

Bridge Load Rating

Prepared for

Maine Department of Transportation

Bridge No. 1433 (SB) & 5951 (NB)

HAMPDEN

INTERSTATE 95

OVER

SOUADABSCOOK STREAM WEST

Date of Inspection: 1/19/2010 (1433), 7/19/2011 (5951)

Date of Rating: 5/10/2013

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T.S. Bryant

Vanasse Hangen Brustlin, Inc.

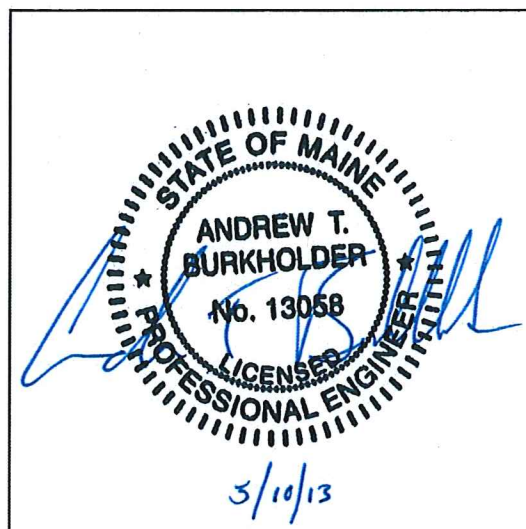


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Bridge No: 1433 (SB) & 5951 (NB)
 Town/City: Hampden, ME
 Route Carried: I-95
 Crosses: Souadabscook Stream West

Owner: Maine DOT
 Maintainer: Maine DOT
 Year Built: 1961
 Year(s) Rebuilt/Rehab: _____

SUMMARY OF BRIDGE RATING

VEHICLE TYPE		RF	RT (TONS)	POSTING LOAD (TONS)
HL-93	INVENTORY	0.86		
	OPERATING	1.11		
HL-93 modified	INVENTORY			
	OPERATING			
CONFIGURATION 1		1.39	69.50	OK
CONFIGURATION 2		1.46	68.57	OK
CONFIGURATION 3		1.32	58.08	OK
CONFIGURATION 4		1.34	58.96	OK
CONFIGURATION 5		1.33	58.52	OK
CONFIGURATION 6		1.04	39.47	OK
CONFIGURATION 7		1.25	36.88	OK
CONFIGURATION 8		1.82	34.03	OK

Group 1 Posting Analysis (Configuration 1)

Governing Posting: _____
 Governing Load Model: _____

Group 2 Posting Analysis (Configurations 2 - 5)

Governing Posting: _____
 Governing Load Model: _____

Group 3 Posting Analysis (Configurations 6 - 8)

Governing Posting: _____
 Governing Load Model: _____

LRFR Evaluation Factors:

Live Load Factor: 1.75 (0.75 Fatigue)
 Live Load Routine Commercial: 1.31
 Live Load Special Hauling: 1.31
 Impact Factor: 33% (15% Fatigue)
 Governing Condition Factor, ϕ_c : 1.00
 System Factor, ϕ_s : 1.00
 ADTT (one-way): 1341

Please check all the boxes that apply:

- ☐ Bridge load rating is governed by substructure rating
- ☐ Connections control the load rating
- ☒ Exterior girder controls load rating
- ☒ As-built load rating
- ☐ As-inspected load rating
- ☐ One Lane Loaded
- ☐ Advanced Analysis Used
- ☐ Actual Measurements Taken
- ☒ Finite Fatigue Life 0 years

BREAKDOWN OF BRIDGE RATING

Town/City: Hampden, ME
 Bridge No: 1433 (SB) & 5951 (NB)

Route Carried: I-95
 Crosses: Souadabscook Stream West

LOAD RATING POINTS OF INTEREST

<u>Bridge Component</u>	HL-93		HL-93 Modified		MaineDOT Truck Configurations							
	Inv 72.0 kip	Oper 72.0 kip	Inv 90.0 kip	Oper 90.0 kip	1 100.0 kip	2 94.0 kip	3 88.0 kip	4 88.0 kip	5 88.0 kip	6 75.9 kip	7 59.0 kip	8 37.4 kip
Exterior Girder Strength I Negative Moment Pier 1	0.86	1.11			1.39	1.53	1.32	1.34	1.33	1.04	1.25	1.82
Exterior Girder Strength I Positive Moment 0.5L Span 2	0.97	1.26			1.75	1.46	1.40	1.48	1.47	1.21	1.51	2.33
Exterior Girder Strength I Shear Pier 1	1.51	1.96										
Interior Girder Strength I Negative Moment Pier 1	0.90	1.17			1.46	1.61	1.39	1.41	1.40	1.09	1.32	1.91
Interior Girder Strength I Positive Moment 0.5L Span 2	1.11	1.43										
Interior Girder Strength I Shear Pier 1	1.28	1.66										
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
CONTROLLING RATING FACTORS (STRENGTH I)	0.86	1.11			1.39	1.46	1.32	1.34	1.33	1.04	1.25	1.82

DESCRIPTION OF BRIDGE

Bridge Number:	1433 (SB) & 5951 (NB)
Owner:	Maine DOT
Maintained By:	Maine DOT
Location:	Hampden, ME
Route Carried:	I95
Feature Intersected:	Souadabscook Stream West
Latest NBI Inspection Date:	1/19/2010 (1433), 7/19/2011 (5951)
Field Verification Date (if applicable):	N/A
Date of Construction:	1961
Bridge Type:	Steel rolled beam with cover plates with non-composite concrete deck
Material Properties:	Fy = 32 ksi (beams), 40 ksi (rebar), f'c = 3 ksi
Original Design Loading:	HS 20
Date(s) of Rebuild/Rehab :	N/A
Description of Rebuild/Rehab :	N/A
Posting:	N/A, Open
Superstructure:	Continuous steel rolled beams with cover plates
Substructure:	Reinforced concrete abutments and piers
Bearings:	Steel Bearings
Bridge Spans:	Spans = 40'-0", 50'-0", 40'-0" Total = 130'-0"
Bridge Skew:	30°00'00"
Bridge Width:	42'-4" out-to-out
Roadway Width:	40'-0" curb-to-curb
Roadway Surface:	Bituminous Pavement
Curbs:	Concrete
Sidewalk/Walkway/Median:	N/A
Utilities:	N/A
Bridge Railing:	Aluminum Rail on Concrete Parapet
Approach Railing:	Steel Guardrail
Wearing Surface Condition:	
Bridge Railing Condition:	
Deck Condition:	6 - Satisfactory (1433), 5 - Fair (5951)
Beam Condition:	7 - Good (1433), 7 - Good (5951)
Bearing Condition:	
Abutment Condition:	5 - Fair
Pier Condition:	5 - Fair



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Hampden, ME	Sheet	
Calculated by	KZS	Date	4/18/2013
Checked by	DZ	Date	4/26/2013
Title	Br. No. 1433 & 5951 Load Rating		

Notes and Assumptions

References Used:

- *The Manual for Bridge Evaluation (MBE)*, Second Edition, 2011 (MBE) w/ 2013 Interims
- *AASHTO LRFD Bridge Design Specifications*, Fifth Edition, 2010 w/ 2010 Interims (LRFD)
- MaineDOT Load Rating Guide, 2013

General Notes:

This load rating was performed in accordance with the Maine Department of Transportation guidelines.

Virtis Version 6.4 software with an AASHTO analysis engine was used to rate this bridge.

The girders will be rated for the HL-93 load case. If the Inventory rating factor is less than 1.0, the controlling girder will be rated using the 8 MaineDOT Legal Load configurations.

Bridge No. 1433 & 5951 are 3-span non-composite continuous bridges with 6 steel girders spaced at 7'-6". The bridge is approximately 40'-0" curb-to-curb. There is a 6.5" concrete slab with a 2" bituminous pavement wearing surface per original plans.

The bridge was evaluated at the strength and service limit states. The service ratings were not allowed to control per the MaineDOT Load Rating Guide (3.6.1).

Condition Factors:

A condition factor of 1.0 was used due to the "good" superstructure condition evaluation reported in the latest MaineDOT Inspection Report on July 19, 2011 for bridge 5951 and report on January 19, 2010 for bridge 1433.

Assumptions:

- Material Strength: Steel: $F_y = 32$ ksi (Beams, Stiffeners), $F_y = 40$ ksi (Reinforcing Steel)
- Material Strength: Concrete: $f_c = 3$ ksi
- Non-composite action
- Capacity Checked with AASHTO LRFD Specifications, Appendix A6
- Total wearing surface = 2.25 in (Includes waterproofing)
- Superimposed dead loads distributed equally between all girders
- Continuous lateral bracing of top flange assumed per MBE 6A.6.9.3
- Splices not considered in ratings because they are assumed to have equal or greater capacity than the adjoining members
- Diaphragm weights input directly into rating software. An additional 2% self-weight load of the beams used to account for connection plates, splices and miscellaneous hardware



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Hampden, ME	Sheet	
Calculated by	KZS	Date	4/18/2013
Checked by	DZ	Date	4/26/2013
Title	Br. No. 1433 & 5951 Load Rating		

Legal Load Factors

References Used:

- *The Manual for Bridge Evaluation (MBE)*, Second Edition, 2011 w/ 2013 Interims
- *AASHTO LRFD Bridge Design Specifications*, Fifth Edition, 2010 w/ 2010 Interims (LRFD)
- MaineDOT Load Rating Guide, 2013

MaineDOT Legal Loads:

The MaineDOT Load Rating Guide states that Legal Load Configurations 1 thru 5, 7, and 8 are significantly heavier than the AASHTO legal loads and should be rated using load factors specified for Routine Commercial Traffic Table 6A.4.4.2.3a-1 in the MBE. Configuration 6 is considered a specialized hauling vehicle (SHV) and is load rated for the load factors specified in Table 6A.4.4.2.3b-1.

Bridge Information

ADT =	12190	From SIA Sheet (5951)
Truck % =	11	From SIA Sheet (5951)
Directional % =	100	Per LRFD C3.6.1.4.2
ADTT =	1341	One Direction (Input 0 if traffic data is unknown)

Legal Live Load Factors

For Configurations 1 - 5, 7 and 8

Table 6A.4.4.2.3a-1

ADTT (one direction)	Load Factor
Unknown	1.45
≥ 5000	1.45
< 1000	1.30

For Configuration 6

Table 6A.4.4.2.3b-1

ADTT (one direction)	Load Factor
Unknown	1.45
> 5000	1.45
< 1000	1.30

LL Factor Configurations 1 - 5, 7 and 8 =	1.31
LL Factor Configuration 6 =	1.31

Structure Inventory and Appraisal Sheet

Bridge Key: 1433	Agency ID: 1433	SR: 82.6	SD/FO: ND
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IDENTIFICATION

State 1: 23 Maine Struc Num 8: 1433
Facility Carried 7: I 95 SB Location 9: 2 MI E TL/9*5 MIN176.5
Rte.(On/Under)5A: Route On Structure Rte. Signing Prefix 5B: 3 State Hwy
Level of Service 5C: 1 Mainline Rte. Number 5D: 00095
Directional Suffix 5E: 3 South % Responsibility : 0
SHD District 2: 04 Eastern County Code 3: 019 Penobscot
Place Code 4: 19280 Hampden Kilometer Post 11: 206.3 km
Feature Intersected 6: SOUADABSCOOK STREAM
Latitude 16: 44d 45' 49" Longitude 17: 068d 55' 10"
Border Bridge Code 98: Not Applicable (P)
Border Bridge Number 99: n/a

INSPECTION

Frequency 91: 24 months Inspection Date 90: 1/19/2010 Next Inspection: 01/19/2012
FC Frequency 92A: NA FC Inspection Date 93A: NA Next FC Inspection: NA
UW Frequency 92B: 60 months UW Inspection Date 93B: 10/26/2011 Next UW Inspection: 10/26/2016
SI Frequency 92C: NA SI Date 93C: NA Next SI: NA
Element Frequency: 24 months Element Inspection Date: 01/01/1901 Next Elem. Insp. Due: 01/01/1901

STRUCTURE TYPE AND MATERIALS

Number of Approach Spans 46: 0 Number of Spans Main Unit 45: 3
Main Span Material/Design 43A/B:
4 Steel Continuous 02 Stringer/Girder
Deck Type 107: 1 Concrete-Cast-in-Place
Wearing Surface 108A: 2 Integral Concrete
Membrane 108B: 0 None
Deck Protection 108C: None

CLASSIFICATION

Defense Highway 100: 1 On Interstate STRAHNET Parallel Structure 101: Left of || bridge
Direction of Traffic 102: 1 1-way traffic Temporary Structure 103: Not Applicable (P)
Highway System 104: 1 On the NHS NBIS Length 112: Long Enough
Toll Facility 20: 3 On free road Functional Class 26: 01 Rural Interstate
Defense Hwy 110: 1 On Interstate STRAHNET Historical Significance 37: 4 Hist sign not determin
Owner 22: 01 State Highway Agency
Custodian 21: 01 State Highway Agency

