	.00	.00	.00	FY = 0.

F"C= 4000. F"C= 0. EG/ES= .000 F"". C= 0. MIN =.00 .00 .00 .00 FV = 0.

****
* MEMBER SPECIFICATIONS AND REQUIRED ANALYSIS-GIRDER,STRINGER AND FLOOR BEAM *
****

MEMBER ID	SPANS SYMM	STIFF. CODE	SPAN 1 (SPAN 4)	SPAN 2 (SPAN 5)	SPAN 3 (SPAN 6)	MATL CODE	ALLOWABLE STRESS FY	FB	FC*	FC**	LL DIST. FACTOR	END FL.BM	THRU DECK	MAX INV	IMPACT OP.	POST	FACTOR SPEC
800-- 8	S 1	1	27.000	.000	.000	RC	60000.00	4000.00			.531			.00	.00	.00	.00

****
* SUPERIMPOSED DEAD LOADS-GIRDERS,STRINGERS AND FLOOR BEAMS *
****

MEMBER ID	SYMM.	SPAN NO.	DISTANCE FR. LEFT SUPP.	LOAD TYPE	LOAD P OR W(L)	W(R)	LENGTH
900--10	S 1	1	.000FT.	W	230.0	.0	27.000FT.

****
* SECTION RANGE SPECIFICATIONS *
****

MEMBER ID	SYMM.	SPAN NO.	RANGE NO.	RANGE LENGTH	SECTION NO. LEFT	RIGHT	SEC. VAR.	HINGE CODE	HINGE 1 DIST.	HINGE 2 DIST.	HYBRID GIRDER CODE	FY	CODE	FY
1000--11	S 1	1	1	27.000FT.	1	1			.000FT.	.000FT.		0.		0.

****
* SECTION PROPERTIES (REINFORCED CONCRETE) - GIRDERS, STRINGERS, FLOOR BEAMS *
****

MEMBER ID	SECT. NO.	SAME AS	ADR	BFL	H	A	B	B*	T	I R	AS	D	COMP CODE
1100--13	S 1	1	0		14.00	.00	.00	36.00	.00	1	6.00	11.56	
1200--13	S 1	1	0		.00	.00	.00	.00	.00	2	.80	2.25	X

SUMMARY OF RATING CALCULATIONS------STRUCTURE MEMBER S 1 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

INPUT CODING -- STRUCTURE 0933961 D/P STR. I.D.-- 093-396

DATE 11/30/12
BY STANTEC MRS

	INVENTORY		OPERATING	
	LIVE LOAD	RATING	LIVE LOAD	RATING
	HS20	HS 22.67	HS20	HS 37.78

STRUCTURE DESCRIPTION --

IDENTIFICATION	0933961
TYPE	121
YEAR OF CONSTR.	1991
LENGTH	29.00 FEET
ROADWAY WIDTH	30.00 FEET
NUMBER OF SPANS	1

LOCATION --

DISTRICT	H
COUNTY	BUT
CONSTR. RTE.	C0233
CONSTR. SEC.	0.459
CONSTR. STA.	242+05.52
KEY RTE.	
MARKED RTE.	

MICROFILM REEL NUMBERS --

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS --

TAYLOR SCHOOL RD BRIDGE OVER MUTTON RUN;
INSPECTED & MAINTAINED BY BUTLER COUNTY ENGINEERS OFFICE;
27' SPAN C/C BRGS.; 10 DEG. SKEW lf; 30' F/F RAIL
10-3' WIDE 1983 STANDARD PRECAST REINFORCED CONCRETE BEAMS

INVENTORY RATING SUMMARY --

MEMBER ID.	S 1
SPAN	1
CRITICAL C.P. DIST.	13.5 FEET
LIVE LOAD DESIGNATION	HS20

	SHEAR (KIPS)
MEMBER CAPACITY	272.5
DL EFFECT	68.8
CAPACITY FOR (LL+I)	84.5

OPERATING RATING SUMMARY --

MEMBER ID.	S 1
SPAN	1
CRITICAL C.P. DIST.	13.5 FEET
LIVE LOAD DESIGNATION	HS20

	SHEAR (KIPS)
MEMBER CAPACITY	272.5
DL EFFECT	68.8
CAPACITY FOR (LL+I)	140.8

ACTUAL (LL+I)	74.6	ACTUAL (LL+I)	74.6
INVENTORY RATING	HS 22.67	OPERATING RATING	HS 37.78

SUMMARY OF RATING CALCULATIONS------STRUCTURE MEMBER S 1 BARS-PC RELEASE 5.5
POSTING ANALYSIS

INPUT CODING -- STRUCTURE 0933961 D/P STR. I.D.-- 093-396

DATE 11/30/12		INVENTORY		OPERATING		POSTING	
BY	STANTEC MRS	LIVE LOAD	RATING	LIVE LOAD	RATING	TRUCK TYPE	GROSS TONS
		HS20	HS 22.67	HS20	HS 37.78	VEH. 2F1	40.13
						VEH. 3F1	43.34
						VEH. 4F1	48.42