AGE AND SERVICE

Year Built 27: 1961 Year Reconstructed 106: -4
Type of Service on 42A: 1 Highway
Type of Service under 42B: 5 Waterway
Lanes on 28A: 2 Lanes Under 28B: 0 Detour Length 19: 6.6 km
ADT 29: 11,520 Truck ADT 109: 11 % Year of ADT 30: 2011

CONDITION

Deck 58: 6 Satisfactory Super 59: 7 Good Sub 60: 5 Fair
Culvert 62: N N/A (NBI) Channel/Channel Protection 61: 7 Minor Damage

GEOMETRIC DATA

Length Max Span 48: 15.24 m Structure Length 49: 41.45 m
Curb/Sdwk Width L 50A: 0.06 m Curb/Sidewalk Width R 50B: 0.06 m
Width Curb to Curb 51: 12.19 m Width Out to Out 52: 12.92 m
Approach Roadway Width 32:(w/ shoulders) 12.19 m Median 33: 0 No median
Deck Area: 535.75 m²
Skew 34: 30.00 ° Structure Flared 35: 0 No flare
Vertical Clearance 10: 99.99 m Horiz. Clearance 47: 12.19 m
Minimum Vertical Clearance Over Bridge 53: 99.90 m
Minimum Vertical Underclearance Reference 54A: N Feature not hwy or RR
Minimum Vertical Underclearance 54B: 00.00 m
Minimum Lateral Underclearance Reference R 55A: N Feature not hwy or RR
Minimum Lateral Underclearance R 55: 99.90 m
Minimum Lateral Underclearance L 56: 99.90 m

LOAD RATING AND POSTING

Inventory Rating Method 65: 2 AS Allowable Stress Operating Rating Method 63: 2 AS Allowable Stress
Inventory Rating 66: MS19.2 Operating Rating 64: MS28.2
Design Load 31: 6 MS18(HS20)+mod Posting 70: 5 At/Above Legal Loads
Posting status 41: A Open, no restriction

APPRAISAL

Bridge Rail 36A: 0 Substandard Approach Rail 36C: 1 Meets Standards
Transition 36B: 1 Meets Standards Approach Rail Ends 36D: 1 Meets Standards
Str. Evaluation 67: 5 Above Min Tolerable Deck Geometry 68: 7 Above Min Criteria
Underclearance, Vertical and Horizontal 69: N Not applicable (NBI)
Waterway Adequacy 71: 9 Above Desirable Approach Alignment 72: 8 Equal Desirable Crit
Scour Critical 113: 8 Stable Above Footing

PROPOSED IMPROVEMENTS

Bridge Cost 94: NA Type of Work 75: Unknown (P)
Roadway Cost 95: Unknown Length of Improvement 76: 16,128
Total Cost 96: Unknown Future ADT 114: 2031
Year of Cost Estimate 97: Unknown Year of Future ADT 115: 2031

NAVIGATION DATA

Navigation Control 38: 0 Permit Not Required
Vertical Clearance 39: 0.00 m Horizontal Clearance 40: 0.00 m
Pier Protection 111: Not Applicable (P) Lift Bridge Vertical Clearance 116: 0.00 m

ELEMENT CONDITION STATE DATA

Structure Inventory and Appraisal Sheet

Bridge Key: 5951	Agency ID: 5951	SR: 81.6	SD/FO: ND
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IDENTIFICATION

State 1: 23 Maine Struc Num 8: 5951
Facility Carried 7: 95 NB Location 9: 2 MI E TL/95 MILE 176.5

Rte.(On/Under)5A: Route On Structure Rte. Signing Prefix 5B: 3 State Hwy

Level of Service 5C: 1 Mainline Rte. Number 5D: 00095

Directional Suffix 5E: 1 North % Responsibility : 0

SHD District 2: 04 Eastern County Code 3: 019 Penobscot

Place Code 4: 19280 Hampden Kilometer Post 11: 282.5 km

Feature Intersected 6: SOUADABSCOOK STR

Latitude 16: 44d 45' 48" Longitude 17: 068d 55' 10"

Border Bridge Code 98: Not Applicable (P)

Border Bridge Number 99: n/a

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FC Frequency 92A: NA FC Inspection Date 93A: NA Next FC Inspection: NA

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Wearing Surface 108A: 2 Integral Concrete

Membrane 108B: 0 None

Deck Protection 108C: None

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Width Curb to Curb 51: 12.19 m Width Out to Out 52: 12.92 m

Approach Roadway Width 32:(w/ shoulders) 12.19 m Median 33: 0 No median

Deck Area: 539.69 m²

Skew 34: 30.00 ° Structure Flared 35: 0 No flare

Vertical Clearance 10: 99.99 m Horiz. Clearance 47: 12.19 m

Minimum Vertical Clearance Over Bridge 53: 99.90 m

Minimum Vertical Underclearance Reference 54A: N Feature not hwy or RR

Minimum Vertical Underclearance 54B: 00.00 m

Minimum Lateral Underclearance Reference R 55A: N Feature not hwy or RR

Minimum Lateral Underclearance R 55: 99.90 m

Minimum Lateral Underclearance L 56: 99.90 m

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Underclearance, Vertical and Horizontal 69: N Not applicable (NBI)

Waterway Adequacy 71: 9 Above Desirable Approach Alignment 72: 8 Equal Desirable Crit

Scour Critical 113: 8 Stable Above Footing

PROPOSED IMPROVEMENTS

Bridge Cost 94: NA Type of Work 75: Unknown (P)

Roadway Cost 95: Unknown Length of Improvement 76: 17,066

Total Cost 96: Unknown Future ADT 114: 2031

Year of Cost Estimate 97: Unknown Year of Future ADT 115: 2031

NAVIGATION DATA

Navigation Control 38: 0 Permit Not Required

Vertical Clearance 39: 0.00 m Horizontal Clearance 40: 0.00 m

Pier Protection 111: Not Applicable (P) Lift Bridge Vertical Clearance 116: 0.00 m

ELEMENT CONDITION STATE DATA

SECTION 3: LOAD AND RESISTANCE FACTOR RATING GUIDELINES

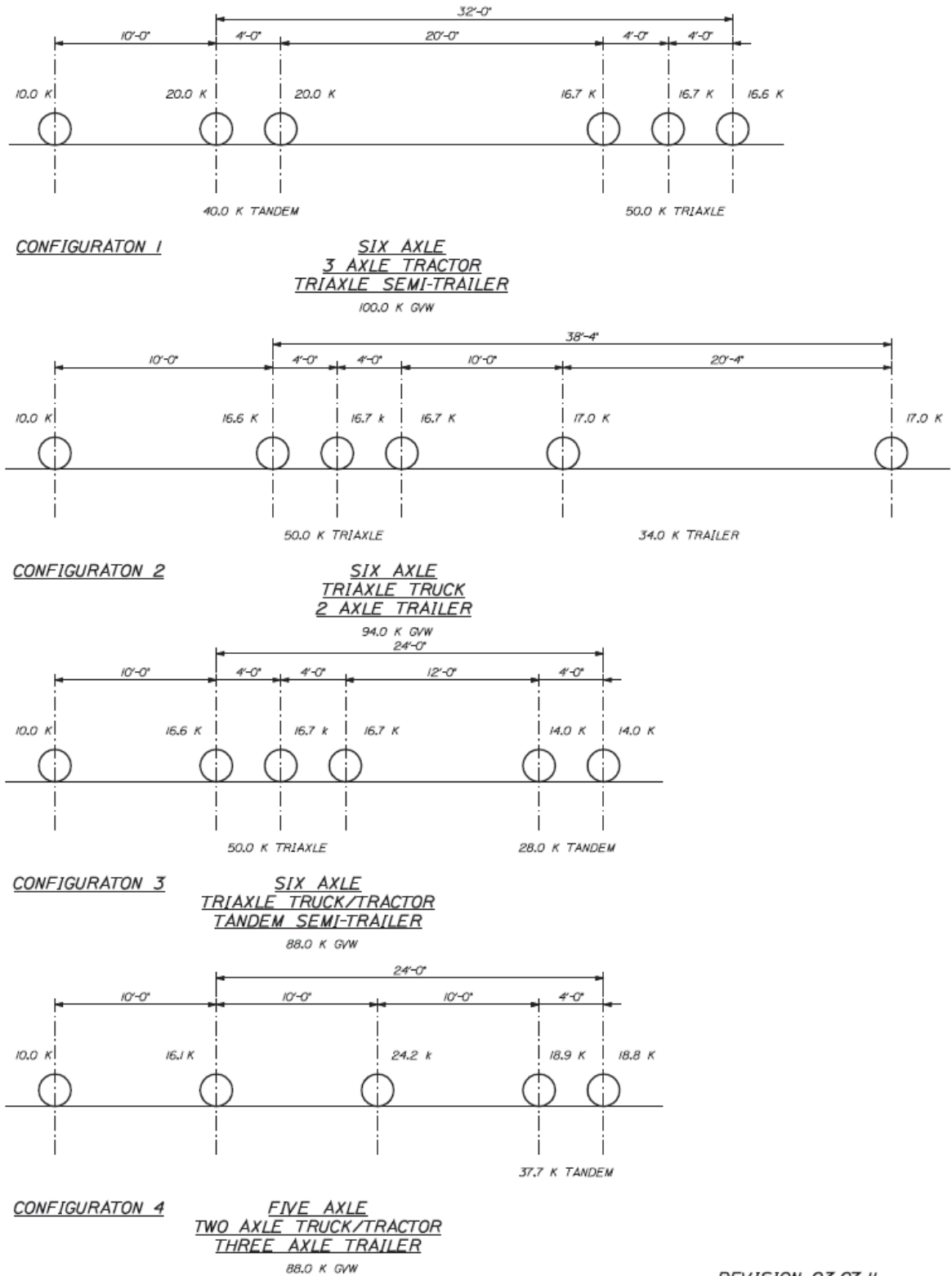
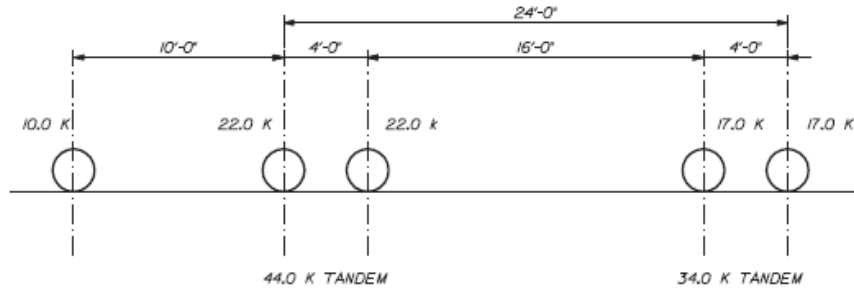
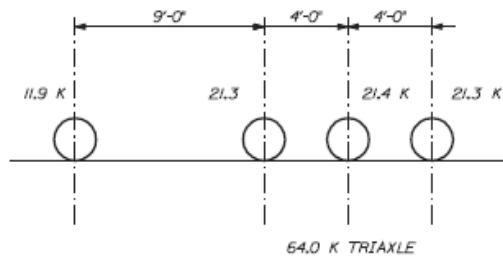


Figure 1. Maine DOT Legal Loads

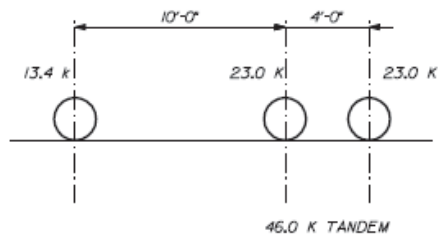
SECTION 3: LOAD AND RESISTANCE FACTOR RATING GUIDELINES



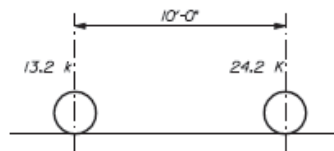
CONFIGURATON 5 FIVE AXLE
TANDEM AXLE TRUCK
OR TRACTOR SEMI-TRAILER
88.0 K GVW



CONFIGURATON 6 FOUR AXLE TRUCK
75.9 K GVW

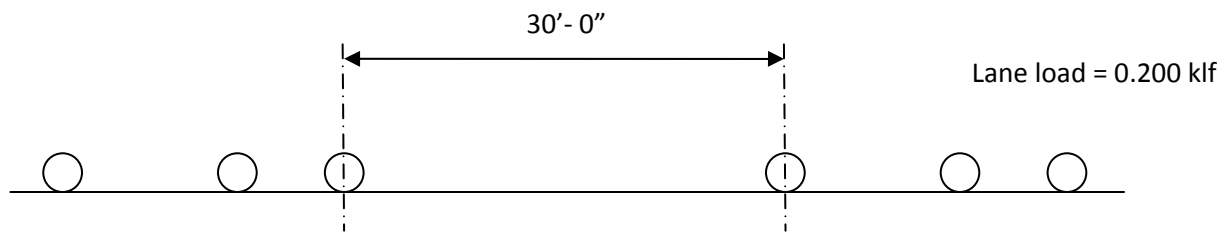


CONFIGURATON 7 THREE AXLE TRUCK
59.0 K GVW



CONFIGURATON 8 TWO AXLE TRUCK
37.4 K GVW

Figure 2. Maine DOT Legal Loads



For negative moments and interior reactions:

MaineDOT legal vehicles multiplied by 0.75 separated by 30' heading in the same direction.

For one direction ADTT < 500: The lane load component may be excluded and the 0.75 factor changed to 1.0.

Username: virtis

Date: Tuesday, April 23, 2013 15:59:32

Bridge ID Br. No. 1433+5951 I95 over Souadabscook Stream West

NBI Structure ID (8): 1433+5951

Description:

Description

Location: Hampden
Total Length: 130.00 (ft)
Facility Carried: I95
Route Number: 95
Feature Intersected: Souadabscook
Mi Post: (mi)
Units: US Customary
Year Built: 1961
Recent ADTT: 1340
District:
County:
Owner:
National Highway System:
Functional Class:

Global Reference Point

X Coordinate: 0.000 (ft)
Y Coordinate: 0.000 (ft)
Elevation: (ft)
Longitude: (Degrees)
Latitude: (Degrees)

Materials

Structural Steel

Name: **ASTM A373**
Description: ASTM A 737
Specified minimum yield strength (Fy): 32.000 (ksi)
Specified minimum tensile strength (Fu): 58.000 (ksi)
Coefficient of thermal expansion: 0.0000065000 (1/F)
Density: 0.4900 (kcf)
Modulus of elasticity (E): 29000.00 (ksi)

Concrete

Name: **Class A (US)**
Description: Class A cement concrete
Specified compressive strength at 28 days (f'c): 3.000 (ksi)
Initial specified compressive strength (f'ci): (ksi)
Coefficient of thermal expansion: 0.0000060000 (1/F)
Density (for dead loads): 0.150 (kcf)
Density (for modulus of elasticity): 0.145 (kcf)
Modulus of elasticity (Ec): 3155.92 (ksi)
Poisson's ratio: 0.200

Modulus of rupture:	0.416 (ksi)
Shear factor:	1.000
Composition of concrete:	Normal
Initial modulus of elasticity (Eci):	(ksi)

Reinforcing Steel

Name:	Grade 40
Description:	40 ksi reinforcing steel
Specified yield strength (Fy):	40.000 (ksi)
Modulus of elasticity (Es):	29000.00 (ksi)
Ultimate strength (Fu):	70.000 (ksi)
Type:	Plain

No prestressing strand materials.

No timber materials.

Beam Shapes

Steel Shapes

No steel angles.

No steel channels.

Steel I Shapes

Name:	W24x110
Description:	
Depth (d):	24.1250 (in)
Flange width (bf):	12.0000 (in)
Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	32.360 (in^2)
Nominal load:	110.000 (lb/ft)
Ixx:	3315.000 (in^4)
Iyy:	229.100 (in^4)
Zx:	308.000 (in^3)
Zy:	64.400 (in^3)
Nominal Depth:	24.0000 (in)
Type:	W Shape
Name:	W24x110 w/ CP span 1
Description:	
Depth (d):	24.0000 (in)

Flange width (bf):	12.0000 (in)
Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	34.860 (in ²)
Nominal load:	118.507 (lb/ft)
Ixx:	3688.265 (in ⁴)
Iyy:	232.433 (in ⁴)
Zx:	338.547 (in ³)
Zy:	66.900 (in ³)
Nominal Depth:	24.7500 (in)
Type:	W Shape

Name: **W24x110 w/ CP pier 1**

Description:	
Depth (d):	24.0000 (in)
Flange width (bf):	12.0000 (in)
Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	39.860 (in ²)
Nominal load:	135.521 (lb/ft)
Ixx:	4440.557 (in ⁴)
Iyy:	291.600 (in ⁴)
Zx:	399.875 (in ³)
Zy:	83.150 (in ³)
Nominal Depth:	24.8750 (in)
Type:	W Shape

Name: **W24x110 w/CP span 2**

Description:	
Depth (d):	24.0000 (in)
Flange width (bf):	12.0000 (in)
Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	34.860 (in ²)
Nominal load:	118.507 (lb/ft)
Ixx:	3688.265 (in ⁴)
Iyy:	232.433 (in ⁴)
Zx:	338.547 (in ³)
Zy:	66.900 (in ³)
Nominal Depth:	24.7500 (in)
Type:	W Shape

Name: **W24x110 w/ CP pier 1 taper**

Description:	
Depth (d):	24.1250 (in)
Flange width (bf):	12.0000 (in)

Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	37.610 (in ²)
Nominal load:	127.864 (lb/ft)
Ixx:	4102.890 (in ⁴)
Iyy:	250.538 (in ⁴)
Zx:	372.313 (in ³)
Zy:	73.588 (in ³)
Nominal Depth:	24.8750 (in)
Type:	W Shape

No steel structural tee shapes.

Prestressed Shapes

No prestressed shapes.

Timber Shapes

No timber shapes.

Appurtenances

Parapets

Name:	Concrete Rail
Description:	Concrete Rail
X1:	12.0000 (in)
X2:	0.0000 (in)
X3:	2.0000 (in)
Y1:	0.0000 (in)
Y2:	18.0000 (in)
Y3:	0.0000 (in)
Y4:	11.0000 (in)
Distance to Center of Gravity of Load:	6.0000 (in)
Additional Load:	0.000 (kip/ft)
Concrete Density:	0.0000 (kcf)

No concrete medians.

No concrete generics.

No steel railings.

Impact

Standard Impact Factor

Type: Standard - AASHTO
LRFD Dynamic Load Allowance
 Fatigue and fracture limit states: 15.0 (%)
 All other limit states: 33.0 (%)

Factors

No LFD Factors specified.

No LRFD Factors specified.

No Bridge Alternatives defined.

Superstructure Definition 1433+5951

Definition

Units: US Customary
 Number of spans: 3
 Number of girders: 6

	Length
Span	(ft)
1	40.0000
2	50.0000
3	40.0000

Frame Structure Simplified Definition:

Support Frame Connection

1
2
3
4

Girder Spacing Display Type: Perpendicular

Average Humidity: (%)

Analysis

Default Library Factors

Factor Override

Analysis Module

Analysis Method: ASD

Analysis Module:

Analysis Module Component:

Properties:

Analysis Method: LFD

Analysis Module:

Analysis Module Component:

Properties:

Analysis Method: LRFD

Analysis Module:
 Analysis Module Component:
 Properties:

Analysis Method: LRFR
 Analysis Module:
 Analysis Module Component:
 Properties:

Analysis Method: Distribution Factors
 Analysis Module:
 Analysis Module Component:
 Properties:

Default rating method: LFD

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Structure Framing Plan Details

Layout

Support Skew
 (Degrees)
 1 -30.0000
 2 -30.0000
 3 -30.0000
 4 -30.0000

Girder Spacing Orientation: Perpendicular

Girder Bay	Girder Spacing Start (ft)	End (ft)
1	7.5000	7.5000
2	7.5000	7.5000
3	7.5000	7.5000
4	7.5000	7.5000
5	7.5000	7.5000

Diaphragms

Girder Bay 1

Distance Left Girder (ft)	Distance Right Girder (ft)	Diaphragm Spacing (ft)	Number of Spaces	Diaphragm Weight (kip)
0.00	0.00	0.00	1	0.3373
0.00	0.00	22.00	1	0.3373
22.00	22.00	18.00	1	0.3191
40.00	40.00	15.00	1	0.3373

55.00	55.00	20.00	1	0.3373
75.00	75.00	15.00	1	0.3191
90.00	90.00	18.00	1	0.3373
108.00	108.00	22.00	1	0.3373
<i>Girder Bay 2</i>				
Distance	Distance	Diaphragm	Number of	Diaphragm
Left Girder	Right Girder	Spacing	Spaces	Weight
(ft)	(ft)	(ft)		(kip)
0.00	0.00	0.00	1	0.3373
0.00	0.00	22.00	1	0.3373
22.00	22.00	18.00	1	0.3191
40.00	40.00	15.00	1	0.3373
55.00	55.00	20.00	1	0.3373
75.00	75.00	15.00	1	0.3191
90.00	90.00	18.00	1	0.3373
108.00	108.00	22.00	1	0.3373
<i>Girder Bay 3</i>				
Distance	Distance	Diaphragm	Number of	Diaphragm
Left Girder	Right Girder	Spacing	Spaces	Weight
(ft)	(ft)	(ft)		(kip)
0.00	0.00	0.00	1	0.3373
0.00	0.00	22.00	1	0.3373
22.00	22.00	18.00	1	0.3191
40.00	40.00	15.00	1	0.3373
55.00	55.00	20.00	1	0.3373
75.00	75.00	15.00	1	0.3191
90.00	90.00	18.00	1	0.3373
108.00	108.00	22.00	1	0.3373
<i>Girder Bay 4</i>				
Distance	Distance	Diaphragm	Number of	Diaphragm
Left Girder	Right Girder	Spacing	Spaces	Weight
(ft)	(ft)	(ft)		(kip)
0.00	0.00	22.00	1	0.3373
0.00	0.00	0.00	1	0.3373
22.00	22.00	18.00	1	0.3191
40.00	40.00	15.00	1	0.3373
55.00	55.00	20.00	1	0.3373
75.00	75.00	15.00	1	0.3191
90.00	90.00	18.00	1	0.3373
108.00	108.00	22.00	1	0.3373
<i>Girder Bay 5</i>				
Distance	Distance	Diaphragm	Number of	Diaphragm
Left Girder	Right Girder	Spacing	Spaces	Weight
(ft)	(ft)	(ft)		(kip)
0.00	0.00	0.00	1	0.3373
0.00	0.00	22.00	1	0.3373
22.00	22.00	18.00	1	0.3191
40.00	40.00	15.00	1	0.3373
55.00	55.00	20.00	1	0.3373
75.00	75.00	15.00	1	0.3191
90.00	90.00	18.00	1	0.3373

108.00 108.00 22.00 1 0.3373

Structure Typical Section

Deck

Left start width: 21.17 (ft)
 Left end width: 21.17 (ft)
 Right start width: 21.17 (ft)
 Right end width: 21.17 (ft)
 Left start overhang: 2.42 (ft)
 Left end overhang: 2.42 (ft)

Deck (Cont'd)

Deck concrete: Class A (US)
 Total deck thickness: 6.5000 (in)
 Deck crack control parameter: (kip/in)
 Sustained modular ratio factor: 3.000

Parapet

Name	Load Case	Measure To	Measured From	Distance At Start	Distance At End	Front Face Orientation
Concrete ...	DC2	Front	Left Ed...	1.17	1.17	Right
Concrete ...	DC2	Front	Right E...	1.17	1.17	Left

Lane Position

Offset Left Start: -20.00 (ft)
 Offset Left End: -20.00 (ft)
 Offset Right Start: 20.00 (ft)
 Offset Right End: 20.00 (ft)

Wearing Surface

Wearing surface material: bituminous
 Description:
 Wearing surface thickness: 2.2500 (in)
 Wearing surface density: 140.000 (pcf)
 Load case: DW

Load Case Description

Load Case Name	Description	Stage	Type	Time (Days)
DC1	DC acting on non-comp...	Non-composite (Sta...		D,DC
DC2	DC acting on long-ter...	Composite (long te...		D,DC
DW	DW acting on long-ter...	Composite (long te...		D,DW

Superstructure Loads

DL Distribution

Stage 1 Dead Load Distribution: Tributary Area
 Stage 2 Dead Load Distribution: Uniformly to All Girders

Stiffener Definitions

Transverse Stiffeners

Name: Single Connection PL

Stiffener number: Single
 Plate Width: 6.0000 (in)
 Plate Thickness: 0.3750 (in)
 Material: ASTM A373
 Top Gap: 2.0000 (in)
 Bottom Gap: 2.0000 (in)
 Top Weld:
 Web Weld:
 Bottom Weld:

Name: Double Connection PL
 Stiffener number: Pair
 Plate Width: 6.0000 (in)
 Plate Thickness: 0.3750 (in)
 Material: ASTM A373
 Top Gap: 2.0000 (in)
 Bottom Gap: 2.0000 (in)
 Top Weld:
 Web Weld:
 Bottom Weld:

No prestress stress limits.

No prestress properties.

No vertical shear reinforcement definitions.

No horizontal shear reinforcement definitions.