STRUCTURE DESCRIPTION --

IDENTIFICATION	0933961
TYPE	121
YEAR OF CONSTR.	1991
LENGTH	29.00 FEET
ROADWAY WIDTH	30.00 FEET
NUMBER OF SPANS	1

LOCATION --

DISTRICT	H
COUNTY	BUT
CONSTR. RTE.	C0233
CONSTR. SEC.	0.459
CONSTR. STA.	242+05.52
KEY RTE.	
MARKED RTE.	

MICROFILM REEL NUMBERS --

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS --

TAYLOR SCHOOL RD BRIDGE OVER MUTTON RUN;
INSPECTED & MAINTAINED BY BUTLER COUNTY ENGINEERS OFFICE;
27' SPAN C/C BRGS.; 10 DEG. SKEW lf; 30' F/F RAIL
10-3' WIDE 1983 STANDARD PRECAST REINFORCED CONCRETE BEAMS

TRUCK TYPE VEH. 2F1	
MEMBER ID.	S 1
SPAN	1
CRITICAL C.P. DIST.	13.5 FEET

	SHEAR (KIPS)
MEMBER CAPACITY	272.5
DL EFFECT	68.8

TRUCK TYPE VEH. 3F1	
MEMBER ID.	S 1
SPAN	1
CRITICAL C.P. DIST.	13.5 FEET

	SHEAR (KIPS)
MEMBER CAPACITY	272.5
DL EFFECT	68.8

TRUCK TYPE VEH. 4F1	
MEMBER ID.	S 1
SPAN	1
CRITICAL C.P. DIST.	13.5 FEET

	SHEAR (KIPS)
MEMBER CAPACITY	272.5
DL EFFECT	68.8

CAPACITY FOR (LL+I)	140.8
ACTUAL (LL+I)	52.6
POSTING GROSS TONNAGE	40.1

CAPACITY FOR (LL+I)	140.8
ACTUAL (LL+I)	74.7
POSTING GROSS TONNAGE	43.3

CAPACITY FOR (LL+I)	140.8
ACTUAL (LL+I)	78.5
POSTING GROSS TONNAGE	48.4

SUMMARY OF RATING CALCULATIONS------STRUCTURE MEMBER S 1 BARS-PC RELEASE 5.5
SPECIAL LOAD ANALYSIS

INPUT CODING -- STRUCTURE 0933961 D/P STR. I.D.-- 093-396

DATE 11/30/12		INVENTORY		OPERATING		SPECIAL LOAD	
BY	STANTEC MRS	LIVE LOAD	RATING	LIVE LOAD	RATING	TRUCK TYPE	GROSS TONS
		HS20	HS 22.67	HS20	HS 37.78		
						VEH.SPEC	79.80

STRUCTURE DESCRIPTION --

IDENTIFICATION	0933961
TYPE	121
YEAR OF CONSTR.	1991
LENGTH	29.00 FEET
ROADWAY WIDTH	30.00 FEET
NUMBER OF SPANS	1

LOCATION --

DISTRICT	H
COUNTY	BUT
CONSTR. RTE.	C0233
CONSTR. SEC.	0.459
CONSTR. STA.	242+05.52
KEY RTE.	
MARKED RTE.	

MICROFILM REEL NUMBERS --

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS --

TAYLOR SCHOOL RD BRIDGE OVER MUTTON RUN;
INSPECTED & MAINTAINED BY BUTLER COUNTY ENGINEERS OFFICE;
27' SPAN C/C BRGS.; 10 DEG. SKEW lf; 30' F/F RAIL
10-3' WIDE 1983 STANDARD PRECAST REINFORCED CONCRETE BEAMS