Member G1

Link with: None

Description:

Existing: G1 -

Current: G1 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Distributed Loads

Distance (ft)	Length (ft)	Start (kip/ft)	End (kip/ft)	Load Case Name
0.00	130.00	0.205	0.205	DC2

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G1

Description:

Description

Material Type: Steel
Girder Type: Rolled
Member units: US Customary
Girder property input method: Schedule based
Left end X: (in)
Right end X: (in)
Additional Self Load: (kip/ft)
Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
Analysis Module: AASHTO ASD
Analysis Module Component:

Properties:

Analysis Method: LFD

Analysis Module: AASHTO LFD
Analysis Module Component:
Properties:

Analysis Method: LRFD
Analysis Module: AASHTO LRFD
Analysis Module Component:
Properties:

Analysis Method: LRFR
Analysis Module: AASHTO LRFR
Analysis Module Component:
Properties:

Analysis Method: Distribution Factors
Analysis Module: Virtis Dist Fact
Analysis Module Component:
Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

	Inventory	Operating
Structural steel		
Concrete		
PS Concrete Comp.		
PS Concrete Tens.		
PS Moment Cap.		
Reinforcement		
Bearing Stiffener		
Stirrup		
Timber	NA	

Default Materials

Structural steel: ASTM A373
Deck concrete: Class A (US)
Deck reinforcement: Grade 40
Welds:
Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states:

33.0 (%)

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)

Lanes	Shear	Shear at Supports	Moment	Deflection
Loaded				
1 Lane				
Multi-Lane				

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.38	Moment	0.580	0.654
29.38	21.50	Moment	0.581	0.655
50.87	28.25	Moment	0.583	0.657
79.13	21.50	Moment	0.581	0.655
100.62	29.38	Moment	0.580	0.653
0.00	4.00	Shear	0.707	0.797
4.00	36.00	Shear	0.600	0.676
40.00	50.00	Shear	0.600	0.676
90.00	36.00	Shear	0.600	0.676
126.00	4.00	Shear	0.707	0.797
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape:	W24x110
Distance:	0.00 (ft)
Length:	14.00 (ft)
Material:	ASTM A373
Shape:	W24x110 w/ CP span 1
Distance:	14.00 (ft)
Length:	12.00 (ft)
Material:	ASTM A373
Shape:	W24x110
Distance:	26.00 (ft)
Length:	9.50 (ft)
Material:	ASTM A373
Shape:	W24x110 w/ CP pier 1 taper
Distance:	35.50 (ft)
Length:	2.00 (ft)
Material:	ASTM A373
Shape:	W24x110 w/ CP pier 1
Distance:	37.50 (ft)
Length:	5.00 (ft)
Material:	ASTM A373
Shape:	W24x110 w/ CP pier 1 taper
Distance:	42.50 (ft)

Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 85.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n (ft)	Length (ft)	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00 9.20...	130.00		6.5000	67.9980	73.9980

Haunch Profile

Haunch Type: Flange edges

Embedded flange:		TRUE					
Distance	Length	Z1	Z2	Z3	Z4	Y1	Y2
(ft)	(ft)	(in)	(in)	(in)	(in)	(in)	(in)
0.00	130.00	4.0000	4.0000	4.0000	4.0000	1.0000	1.0000

Bracing Ranges

Lateral Support

Distance	Length
(ft)	(ft)
0.00	130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance	Number	Spacing
	(ft)		(in)
Single Connection ...	22.00	1	0.0000
Single Connection ...	55.00	1	0.0000
Single Connection ...	75.00	1	0.0000
Single Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G2

Link with: None

Description:

Existing: G2 -

Current: G2 -

Number of Spans: 3

Span	Span Length
Number	(ft)
1	40.000000
2	50.000000
3	40.000000

Support	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Distributed Loads

Distance	Length	Start	End	Load Case Name
(ft)	(ft)	(kip/ft)	(kip/ft)	
0.00	130.00	0.205	0.205	DC2

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G2

Description:

Description

Material Type: Steel
Girder Type: Rolled
Member units: US Customary
Girder property input method: Schedule based
Left end X: (in)
Right end X: (in)
Additional Self Load: (kip/ft)
Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
Analysis Module: AASHTO ASD
Analysis Module Component:

Properties:

Analysis Method: LFD
Analysis Module: AASHTO LFD
Analysis Module Component:
Properties:

Analysis Method: LRFD
Analysis Module: AASHTO LRFD

Analysis Module Component:

Properties:

Analysis Method: LRFR
Analysis Module: AASHTO LRFR
Analysis Module Component:
Properties:

Analysis Method: Distribution Factors
Analysis Module: Virtis Dist Fact
Analysis Module Component:
Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

	Inventory	Operating
Structural steel		
Concrete		
PS Concrete Comp.		
PS Concrete Tens.		
PS Moment Cap.		
Reinforcement		
Bearing Stiffener		
Stirrup		
Timber	NA	

Default Materials

Structural steel: ASTM A373
Deck concrete: Class A (US)
Deck reinforcement: Grade 40
Welds:
Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

	D i s t r i b u t i o n F a c t o r (Wheels)
Lanes	Shear at

Loaded
1 Lane
Multi-Lane

Shear

Supports

Moment

Deflection

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.38	Moment	0.456	0.596
29.38	21.50	Moment	0.445	0.588
50.87	28.25	Moment	0.424	0.565
79.13	21.50	Moment	0.445	0.588
100.62	29.38	Moment	0.456	0.596
0.00	4.00	Shear	0.778	0.919
4.00	36.00	Shear	0.660	0.779
40.00	50.00	Shear	0.660	0.779
90.00	36.00	Shear	0.660	0.779
126.00	4.00	Shear	0.778	0.919
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110

Distance: 0.00 (ft)

Length: 14.00 (ft)

Material: ASTM A373

Shape: W24x110 w/ CP span 1

Distance: 14.00 (ft)

Length: 12.00 (ft)

Material: ASTM A373

Shape: W24x110

Distance: 26.00 (ft)

Length: 9.50 (ft)

Material: ASTM A373

Shape: W24x110 w/ CP pier 1 taper

Distance: 35.50 (ft)

Length: 2.00 (ft)

Material: ASTM A373

Shape: W24x110 w/ CP pier 1

Distance: 37.50 (ft)

Length: 5.00 (ft)

Material: ASTM A373

Shape: W24x110 w/ CP pier 1 taper

Distance: 42.50 (ft)

Length: 2.00 (ft)

Material: ASTM A373

Shape: W24x110

Distance: 44.50 (ft)

Length: 14.50 (ft)

Material: ASTM A373

Shape: W24x110 w/CP span 2
 Distance: 59.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 85.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n	Length	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00 9.20...	130.00		6.5000	78.0000	90.0000

Haunch Profile

Haunch Type:		Flange edges		
Embedded flange:		TRUE		
Distance (ft)	Length (ft)	Z1 (in)	Z2 (in)	Y1 (in)
0.00	130.00	4.0000	4.0000	1.0000

Bracing Ranges

Lateral Support
 Distance Length
 (ft) (ft)
 0.00 130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Double Connection ...	22.00	1	0.0000
Double Connection ...	55.00	1	0.0000
Double Connection ...	75.00	1	0.0000
Double Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G3

Link with: None

Description:

Existing: G3 -

Current: G3 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

<u>Elastic</u> Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G3

Description:

Description

Material Type: Steel
 Girder Type: Rolled
 Member units: US Customary
 Girder property input method: Schedule based
 Left end X: (in)
 Right end X: (in)
 Additional Self Load: (kip/ft)
 Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
 Analysis Module: AASHTO ASD
 Analysis Module Component:

Properties:

Analysis Method: LFD
 Analysis Module: AASHTO LFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFD
 Analysis Module: AASHTO LRFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFR
 Analysis Module: AASHTO LRFR
 Analysis Module Component:
 Properties:

Analysis Method: Distribution Factors
 Analysis Module: Virtis Dist Fact
 Analysis Module Component:

Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

	Inventory	Operating
Structural steel		
Concrete		
PS Concrete Comp.		
PS Concrete Tens.		
PS Moment Cap.		
Reinforcement		
Bearing Stiffener		
Stirrup		
Timber	NA	

Default Materials

Structural steel:	ASTM A373
Deck concrete:	Class A (US)
Deck reinforcement:	Grade 40
Welds:	
Bolts:	

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)				
Lanes	Shear	Shear at Supports	Moment	Deflection
Loaded				
1 Lane				
Multi-Lane				

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.38	Moment	0.456	0.596
29.38	21.50	Moment	0.445	0.588
50.87	28.25	Moment	0.424	0.565
79.13	21.50	Moment	0.445	0.588

100.62	29.38	Moment	0.456	0.596
0.00	4.00	Shear	0.778	0.919
4.00	36.00	Shear	0.660	0.779
40.00	50.00	Shear	0.660	0.779
90.00	36.00	Shear	0.660	0.779
126.00	4.00	Shear	0.778	0.919
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110
 Distance: 0.00 *(ft)*
 Length: 14.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 14.00 *(ft)*
 Length: 12.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 26.00 *(ft)*
 Length: 9.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 35.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 37.50 *(ft)*
 Length: 5.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 42.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 *(ft)*
 Length: 14.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 *(ft)*
 Length: 12.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 *(ft)*
 Length: 14.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 85.50 *(ft)*
 Length: 2.00 *(ft)*

Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n (ft)	Length (ft)	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00	130.00		6.5000	78.0000	90.0000
	9.20...					

Haunch Profile

Haunch Type:	Flange edges			
Embedded flange:	TRUE			
Distance	Length	Z1	Z2	Y1
(ft)	(ft)	(in)	(in)	(in)
0.00	130.00	4.0000	4.0000	1.0000

Bracing Ranges

Lateral Support

Distance	Length
(ft)	(ft)
0.00	130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Double Connection ...	22.00	1	0.0000
Double Connection ...	55.00	1	0.0000

Double Connection ...	75.00	1	0.0000
Double Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G4

Link with: None

Description:

Existing: G4 -

Current: G4 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				

2
3
4

Member Alternative G4

Description:

Description

Material Type: Steel
Girder Type: Rolled
Member units: US Customary
Girder property input method: Schedule based
Left end X: (in)
Right end X: (in)
Additional Self Load: (kip/ft)
Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
Analysis Module: AASHTO ASD
Analysis Module Component:
Properties:

Analysis Method: LFD
Analysis Module: AASHTO LFD
Analysis Module Component:
Properties:

Analysis Method: LRFD
Analysis Module: AASHTO LRFD
Analysis Module Component:
Properties:

Analysis Method: LRFR
Analysis Module: AASHTO LRFR
Analysis Module Component:
Properties:

Analysis Method: Distribution Factors
Analysis Module: Virtis Dist Fact
Analysis Module Component:
Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

Structural steel Inventory Operating

Concrete	
PS Concrete Comp.	
PS Concrete Tens.	
PS Moment Cap.	
Reinforcement	
Bearing Stiffener	
Stirrup	
Timber	NA

Default Materials

Structural steel:	ASTM A373
Deck concrete:	Class A (US)
Deck reinforcement:	Grade 40
Welds:	
Bolts:	

Impact

Standard Impact Factor

Type:	Standard - AASHTO
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LRFD Dynamic Load Allowance

Fatigue and fracture limit states:	15.0 (%)
------------------------------------	----------

All other limit states:	33.0 (%)
-------------------------	----------

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)

Lanes	Shear	Shear at Supports	Moment	Deflection
Loaded				
1 Lane				
Multi-Lane				

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.38	Moment	0.456	0.596
29.38	21.50	Moment	0.445	0.588
50.87	28.25	Moment	0.424	0.565
79.13	21.50	Moment	0.445	0.588
100.62	29.38	Moment	0.456	0.596
0.00	4.00	Shear	0.778	0.919
4.00	36.00	Shear	0.660	0.779
40.00	50.00	Shear	0.660	0.779
90.00	36.00	Shear	0.660	0.779
126.00	4.00	Shear	0.778	0.919
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110
 Distance: 0.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 14.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 26.00 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 35.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 37.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 42.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 85.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)

Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n	Length	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00	130.00		6.5000	78.0000	90.0000
	9.20...					

Haunch Profile

Haunch Type:	Flange edges			
Embedded flange:	TRUE			
Distance (ft)	Length (ft)	Z1 (in)	Z2 (in)	Y1 (in)
0.00	130.00	4.0000	4.0000	1.0000

Bracing Ranges

Lateral Support

Distance (ft)	Length (ft)
0.00	130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Double Connection ...	22.00	1	0.0000
Double Connection ...	55.00	1	0.0000
Double Connection ...	75.00	1	0.0000
Double Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G5

Link with: None

Description:

Existing: G5 -
 Current: G5 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support Number	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Distributed Loads

Distance (ft)	Length (ft)	Start (kip/ft)	End (kip/ft)	Load Case Name
0.00	130.00	0.205	0.205	DC2

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G5

Description:

Description

Material Type: Steel
 Girder Type: Rolled
 Member units: US Customary
 Girder property input method: Schedule based
 Left end X: (in)
 Right end X: (in)
 Additional Self Load: (kip/ft)
 Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
 Analysis Module: AASHTO ASD
 Analysis Module Component:
 Properties:

Analysis Method: LFD
 Analysis Module: AASHTO LFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFD
 Analysis Module: AASHTO LRFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFR
 Analysis Module: AASHTO LRFR
 Analysis Module Component:
 Properties:

Analysis Method: Distribution Factors
 Analysis Module: Virtis Dist Fact
 Analysis Module Component:
 Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

	Inventory	Operating
Structural steel		
Concrete		
PS Concrete Comp.		
PS Concrete Tens.		
PS Moment Cap.		
Reinforcement		
Bearing Stiffener		
Stirrup		

Timber

NA

Default Materials

Structural steel: ASTM A373
Deck concrete: Class A (US)
Deck reinforcement: Grade 40
Welds:
Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)

Lanes	Shear	Shear at Supports	Moment	Deflection
Loaded				
1 Lane				
Multi-Lane				

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.38	Moment	0.456	0.596
29.38	21.50	Moment	0.445	0.588
50.87	28.25	Moment	0.424	0.565
79.13	21.50	Moment	0.445	0.588
100.62	29.38	Moment	0.456	0.596
0.00	4.00	Shear	0.778	0.919
4.00	36.00	Shear	0.660	0.779
40.00	50.00	Shear	0.660	0.779
90.00	36.00	Shear	0.660	0.779
126.00	4.00	Shear	0.778	0.919
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110
Distance: 0.00 (ft)
Length: 14.00 (ft)
Material: ASTM A373
Shape: W24x110 w/ CP span 1
Distance: 14.00 (ft)
Length: 12.00 (ft)

Material: ASTM A373
 Shape: W24x110
 Distance: 26.00 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 35.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 37.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 42.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 85.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110

Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n (ft)	Length (ft)	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00 9.20...	130.00		6.5000	78.0000	90.0000

Haunch Profile

Haunch Type: Flange edges

Embedded flange: TRUE

Distance (ft)	Length (ft)	Z1 (in)	Z2 (in)	Y1 (in)
0.00	130.00	4.0000	4.0000	1.0000

Bracing Ranges

Lateral Support

Distance (ft)	Length (ft)
0.00	130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Double Connection ...	22.00	1	0.0000
Double Connection ...	55.00	1	0.0000
Double Connection ...	75.00	1	0.0000
Double Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G6

Link with: None

Description:

Existing: G6 -

Current: G6 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support Frame Connection

1
2
3
4

Pedestrian load: (lb/ft)

Member Loads

Distributed Loads

Distance (ft)	Length (ft)	Start (kip/ft)	End (kip/ft)	Load Case Name
0.00	130.00	0.205	0.205	DC2

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G6

Description:

Description

Material Type: Steel

Girder Type: Rolled

Member units: US Customary

Girder property input method: Schedule based

Left end X: (in)

Right end X: (in)

Additional Self Load: (kip/ft)

Additional Self Load %: 2.0 (%)
Analysis Module
Analysis Method: ASD
Analysis Module: AASHTO ASD
Analysis Module Component:
Properties:

Analysis Method: LFD
Analysis Module: AASHTO LFD
Analysis Module Component:
Properties:

Analysis Method: LRFD
Analysis Module: AASHTO LRFD
Analysis Module Component:
Properties:

Analysis Method: LRFR
Analysis Module: AASHTO LRFR
Analysis Module Component:
Properties:

Analysis Method: Distribution Factors
Analysis Module: Virtis Dist Fact
Analysis Module Component:
Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

	Inventory	Operating
Structural steel		
Concrete		
PS Concrete Comp.		
PS Concrete Tens.		
PS Moment Cap.		
Reinforcement		
Bearing Stiffener		
Stirrup		
Timber	NA	

Default Materials

Structural steel: ASTM A373
Deck concrete: Class A (US)
Deck reinforcement: Grade 40

Welds:
Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)

Lanes	Shear	Shear at	Moment	Deflection
Loaded		Supports		
1 Lane				
Multi-Lane				

LRFD

Distance	Length	Type	1 Lane	Multi-Lane
(ft)	(ft)			
0.00	29.38	Moment	0.580	0.653
29.38	21.50	Moment	0.581	0.655
50.87	28.25	Moment	0.583	0.657
79.13	21.50	Moment	0.581	0.655
100.62	29.38	Moment	0.580	0.654
0.00	4.00	Shear	0.708	0.797
4.00	36.00	Shear	0.600	0.676
40.00	50.00	Shear	0.600	0.676
90.00	36.00	Shear	0.600	0.676
126.00	4.00	Shear	0.708	0.797
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110
Distance: 0.00 (ft)
Length: 14.00 (ft)
Material: ASTM A373
Shape: W24x110 w/ CP span 1
Distance: 14.00 (ft)
Length: 12.00 (ft)
Material: ASTM A373
Shape: W24x110
Distance: 26.00 (ft)
Length: 9.50 (ft)
Material: ASTM A373
Shape: W24x110 w/ CP pier 1 taper
Distance: 35.50 (ft)

Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 37.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 42.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 85.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Total Structural Effective Effective

Material (LRFD)	Distance n (ft)	Length (ft)	Thickness (in)	Thickness (in)	Width (Std) (in)	Width (in)
Class A (US)	0.00 9.20...	130.00		6.5000	68.0028	74.0028

Haunch Profile

Haunch Type:		Flange edges					
Embedded flange:		TRUE					
Distance	Length	Z1	Z2	Z3	Z4	Y1	Y2
(ft)	(ft)	(in)	(in)	(in)	(in)	(in)	(in)
0.00	130.00	4.0000	4.0000	4.0000	4.0000	1.0000	1.0000

Bracing Ranges

Lateral Support

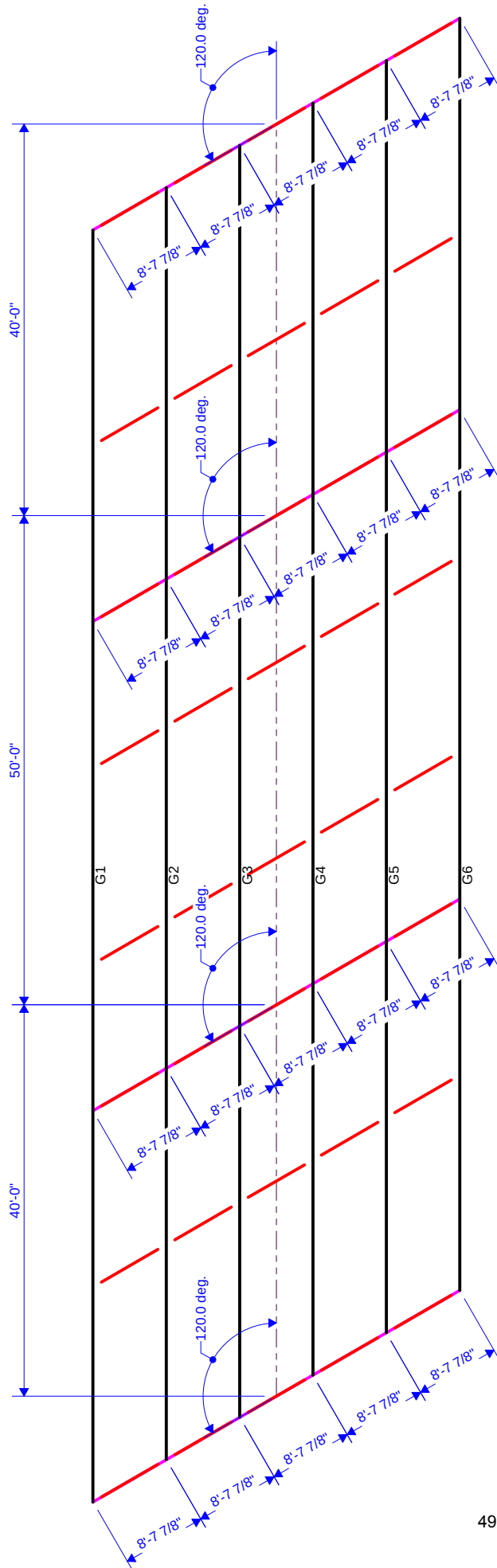
Distance	Length
(ft)	(ft)
0.00	130.00

Stiffener Ranges

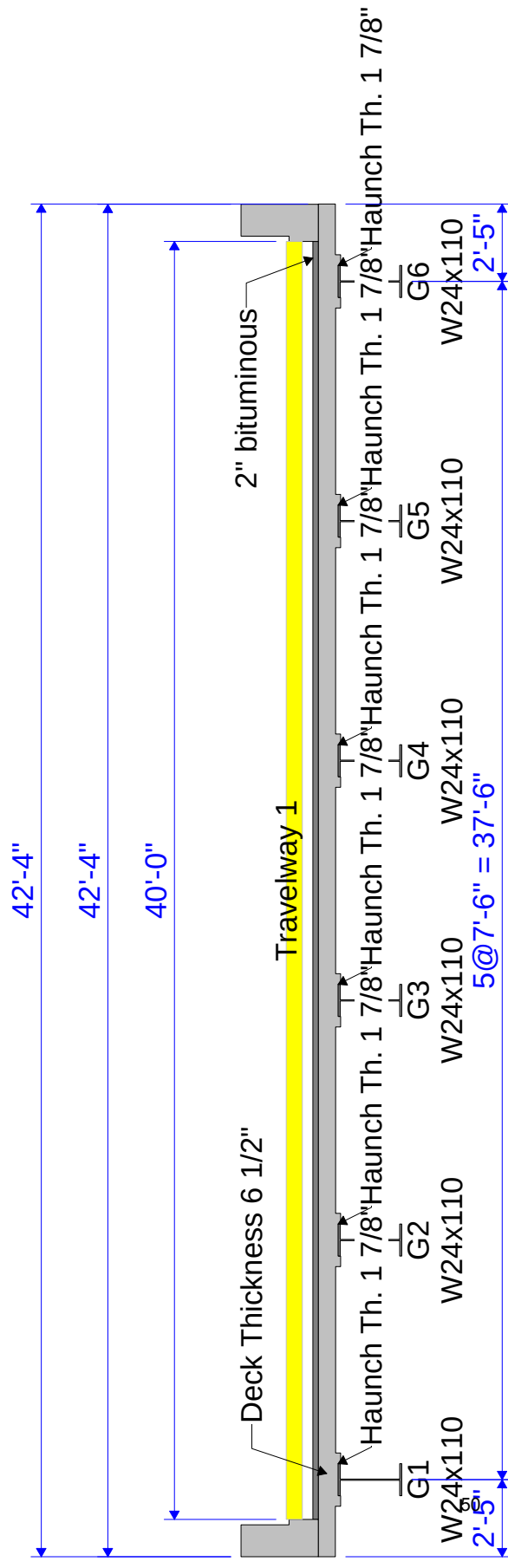
Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Single Connection ...	22.00	1	0.0000
Single Connection ...	55.00	1	0.0000
Single Connection ...	75.00	1	0.0000
Single Connection ...	108.00	1	0.0000

Bearing Stiffener Locations



04/19/13

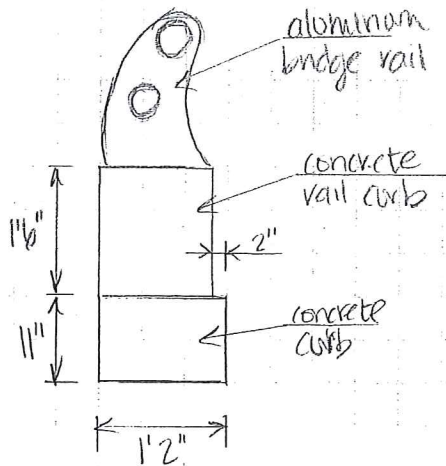




Computations

Project: MamDOT Load Rating Project # 55005
Location: 1431/S949, 1432/S950, 1433/S951 Sheet 1 of 1
Calculated by: KZS Date: 4/18/2013
Checked by: AMG Date: 4/23/2013
Title: Rail Weight

Rail Weight



$$\text{rail} = 0.025 \text{ k/ft} \quad (\text{NHDOT Design Guide})$$

$$\text{concrete} = 1.5'(1') / (0.150 \text{ kcf}) + 11/12 (1'2" / 12) (0.150) = 0.385 \text{ k/ft}$$

$$\text{Total} = 0.025 + 0.385 = 0.410 \text{ k/ft}$$



Computations

Project: MainDOT Load Piling Project # 55005
Location: Br. No. 1422/5957 Sheet of
Calculated by: KJS Date: 4/19/2013
Checked by: AMG Date: 4/23/2013
Title: Diaphragm weight