TRUCK TYPE VEH. SPEC	
MEMBER ID.	S 1
SPAN	1
CRITICAL C.P. DIST.	13.5 FEET

	SHEAR (KIPS)
MEMBER CAPACITY	272.5
DL EFFECT	68.8

CAPACITY FOR (LL+I)	140.8
ACTUAL (LL+I)	70.6
POSTING GROSS TONNAGE	79.8

*** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. 093-396 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

STRUCTURE 0933961 D/P STR. ID-- 093-396

INPUT CODING--

	INVENTORY		OPERATING	
DATE 11/30/12	LIVE LOAD	RATING	LIVE LOAD	RATING
	HS20	HS 22.7	HS20	HS 37.8
BY STANTEC MRS				

STRUCTURE DESCRIPTION--

IDENTIFICATION	0933961
TYPE	121
YEAR OF CONSTR.	1991
LENGTH	29.00 FEET
ROADWAY WIDTH	30.00 FEET
NUMBER OF SPANS	1

LOCATION--

DISTRICT	H
COUNTY	BUT
CONSTR. RTE.	C0233
CONSTR. SEC.	0.459
CONSTR. STA.	242+05.52
KEY RTE.	
MARKED RTE.	

MICROFILM REEL NUMBERS--

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS--

TAYLOR SCHOOL RD BRIDGE OVER MUTTON RUN;
INSPECTED & MAINTAINED BY BUTLER COUNTY ENGINEERS OFFICE;
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10-3' WIDE 1983 STANDARD PRECAST REINFORCED CONCRETE BEAMS

INVENTORY RATING SUMMARY

		SHEAR (KIPS)
MEMBER I.D.	S 1	
SPAN	1	
CRITICAL C.P. DIST.	13.5 FEET	
LIVE LOAD DESIGNATION	HS20	
MEMBER CAPACITY		272.5
DL EFFECT		68.8
CAPACITY FOR (LL+I)		84.5
ACTUAL (LL+I)		74.6

OPERATING RATING SUMMARY

		SHEAR (KIPS)
MEMBER I.D.	S 1	
SPAN	1	
CRITICAL C.P. DIST.	13.5 FEET	
LIVE LOAD DESIGNATION	HS20	
MEMBER CAPACITY		272.5
DL EFFECT		68.8
CAPACITY FOR (LL+I)		140.8
ACTUAL (LL+I)		74.6

INVENTORY RATING	HS	22.67		OPERATING RATING	HS 37.78

*** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. 093-396 BARS-PC RELEASE 5.5
POSTING ANALYSIS

STRUCTURE 0933961 D/P STR. ID-- 093-396

INPUT CODING--

	INVENTORY		OPERATING		POSTING	
DATE 11/30/12	LIVE LOAD	RATING	LIVE LOAD	RATING	TRUCK TYPE	GROSS TONS
BY STANTEC MRS						
	HS20	HS 22.67	HS20	HS 37.78	VEH. 2F1	40.1
					VEH. 3F1	43.3
					VEH. 4F1	48.4

STRUCTURE DESCRIPTION--

IDENTIFICATION	0933961
TYPE	121
YEAR OF CONSTR.	1991
LENGTH	29.00 FEET
ROADWAY WIDTH	30.00 FEET
NUMBER OF SPANS	1

LOCATION--

DISTRICT	H
COUNTY	BUT
CONSTR. RTE.	C0233
CONSTR. SEC.	0.459
CONSTR. STA.	242+05.52
KEY RTE.	
MARKED RTE.	

MICROFILM REEL NUMBERS--

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS--

TAYLOR SCHOOL RD BRIDGE OVER MUTTON RUN;
INSPECTED & MAINTAINED BY BUTLER COUNTY ENGINEERS OFFICE;
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10-3' WIDE 1983 STANDARD PRECAST REINFORCED CONCRETE BEAMS

POSTING RATING SUMMARY

TRUCK TYPE	VEH. 2F1	TRUCK TYPE	VEH. 3F1	TRUCK TYPE	VEH. 4F1
MEMBER I.D.	S 1	MEMBER I.D.	S 1	MEMBER I.D.	S 1
SPAN	1	SPAN	1	SPAN	1
CRITICAL C.P. DIST.	13.5 FEET	CRITICAL C.P. DIST.	13.5 FEET	CRITICAL C.P. DIST.	13.5 FEET
	SHEAR (KIPS)		SHEAR (KIPS)		SHEAR (KIPS)
MEMBER CAPACITY	272.5	MEMBER CAPACITY	272.5	MEMBER CAPACITY	272.5
DL EFFECT	68.8	DL EFFECT	68.8	DL EFFECT	68.8
CAPACITY FOR (LL+I)	140.8	CAPACITY FOR (LL+I)	140.8	CAPACITY FOR (LL+I)	140.8
ACTUAL (LL+I)	52.6	ACTUAL (LL+I)	74.7	ACTUAL (LL+I)	78.5