Diaphragm weight

$$\text{length} = 7'6" / \cos 30^\circ = 8.66'$$

$$\text{Type D1} = W16 \times 36 = 36 \text{ lb/ft}$$

$$\text{Type D2} = C15 \times 33.9 = 33.9 \text{ lb/ft}$$

$$\text{connection plate} = 1'8" \times 6" \times 3/8"$$

$$\text{volume} = 1.667' \times 0.5' \times 0.375' / 2 = 0.026 \text{ ft}^3$$

weight type D1

$$\text{diaphragm} = 8.66' (36 \text{ lb/ft}) = 311.8 \text{ lb}$$

$$\text{connection} = 0.026 \text{ ft}^3 \times 2 \times 490 \text{ pcf} = 25.5 \text{ lb}$$

$$\text{total} = 311.8 + 25.5 = 337.3 \Rightarrow 0.3373 \text{ K}$$

weight type D2

$$\text{diaphragm} = 8.66' (33.9 \text{ lb/ft}) = 293.6 \text{ lb}$$

$$\text{connection} = 25.5 \text{ lb}$$

$$\text{total} = 293.6 \text{ lb} + 25.5 \text{ lb} = 319.1 \text{ lb} \Rightarrow 0.3191 \text{ K}$$



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1432/5951 Hampden, ME	Sheet	1 of 1
Calculated by	DZ	Date	4/10/2013
Checked by	AMG	Date	4/23/2013
Title Girder Properties with Cover Plates (span 1)			

Girder Properties with Cover Plates

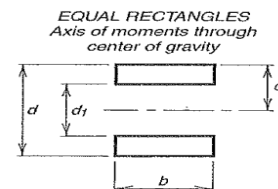
Girder Without Cover Plates:(taken from Virtis)

= input

Load = 110 lb/ft
Area = 32.36 in²
I_{x0} = 3315 in⁴
I_{y0} = 229.1 in⁴
Z_{x0} = 308 in³
Z_{y0} = 64.4 in³
Depth = d₁ = 24.125 in

Cover Plates: (span 1 near Pier 1)

h = 0.3125 in (thickness) b
b = 4 in (width)
d = 24.75 in (distance between top of top cover plate and bottom of bottom cover plate, see fig. below.)
Load = 8.507 lb/ft Load = Area * 490 pcf
Area = 2.5 in² Area = 2 * h * b
I_{x1} = 373.265 in⁴ I_x = $\frac{b(d^3 - d_1^3)}{12}$
I_{y1} = 3.333333 in⁴ I_y = $\frac{h*b^3}{12} \times 2 \text{ plates}$
Z_{x1} = 30.54688 in³ Z_x = $\frac{b}{4}(d^2 - d_1^2)$
Z_{y1} = 2.5 in³ Z_y = $\frac{h*b^2}{4} \times 2 \text{ plates}$



Girder With Cover Plates:

Load = 118.507 lb/ft Σ Loads
Area = 34.86 in² Σ Areas
I_x = 3688.265 in⁴ I_x = I_{x0} + I_{x1}
I_y = 232.433 in⁴ I_y = I_{y0} + I_{y1}
Z_x = 338.547 in³ Z_x = Z_{x0} + Z_{x1}
Z_y = 66.9 in³ Z_y = Z_{y0} + Z_{y1}
Depth = 24.75 in Depth = d₁ + 2*h



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1432/5951 Hampden, ME	Sheet	1 of 1
Calculated by	DZ	Date	4/10/2013
Checked by	AMG	Date	4/23/2013
Title Girder Properties with Cover Plates (Pier 1)			

Girder Properties with Cover Plates

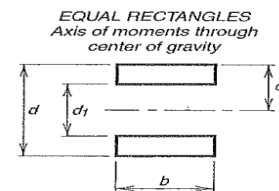
Girder Without Cover Plates:(taken from Virtis)

= input

Load = 110 lb/ft
Area = 32.36 in²
I_{xo} = 3315 in⁴
I_{yo} = 229.1 in⁴
Z_{xo} = 308 in³
Z_{yo} = 64.4 in³
Depth = d₁ = 24.125 in

Cover Plates: (Pier 1)

h = 0.375 in (thickness) b
b = 10 in (width)
d = 24.875 in (distance between top of top cover plate and bottom of bottom cover plate, see fig. below.)
Load = 25.521 lb/ft Load = Area * 490 pcf
Area = 7.5 in² Area = 2 * h * b
I_{x1} = 1125.557 in⁴ I_x = $\frac{b(d^3 - d_1^3)}{12}$
I_{y1} = 62.5 in⁴ I_y = $\frac{h*b^3}{12} \times 2 \text{ plates}$
Z_{x1} = 91.875 in³ Z_x = $\frac{b}{4}(d^2 - d_1^2)$
Z_{y1} = 18.75 in³ Z_y = $\frac{h*b^2}{4} \times 2 \text{ plates}$



Girder With Cover Plates:

Load = 135.521 lb/ft Σ Loads
Area = 39.86 in² Σ Areas
I_x = 4440.557 in⁴ I_x = I_{xo} + I_{x1}
I_y = 291.600 in⁴ I_y = I_{yo} + I_{y1}
Z_x = 399.875 in³ Z_x = Z_{xo} + Z_{x1}
Z_y = 83.15 in³ Z_y = Z_{yo} + Z_{y1}
Depth = 24.875 in Depth = d₁ + 2*h



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1432/5951 Hampden, ME	Sheet	1 of 1
Calculated by	KZS	Date	4/22/2013
Checked by	AMG	Date	4/23/2013
Title Girder Properties with Cover Plates (Pier 1 taper)			

Girder Properties with Cover Plates

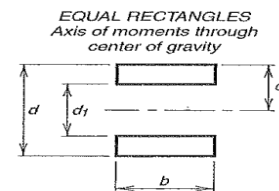
Girder Without Cover Plates:(taken from Virtis)

= input

Load = 110 lb/ft
Area = 32.36 in²
I_{xo} = 3315 in⁴
I_{yo} = 229.1 in⁴
Z_{xo} = 308 in³
Z_{yo} = 64.4 in³
Depth = d₁ = 24.125 in

Cover Plates: (Pier 1 taper)

h = 0.375 in (thickness) b
b = 7 in (width)
d = 24.875 in (distance between top of top cover plate and bottom of bottom cover plate, see fig. below.)
Load = 17.865 lb/ft Load = Area * 490 pcf
Area = 5.25 in² Area = 2 * h * b
I_{x1} = 787.8896 in⁴ I_x = $\frac{b(d^3 - d_1^3)}{12}$
I_{y1} = 21.4375 in⁴ I_y = $\frac{h*b^3}{12} \times 2 \text{ plates}$
Z_{x1} = 64.3125 in³ Z_x = $\frac{b}{4}(d^2 - d_1^2)$
Z_{y1} = 9.1875 in³ Z_y = $\frac{h*b^2}{4} \times 2 \text{ plates}$



Girder With Cover Plates:

Load = 127.865 lb/ft Σ Loads
Area = 37.61 in² Σ Areas
I_x = 4102.89 in⁴ I_x = I_{xo} + I_{x1}
I_y = 250.538 in⁴ I_y = I_{yo} + I_{y1}
Z_x = 372.313 in³ Z_x = Z_{xo} + Z_{x1}
Z_y = 73.5875 in³ Z_y = Z_{yo} + Z_{y1}
Depth = 24.875 in Depth = d₁ + 2*h



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1432/5951 Hampden, ME	Sheet	1 of 1
Calculated by	DZ	Date	4/10/2013
Checked by	AMG	Date	4/23/2013
Title Girder Properties with Cover Plates (Span 2)			

Girder Properties with Cover Plates

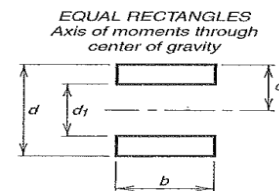
Girder Without Cover Plates:(taken from Virtis)

= input

Load = 110 lb/ft
Area = 32.36 in²
I_{xo} = 3315 in⁴
I_{yo} = 229.1 in⁴
Z_{xo} = 308 in³
Z_{yo} = 64.4 in³
Depth = d₁ = 24.125 in

Cover Plates: (Span 2)

h = 0.3125 in (thickness) h b
b = 4 in (width)
d = 24.75 in (distance between top of top cover plate and bottom of bottom cover plate, see fig. below.)
Load = 8.507 lb/ft Load = Area * 490 pcf
Area = 2.5 in² Area = 2 * h * b
I_{x1} = 373.265 in⁴ I_x = $\frac{b(d^3 - d_1^3)}{12}$
I_{y1} = 3.333333 in⁴ I_y = $\frac{h*b^3}{12} \times 2 \text{ plates}$
Z_{x1} = 30.54688 in³ Z_x = $\frac{b}{4}(d^2 - d_1^2)$
Z_{y1} = 2.5 in³ Z_y = $\frac{h*b^2}{4} \times 2 \text{ plates}$



Girder With Cover Plates:

Load = 118.507 lb/ft Σ Loads
Area = 34.86 in² Σ Areas
I_x = 3688.265 in⁴ I_x = I_{xo} + I_{x1}
I_y = 232.433 in⁴ I_y = I_{yo} + I_{y1}
Z_x = 338.547 in³ Z_x = Z_{xo} + Z_{x1}
Z_y = 66.9 in³ Z_y = Z_{yo} + Z_{y1}
Depth = 24.75 in Depth = d₁ + 2*h

Rating Results Summary Report

Name: I95 over Souadabscook Stream ...
Struct-Def: 1433+5951

Bridge ID: Br. No. 1433+5951
Member: G1

NBl: 1433+5951
Member Alt: G1

Live Load	Live Load Type	Rating Method	Rating Level	Load Rating (Ton)	Rating Factor	Location (ft)	Location Span-(%)	Limit State	Impact	Lane
HL-93 (US)	Truck + Lane	LRFR	Inventory	30.87	0.858	40.00	1 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	Truck + Lane	LRFR	Operating	40.02	1.112	40.00	1 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Inventory	34.51	0.959	14.00	1 - (35.0)	SERVICE-II Steel Flexure Stress	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Operating	44.86	1.246	14.00	1 - (35.0)	SERVICE-II Steel Flexure Stress	As Requested	As Requested
HL-93 (US)	90%(Truck Pair + Lane)	LRFR	Inventory	36.26	1.007	40.00	1 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	90%(Truck Pair + Lane)	LRFR	Operating	47.00	1.306	40.00	1 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested

Bridge Name: I95 over Souadabscook Stream West
NBI Structure ID: 1433+5951
Bridge ID: Br. No. 1433+5951

Analyzed By: Virtis
Analyze Date: Friday, May 10, 2013 09:42:06
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Friday, May 10, 2013 09:58:41

Structure Definition Name: 1433+5951
Member Name: G1
Pier Alternative Name: G1

6A.4.2.1 General Load Rating Equation - Steel Flexure Moment

Limit State: Stage: 3
Vehicle: Flex Sense: N/A

6A Load and Resistance Factor Rating
6A.4 Load Rating Procedures
6A.4.2 General Load-Rating Equation
6A.4.2.1 Steel Flexure Moment General
(AASHTO Manual for Bridge Evaluation, Second Edition - 2011)

Steel Rolled Shape - At Location = 40.000 (ft) - Left Stage 3

Section at Brace Point

Input:

Section Type: Noncomposite
Top Flange Laterally Supported: Yes
Compact: No
Allow Plastic Analysis Control Option: Yes
Allow Moment Redistribution Control Option: No
Moment Redistribution Qualified: No, redistribution did not occur.

For positive flexure, composite, noncompact sections:

Condition Factor = 1.0000
System Factor = 1.0000
DC Moment = -181.0873 (kip-ft)
DW Moment = -36.9119 (kip-ft)
DW-WS Moment = 0.0000 (kip-ft) (Moment due to wearing surface)

LL total = LL + (1/3)LL_{f1}

Location: 40.00 ft
Pass/Fail: Failed

Load	Vehicle	Limit State	LL (kip-ft)			LL fl (kip-ft)			Load Factors			Phi	Mn (kip-ft)	RF	Capacity (Ton)
			LL	LL fl	DC	DW	DW-WS	LL	DW	DW-WS	LL				
DesignInv	HL-93 (US) - Truck + Lane	STR-I	65.33	0.00	1.25	1.50	1.50	1.75	1.50	1.50	1.75	1.00	-812.52	NA	NA
DesignInv	HL-93 (US) - Truck + Lane	STR-I	-353.66	0.00	1.25	1.50	1.50	1.75	1.50	1.50	1.75	1.00	-812.52	0.86	30.87
DesignOp	HL-93 (US) - Truck + Lane	STR-I	65.33	0.00	1.25	1.50	1.50	1.35	1.50	1.50	1.35	1.00	-812.52	NA	NA
DesignOp	HL-93 (US) - Truck + Lane	STR-I	-353.66	0.00	1.25	1.50	1.50	1.35	1.50	1.50	1.35	1.00	-812.52	1.11	40.02
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	59.51	0.00	1.25	1.50	1.50	1.75	1.50	1.50	1.75	1.00	-812.52	NA	NA
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	-295.08	0.00	1.25	1.50	1.50	1.75	1.50	1.50	1.75	1.00	-812.52	1.03	37.00
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	59.51	0.00	1.25	1.50	1.50	1.35	1.50	1.50	1.35	1.00	-812.52	NA	NA
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	-295.08	0.00	1.25	1.50	1.50	1.35	1.50	1.50	1.35	1.00	-812.52	1.33	47.97
DesignInv	HL-93 (US) - 90% (Truck Pair +-)	STR-I	0.00	0.00	1.25	1.50	1.50	1.75	1.50	1.50	1.75	1.00	-812.52	99.00	3564.00
DesignInv	HL-93 (US) - 90% (Truck Pair +-)	STR-I	-301.16	0.00	1.25	1.50	1.50	1.75	1.50	1.50	1.75	1.00	-812.52	1.01	36.26
DesignOp	HL-93 (US) - 90% (Truck Pair +-)	STR-I	0.00	0.00	1.25	1.50	1.50	1.35	1.50	1.50	1.35	1.00	-812.52	99.00	3564.00
DesignOp	HL-93 (US) - 90% (Truck Pair +-)	STR-I	-301.16	0.00	1.25	1.50	1.50	1.35	1.50	1.50	1.35	1.00	-812.52	1.31	47.00
Legal	Maine DOT Config. 1 - Legal T~	STR-I	49.04	0.00	1.25	1.50	1.50	1.31	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 1 - Legal T~	STR-I	-333.12	0.00	1.25	1.50	1.50	1.31	1.50	1.50	1.31	1.00	-812.52	1.22	60.82
Legal	Maine DOT Config. 1 x2 - Lega~	STR-I	49.04	0.00	1.25	1.50	1.50	1.31	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 1 x2 - Lega~	STR-I	-346.74	0.00	1.25	1.50	1.50	1.31	1.50	1.50	1.31	1.00	-812.52	1.17	116.85
Legal	Maine DOT Config. 2 - Legal T~	STR-I	58.93	0.00	1.25	1.50	1.50	1.31	1.50	1.50	1.31	1.00	-812.52	NA	NA

Legal	Maine DOT Config. 2 - Legal T~ STR-I	-311.11	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.30	61.21	
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	58.93	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	-311.11	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.30	122.42	
Legal	Maine DOT Config. 3 - Legal T~ STR-I	59.09	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 3 - Legal T~ STR-I	-267.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.51	66.55	
Legal	Maine DOT Config. 3 x2 - Leg~ STR-I	59.09	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 3 x2 - Leg~ STR-I	-366.39	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.11	97.32	
Legal	Maine DOT Config. 4 - Legal T~ STR-I	59.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 4 - Legal T~ STR-I	-268.58	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.51	66.38	
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	59.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	-360.47	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.12	98.92	
Legal	Maine DOT Config. 5 - Legal T~ STR-I	55.60	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 5 - Legal T~ STR-I	-258.71	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.57	68.91	
Legal	Maine DOT Config. 5 x2 - Leg~ STR-I	55.60	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 5 x2 - Leg~ STR-I	-364.20	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.11	97.90	
Legal	Maine DOT Config. 6 - Legal T~ STR-I	67.24	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 6 - Legal T~ STR-I	-279.70	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.45	54.98	
Legal	Maine DOT Config. 6 x2 - Leg~ STR-I	67.24	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 6 x2 - Leg~ STR-I	-480.21	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	0.84	64.04	
Legal	Maine DOT Config. 7 - Legal T~ STR-I	53.07	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 7 - Legal T~ STR-I	-222.03	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.82	54.20	
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	53.07	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	-389.15	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.04	61.85	
Legal	Maine DOT Config. 8 - Legal T~ STR-I	33.87	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 8 - Legal T~ STR-I	-140.99	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	2.87	53.74	
Legal	Maine DOT Config. 8 x2 - Leg~ STR-I	33.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 8 x2 - Leg~ STR-I	-255.30	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.59	59.36	

Legend:
NA - Resistance and live load are of opposite sign so rating factor is not applicable.

Controlling Rating Factors

Limit State	Vehicle	Design Inv~ Capacity (Ton)	Vehicle	Design Op~ RF	Capacity (Ton)	Vehicle	Legal Load~ Capacity (Ton)	Vehicle	Permit Load~ Capacity (Ton)
STR-I	HL-93 (US) - Truck + Lane	0.86	HL-93 (US) - Truck + Lane	1.11	40.02	Maine DOT Config. 6 x2 - L~	0.84	64.04	

Steel Rolled Shape - At Location = 40.0000 (ft) - Right Stage 3

Section at Brace Point

Input:

Section Type: Noncomposite

Top Flange Laterally Supported: Yes

Compact: No

Allow Plastic Analysis Control Option: Yes

Allow Moment Redistribution Control Option: No

Moment Redistribution Qualified: No, redistribution did not occur.

For positive flexure, composite, noncompact sections:

Condition Factor = 1.0000
System Factor = 1.0000
DC Moment = -181.0873 (kip-ft)
DW Moment = -36.9119 (kip-ft)
DW-WS Moment = 0.0000 (kip-ft) (Moment due to wearing surface)

LL total = LL + (1/3)LL_{f1}

Load	Vehicle	Limit State	LL (kip-ft)	LL _{f1} (kip-ft)	DC	DW	Load Factors DW-WS	Phi	Mn (kip-ft)	RF	Capacity (Ton)
DesignInv	HL-93 (US) - Truck + Lane	STR-I	65.33	0.00	1.25	1.50	1.50	1.75	-812.52	NA	NA
DesignInv	HL-93 (US) - Truck + Lane	STR-I	-353.66	0.00	1.25	1.50	1.50	1.75	-812.52	0.86	30.87
DesignOp	HL-93 (US) - Truck + Lane	STR-I	65.33	0.00	1.25	1.50	1.50	1.35	-812.52	NA	NA
DesignOp	HL-93 (US) - Truck + Lane	STR-I	-353.66	0.00	1.25	1.50	1.50	1.35	-812.52	1.11	40.02
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	59.51	0.00	1.25	1.50	1.50	1.75	-812.52	NA	NA
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	-295.08	0.00	1.25	1.50	1.50	1.75	-812.52	1.03	37.00

DesignOp	HL-93 (US) - Tandem + Lane	STR-I	59.51	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	NA	NA	47.97
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	-295.08	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	1.33	NA	3564.00
DesignInv	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	0.00	0.00	1.25	1.50	1.50	1.75	1.00	-812.52	99.00	36.26	3564.00
DesignOp	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	-301.16	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	99.00	47.00	NA
DesignOp	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	-301.16	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	NA	60.82	NA
Legal	Maine DOT Config. 1 - Legal ~- STR-I	STR-I	49.04	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.22	NA	116.85
Legal	Maine DOT Config. 1 - Legal ~- STR-I	STR-I	-333.12	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	61.21	NA
Legal	Maine DOT Config. 1 x2 - Lega~ STR-I	STR-I	49.04	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.17	NA	122.42
Legal	Maine DOT Config. 1 x2 - Lega~ STR-I	STR-I	-346.74	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	66.55	NA
Legal	Maine DOT Config. 2 - Legal ~- STR-I	STR-I	58.93	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.11	97.32	NA
Legal	Maine DOT Config. 2 - Legal ~- STR-I	STR-I	-311.11	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	66.38	NA
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	STR-I	58.93	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.30	NA	98.92
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	STR-I	-311.11	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.12	NA	68.91
Legal	Maine DOT Config. 3 - Legal ~- STR-I	STR-I	59.09	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	97.90	NA
Legal	Maine DOT Config. 3 - Legal ~- STR-I	STR-I	-267.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	54.98	NA
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	STR-I	59.09	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.45	NA	64.04
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	STR-I	-366.39	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	0.84	NA	54.20
Legal	Maine DOT Config. 4 - Legal ~- STR-I	STR-I	59.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.82	NA	61.85
Legal	Maine DOT Config. 4 - Legal ~- STR-I	STR-I	-268.58	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	53.74	NA
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	STR-I	59.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	2.87	NA	59.36
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	STR-I	-360.47	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.59	NA	NA
Legal	Maine DOT Config. 5 - Legal ~- STR-I	STR-I	55.60	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 5 - Legal ~- STR-I	STR-I	-258.71	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	STR-I	55.60	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	STR-I	-364.20	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 6 - Legal ~- STR-I	STR-I	67.24	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.45	NA	NA
Legal	Maine DOT Config. 6 - Legal ~- STR-I	STR-I	-279.70	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	STR-I	67.24	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	0.84	NA	NA
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	STR-I	-480.21	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 7 - Legal ~- STR-I	STR-I	53.07	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.82	NA	NA
Legal	Maine DOT Config. 7 - Legal ~- STR-I	STR-I	-222.03	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	STR-I	53.07	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.04	61.85	NA
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	STR-I	-389.15	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	53.74	NA
Legal	Maine DOT Config. 8 - Legal ~- STR-I	STR-I	33.87	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	2.87	NA	NA
Legal	Maine DOT Config. 8 - Legal ~- STR-I	STR-I	-140.99	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	STR-I	33.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.59	NA	NA
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	STR-I	-255.30	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA

Legend:

NA - Resistance and live load are of opposite sign so rating factor is not applicable.

Controlling Rating Factors

Limit State	Vehicle	Design Inv~ RF	Capacity (ton)	Design Op~ RF	Capacity (ton)	Vehicle	Legal Load~ RF	Capacity (ton)	Vehicle	Permit Load~ RF	Capacity (ton)
STR-I	HL-93 (US) - Truck + Lane	0.86	30.87	HL-93 (US) - Truck + Lane	1.11	40.02	Maine DOT Config. 6 x2 - L~	0.84	64.04		

Bridge Name: I95 over Souadabscook Stream West
NBI Structure ID: 1433+5951
Bridge ID: Br. No. 1433+5951

Analyzed By: Virtis
Analyze Date: Wednesday, April 24, 2013 09:15:12
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Wednesday, April 24, 2013 09:30:15

Structure Definition Name: 1433+5951
Member Name: G1
Member Alternative Name: G1

Report by Action: ☒ Flexure ☒ Shear ☐ Overload ☐ Critical

Detailed Rating Results
HL-93 (US)
Truck + Lane
Impact: As Requested
Lane: As Requested

Span 1

								Inventory	Inventory	Operating	Operating
								Rating	Load Rating	Rating	Load Rating
Location	(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
	0.00	0.0	Flexure	KIP- FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
	0.00	0.0	Shear	KIPS	207.64	15.11	64.50	1.667	60.00	2.160	77.78
	4.00	10.0	Flexure	KIP- FT	817.88	52.28	179.58	2.388	85.95	3.095	111.42
	4.00	10.0	Shear	KIPS	207.64	11.03	53.85	2.052	73.88	2.660	95.77
	8.00	20.0	Flexure	KIP- FT	817.88	88.21	297.30	1.353	48.70	1.754	63.13
	8.00	20.0	Shear	KIPS	207.64	6.94	37.13	3.058	110.08	3.964	142.69
	12.00	30.0	Flexure	KIP- FT	817.88	107.80	358.14	1.083	38.98	1.403	50.52
	12.00	30.0	Shear	KIPS	207.64	2.85	29.23	3.987	143.54	5.169	186.07
	14.00	35.0	Flexure	KIP- FT	812.52	111.47	371.45	1.028	37.02	1.333	47.99
	14.00	35.0	Shear	KIPS	206.48	0.81	25.71	4.565	164.35	5.918	213.04
	16.00	40.0	Flexure	KIP- FT	812.52	111.04	380.63	1.004	36.16	1.302	46.87
	16.00	40.0	Shear	KIPS	206.48	1.32	22.39	5.227	188.16	6.775	243.91