POSTING GROSS TONNAGE 40.1

POSTING GROSS TONNAGE 43.3

POSTING GROSS TONNAGE 48.4

*** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. 093-396 BARS-PC RELEASE 5.5
SPECIAL LOAD ANALYSIS

STRUCTURE 0933961 D/P STR. ID-- 093-396

INPUT CODING--

	INVENTORY		OPERATING		SPECIAL LOAD	
DATE 11/30/12	LIVE LOAD	RATING	LIVE LOAD	RATING	TRUCK TYPE	GROSS TONS
BY STANTEC MRS						
	HS20	HS 22.67	HS20	HS 37.78		
					VEH.SPEC	79.8

STRUCTURE DESCRIPTION--

IDENTIFICATION	0933961
TYPE	121
YEAR OF CONSTR.	1991
LENGTH	29.00 FEET
ROADWAY WIDTH	30.00 FEET
NUMBER OF SPANS	1

LOCATION--

DISTRICT	H
COUNTY	BUT
CONSTR. RTE.	C0233
CONSTR. SEC.	0.459
CONSTR. STA.	242+05.52
KEY RTE.	
MARKED RTE.	

MICROFILM REEL NUMBERS--

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS--

TAYLOR SCHOOL RD BRIDGE OVER MUTTON RUN;
INSPECTED & MAINTAINED BY BUTLER COUNTY ENGINEERS OFFICE;
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10-3' WIDE 1983 STANDARD PRECAST REINFORCED CONCRETE BEAMS

SPECIAL LOAD SUMMARY

TRUCK TYPE	VEH.SPEC
MEMBER I.D.	S 1
SPAN	1
CRITICAL C.P. DIST.	13.5 FEET

	SHEAR (KIPS)
MEMBER CAPACITY	272.5
DL EFFECT	68.8
CAPACITY FOR (LL+I)	140.8
ACTUAL (LL+I)	70.6
POSTING GROSS TONNAGE	79.8

BOX BEAMS LIVE LOAD DISTRIBUTION FACTOR S/D

NO. OF BEAMS	10	
WIDTH of bridge W (ft) =	30.000	<<Enter blue values only
SPAN L (ft) =	27.000	
Roadway Width (ft) =	30.0	
No of Lanes NL =	2	2
Width of precast member, S (ft)	3	
S (1992)=	3	

		AASHTO
Year		2003
K* (=1 for preliminary design)		1
W/L		1.11111
C=K*W/L=		1
D		5.646
S		3
S/D		0.5313

Note: AASHTO 3.23.4 (2003) states if Sqrt(I/J) value of beam is more than 5.0 then the live load distribution should be determined using a more precise method like Articulate Plate Theory or Grillage Analysis
where I = moment of Inertia of beam
and J = Saint-Venant torsion constant
K* = Sqrt((1+meu)*I/J) A more precise value of K may be used if available

BARS-PC Card 15 Input

	Box Beam	Area	Void_area
Enter Box beam	B33-48	733.5	837

BARS Card 15 Input											
22.5	38	16.25	3300	472	060	0037	465	0075	210	480	

	Width	Thickness	No. / bms.	Load/ft
Asphalt Surface	30.00	0.42	10	0.18 k/ft
Lt. Rail	52 plf		1	0.05 k/ft
Rt. Rail	52 plf		1	0.05 k/ft

DETAIL DATA AT MOMENT CHECK POINT FOR REINFORCED CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 11/30/12

D/P STRUCTURE I.D. 093-396
MEMBER I.D.--S01
C.P. LOCATION 1.50

***** SECTION PROPERTIES IN RANGE 1 OF SPAN 1

H IN.	B IN.	T IN.	BP IN.		AREA SQ.IN.	IX IN**4	AS SQ.IN.	D IN.	ASP SQ.IN.	DP IN.	A IN.	K	J
14.00	36.00	.00	36.00	+BEND	504.0	8232.0	6.00	11.56	.80	2.25	1.00	.000	.000
				-BEND	504.0	8232.0	.80	11.75	6.00	2.44	1.00	.000	.000

***** INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.000	13.500	27.000	POS AREA =	91.1
Y-ORDINATE	.000	6.750	.000		

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
T 0						
E 1						
N 2						
T 3						
H 4						
5						
P 6						
O 7						
I 8						
N 9						
T 0						
AREA TOTALS						
POS AREA	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0

***** ALLOWABLE STRESS ***** MOMENT CAPACITY

	REINF. STEEL PSI	CONC PSI	CONC + BEND FT-KIPS	REINF - BEND FT-KIPS	REINF + BEND FT-KIPS	CONC - BEND FT-KIPS
INVENTORY	33000.0	1600.0	272.5	41.6	272.5	41.6
OPERATING	45000.0	2181.8	272.5	41.6	272.5	41.6
POST VEH1	45000.0	2181.8	272.5	41.6	272.5	41.6
POST VEH2	45000.0	2181.8	272.5	41.6	272.5	41.6
POST VEH3	45000.0	2181.8	272.5	41.6	272.5	41.6
POST SPEC	45000.0	2181.8	272.5	41.6	272.5	41.6

***** TOTAL DL MOMENT EFFECT

FT-KIPS
68.8

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	84.5	60.5	84.5	60.5
OPERATING	140.8	100.8	140.8	100.8
VEH. 1	140.8	100.8	140.8	100.8
VEH. 2	140.8	100.8	140.8	100.8
VEH. 3	140.8	100.8	140.8	100.8
SPECIAL	140.8	100.8	140.8	100.8

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .300 FOR -BEND)

	LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	TRUCK LOAD LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV	HS20	+BEND	74.6	57.3	-.500	L	.0	62.1	47.7	13.500		1.133	40.8	HS 22.7
		-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
OPER	HS20	+BEND	74.6	57.3	-.500	L	.0	62.1	47.7	13.500		1.889	68.0	HS 37.8
		-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
POST	2F1	+BEND	52.6	40.5	3.500	L						2.675	40.1	
		-BEND	.0	.0	.000	L								
POST	3F1	+BEND	74.7	57.5	3.500	L						1.884	43.3	
		-BEND	.0	.0	.000	L								

POST	4F1	+BEND	78.5	60.4	-.500	L		1.793	48.4
		-BEND	.0	.0	.000	L			
POST	SPEC	+BEND	70.6	54.3	1.500	L		1.995	79.8
		-BEND	.0	.0	.000	L			

SUMMARY OF SHEAR ANALYSIS

DATE 11/30/12 D/P STRUCTURE I.D. 093-396

MEMB. ID	MATL	SPAN NO.	DIS FRM LT SPRT FT.	L R	DL SHEAR KIPS	SDL SHEAR KIPS	---INVENTORY--- LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	---OPERATING--- LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	--VEH. 1 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 2 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 3 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--SPECIAL-- LL+I MAX.V KIPS	LL+I MIN.V KIPS
S01	RC	1	.000	L	7.1	3.1	16.4	T	.0	T	16.4	T	.0	T	9.1	.0	12.9	.0	13.7	.0	12.6	.0
		1	13.500	L	.0	.0	5.5	T	5.5	T	5.5	T	5.5	T	3.9	3.9	5.0	5.0	5.1	5.1	5.0	5.0
		1	27.000	L	7.1	3.1	.0	T	16.4	T	.0	T	16.4	T	.0	9.1	.0	12.9	.0	13.7	.0	12.6

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                                  RECORD                                                    REC.NO.
01      113012STANTEC (MRS)                                          *LF*    POST            100
03      1SPEC0512.0    12    17.0     4    17.0    31    17.0     4                          200
03      2SPEC  17.0                                                                          300
02093396 STANTEC MRS                    121  91    29000     3000   1                      100
05093396 0933961HBUT C0233  0.459    2420552                                               200
060933961 TAYLOR SCHOOL RD BRIDGE OVER MUTTON RUN;                                          300
060933962 INSPECTED & MAINTAINED BY BUTLER COUNTY ENGINEERS OFFICE;                         400
060933963 27' SPAN C/C BRGS.; 10 DEG. SKEW lf; 30' F/F RAIL                                 500
060933964 10-3' WIDE 1983 STANDARD PRECAST REINFORCED CONCRETE BEAMS                        600
07093396     60000 4000                                                                     700
08093396S01 01       2700                      RC 60000 40000.531                         800
10093396S01 01                  W230.0         2700                                       900
11093396S01 0101  002700  0101                                                           1000
13093396S01  01   14.00          36.00     01 6.00011.563                               1100
13093396S01  01                            02 0.800 2.250X                              1200

THE FOLLOWING STRUCTURES WERE SELECTED


093396
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