20.00	50.0	Flexure	KIP-FT	812.52	97.80	371.58	1.055	37.99	1.368	49.24
20.00	50.0	Shear	KIPS	206.48	5.44	26.57	4.289	154.42	5.560	200.18
24.00	60.0	Flexure	KIP-FT	812.52	67.75	343.09	1.207	43.47	1.565	56.35
24.00	60.0	Shear	KIPS	206.48	9.66	34.14	3.247	116.89	4.209	151.52
26.00	65.0	Flexure	KIP-FT	812.52	46.37	310.18	1.386	49.91	1.797	64.70
26.00	65.0	Shear	KIPS	206.48	11.72	37.87	2.887	103.94	3.743	134.73
28.00	70.0	Flexure	KIP-FT	817.88	20.89	271.25	1.666	59.98	2.160	77.75
28.00	70.0	Shear	KIPS	207.64	13.76	41.70	2.602	93.66	3.373	121.41
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-235.98	1.600	57.61	2.075	74.68
32.00	80.0	Shear	KIPS	207.64	17.85	49.46	2.132	76.76	2.764	99.51
35.50	88.8	Flexure	KIP-FT	-715.59	-	-111.05 270.63	1.208	43.49	1.566	56.37
35.50	88.8	Shear	KIPS	207.64	21.42	56.10	1.833	65.99	2.376	85.54
36.00	90.0	Flexure	KIP-FT	-817.88	-	-121.89 276.90	1.363	49.06	1.767	63.60
36.00	90.0	Shear	KIPS	207.64	21.94	57.02	1.797	64.68	2.329	83.85
37.50	93.8	Flexure	KIP-FT	-812.52	-	-155.97 297.40	1.174	42.26	1.522	54.78
37.50	93.8	Shear	KIPS	206.48	23.50	59.71	1.685	60.67	2.185	78.65
40.00	100.0	Flexure	KIP-FT	-812.52	-	-218.00 353.66	0.858	30.87	1.112	40.02
40.00	100.0	Shear	KIPS	206.48	25.86	65.53	1.509	54.33	1.956	70.42

Span 2

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	- 156.63	- 265.85	1.311	47.21	1.700	61.20
2.50	5.0	Shear	KIPS	206.48	23.24	61.49	1.640	59.03	2.125	76.52
4.50	9.0	Flexure	KIP-FT	-817.88	- 112.22	- 219.76	1.750	62.98	2.268	81.65
4.50	9.0	Shear	KIPS	207.64	21.16	58.16	1.771	63.77	2.296	82.66
5.00	10.0	Flexure	KIP-FT	-817.88	- 101.77	- 213.76	1.835	66.05	2.378	85.63
5.00	10.0	Shear	KIPS	207.64	20.65	57.32	1.804	64.94	2.338	84.18
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	185.69	2.562	92.22	3.321	119.55
10.00	20.0	Shear	KIPS	207.64	15.54	48.62	2.205	79.36	2.858	102.88
15.00	30.0	Flexure	KIP-	817.88	53.66	306.67	1.395	50.21	1.808	65.09

			FT							
15.00	30.0	Shear	KIPS	207.64	10.44	39.75	2.791	100.49	3.618	130.26
19.00	38.0	Flexure	KIP-FT	812.52	86.55	370.54	1.081	38.90	1.401	50.43
19.00	38.0	Shear	KIPS	206.48	6.18	32.78	3.460	124.57	4.486	161.48
20.00	40.0	Flexure	KIP-FT	812.52	92.22	380.83	1.040	37.45	1.349	48.55
20.00	40.0	Shear	KIPS	206.48	5.15	31.07	3.675	132.31	4.764	171.52
25.00	50.0	Flexure	KIP-FT	812.52	105.09	397.13	0.974	35.05	1.262	45.44
25.00	50.0	Shear	KIPS	206.48	0.00	23.15	5.098	183.51	6.608	237.89
30.00	60.0	Flexure	KIP-FT	812.52	92.22	380.83	1.040	37.45	1.349	48.55
30.00	60.0	Shear	KIPS	206.48	5.15	31.07	3.675	132.31	4.764	171.52
31.00	62.0	Flexure	KIP-FT	812.52	86.55	370.54	1.081	38.90	1.401	50.43
31.00	62.0	Shear	KIPS	206.48	6.18	32.78	3.460	124.57	4.486	161.48
35.00	70.0	Flexure	KIP-FT	817.88	53.66	306.67	1.395	50.21	1.808	65.09
35.00	70.0	Shear	KIPS	207.64	10.44	39.75	2.791	100.49	3.618	130.26
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	185.69	2.562	92.22	3.321	119.55
40.00	80.0	Shear	KIPS	207.64	15.54	48.62	2.205	79.36	2.858	102.88
45.00	90.0	Flexure	KIP-FT	-817.88	-	-	1.835	66.05	2.378	85.63
45.00	90.0	Shear	KIPS	207.64	20.65	57.32	1.804	64.94	2.338	84.18
45.50	91.0	Flexure	KIP-FT	-817.88	-	-	1.750	62.98	2.268	81.65
45.50	91.0	Shear	KIPS	207.64	21.16	58.16	1.771	63.77	2.296	82.66
47.50	95.0	Flexure	KIP-FT	-812.52	-	-	1.311	47.21	1.700	61.20
47.50	95.0	Shear	KIPS	206.48	23.24	61.49	1.640	59.03	2.125	76.52
50.00	100.0	Flexure	KIP-FT	-812.52	-	-	0.858	30.87	1.112	40.02
50.00	100.0	Shear	KIPS	206.48	25.86	65.53	1.509	54.33	1.956	70.42

Span 3

				Inventory		Inventory		Operating		Operating	
Location				Rating		Load Rating		Rating		Load Rating	
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)	
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.174	42.26	1.522	54.78	
2.50	6.3	Shear	KIPS	206.48	23.50	59.71	1.685	60.67	2.185	78.65	
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.363	49.06	1.767	63.60	

4.00	10.0	Shear	KIPS	207.64	21.94	57.02	1.797	64.68	2.329	83.85
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.208	43.49	1.566	56.37
4.50	11.3	Shear	KIPS	207.64	21.42	56.10	1.833	65.99	2.376	85.54
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-	1.600	57.61	2.075	74.68
8.00	20.0	Shear	KIPS	207.64	17.85	49.46	2.132	76.76	2.764	99.51
12.00	30.0	Flexure	KIP-FT	817.88	20.89	271.00	1.668	60.03	2.162	77.82
12.00	30.0	Shear	KIPS	207.64	13.76	41.70	2.602	93.66	3.373	121.41
14.00	35.0	Flexure	KIP-FT	812.52	46.37	309.90	1.388	49.96	1.799	64.76
14.00	35.0	Shear	KIPS	206.48	11.72	37.87	2.887	103.94	3.743	134.73
16.00	40.0	Flexure	KIP-FT	812.52	67.75	342.78	1.209	43.51	1.567	56.40
16.00	40.0	Shear	KIPS	206.48	9.66	34.14	3.247	116.89	4.209	151.52
20.00	50.0	Flexure	KIP-FT	812.52	97.80	371.24	1.056	38.02	1.369	49.29
20.00	50.0	Shear	KIPS	206.48	5.44	26.57	4.289	154.42	5.560	200.18
24.00	60.0	Flexure	KIP-FT	812.52	111.04	380.27	1.005	36.19	1.303	46.91
24.00	60.0	Shear	KIPS	206.48	1.32	22.39	5.227	188.16	6.775	243.91
26.00	65.0	Flexure	KIP-FT	812.52	111.47	371.11	1.029	37.05	1.334	48.03
26.00	65.0	Shear	KIPS	206.48	0.81	25.71	4.565	164.35	5.918	213.04
28.00	70.0	Flexure	KIP-FT	817.88	107.80	357.81	1.084	39.01	1.405	50.57
28.00	70.0	Shear	KIPS	207.64	2.85	29.23	3.987	143.54	5.169	186.07
32.00	80.0	Flexure	KIP-FT	817.88	88.21	297.03	1.354	48.75	1.755	63.19
32.00	80.0	Shear	KIPS	207.64	6.94	37.13	3.058	110.08	3.964	142.69
36.00	90.0	Flexure	KIP-FT	817.88	52.28	179.41	2.390	86.03	3.098	111.52
36.00	90.0	Shear	KIPS	207.64	11.03	53.85	2.052	73.88	2.660	95.77
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	15.11	64.50	1.667	60.00	2.160	77.78

**Detailed Rating Results
HL-93 (US)
90%(Truck Pair + Lane)
Impact: As Requested
Lane: As Requested**

Span 1

Location	Inventory Rating	Inventory Load	Operating Rating	Operating Load
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								Rating		Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
0.00	0.0	Shear	KIPS	207.64	15.11	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Flexure	KIP-FT	817.88	52.28	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Shear	KIPS	207.64	11.03	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Flexure	KIP-FT	817.88	88.21	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Shear	KIPS	207.64	6.94	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Flexure	KIP-FT	817.88	107.80	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Shear	KIPS	207.64	2.85	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Flexure	KIP-FT	817.88	111.47	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Shear	KIPS	207.64	0.81	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Flexure	KIP-FT	812.52	111.04	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Shear	KIPS	206.48	1.32	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Flexure	KIP-FT	812.52	97.80	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Shear	KIPS	206.48	5.44	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Flexure	KIP-FT	812.52	67.75	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Shear	KIPS	206.48	9.66	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Flexure	KIP-FT	812.52	46.37	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Shear	KIPS	206.48	11.72	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Flexure	KIP-FT	817.88	20.89	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Shear	KIPS	207.64	13.76	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-211.03	1.790	64.43	2.320	83.51
32.00	80.0	Shear	KIPS	207.64	17.85	0.00	99.000	3564.00	99.000	3564.00
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-242.06	1.351	48.62	1.751	63.02
35.50	88.8	Shear	KIPS	207.64	21.42	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-247.68	1.524	54.85	1.975	71.10
36.00	90.0	Shear	KIPS	207.64	21.94	0.00	99.000	3564.00	99.000	3564.00
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-266.07	1.312	47.24	1.701	61.23
37.50	93.8	Shear	KIPS	207.64	23.50	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-301.16	1.007	36.26	1.306	47.00
40.00	100.0	Shear	KIPS	206.48	26.12	0.00	99.000	3564.00	99.000	3564.00

Span 2

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-	-	1.518	54.64	1.968	70.83
					156.63	229.68				
2.50	5.0	Shear	KIPS	206.48	23.24	0.00	99.000	3564.00	99.000	3564.00
4.50	9.0	Flexure	KIP-FT	-817.88	-	-	1.908	68.70	2.474	89.06
					112.22	201.48				
4.50	9.0	Shear	KIPS	207.64	21.16	0.00	99.000	3564.00	99.000	3564.00
5.00	10.0	Flexure	KIP-FT	-817.88	-	-	2.011	72.41	2.607	93.87
					101.77	194.99				
5.00	10.0	Shear	KIPS	207.64	20.65	0.00	99.000	3564.00	99.000	3564.00
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-	2.984	107.43	3.869	139.27
						153.81				
10.00	20.0	Shear	KIPS	207.64	15.54	0.00	99.000	3564.00	99.000	3564.00
15.00	30.0	Flexure	KIP-FT	817.88	53.66	0.00	99.000	3564.00	99.000	3564.00
15.00	30.0	Shear	KIPS	207.64	10.44	0.00	99.000	3564.00	99.000	3564.00
19.00	38.0	Flexure	KIP-FT	817.88	86.55	0.00	99.000	3564.00	99.000	3564.00
19.00	38.0	Shear	KIPS	207.64	6.18	0.00	99.000	3564.00	99.000	3564.00
20.00	40.0	Flexure	KIP-FT	812.52	92.22	0.00	99.000	3564.00	99.000	3564.00
20.00	40.0	Shear	KIPS	206.48	5.15	0.00	99.000	3564.00	99.000	3564.00
25.00	50.0	Flexure	KIP-FT	812.52	105.09	0.00	99.000	3564.00	99.000	3564.00
25.00	50.0	Shear	KIPS	206.48	0.00	0.00	99.000	3564.00	99.000	3564.00
30.00	60.0	Flexure	KIP-FT	812.52	92.22	0.00	99.000	3564.00	99.000	3564.00
30.00	60.0	Shear	KIPS	206.48	5.15	0.00	99.000	3564.00	99.000	3564.00
31.00	62.0	Flexure	KIP-FT	812.52	86.55	0.00	99.000	3564.00	99.000	3564.00
31.00	62.0	Shear	KIPS	206.48	6.18	0.00	99.000	3564.00	99.000	3564.00
35.00	70.0	Flexure	KIP-FT	817.88	53.66	0.00	99.000	3564.00	99.000	3564.00
35.00	70.0	Shear	KIPS	207.64	10.27	0.00	99.000	3564.00	99.000	3564.00
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-	2.984	107.43	3.869	139.27
						153.81				
40.00	80.0	Shear	KIPS	207.64	15.54	0.00	99.000	3564.00	99.000	3564.00
45.00	90.0	Flexure	KIP-FT	-817.88	-	-	2.011	72.41	2.607	93.87
					101.77	194.99				
45.00	90.0	Shear	KIPS	207.64	20.65	0.00	99.000	3564.00	99.000	3564.00
45.50	91.0	Flexure	KIP-	-817.88	-	-	1.908	68.70	2.474	89.06

			FT		112.22	201.48				
45.50	91.0	Shear	KIPS	207.64	21.16	0.00	99.000	3564.00	99.000	3564.00
47.50	95.0	Flexure	KIP-FT	-812.52	-	-	1.518	54.64	1.968	70.83
					156.63	229.68				
47.50	95.0	Shear	KIPS	207.64	23.24	0.00	99.000	3564.00	99.000	3564.00
50.00	100.0	Flexure	KIP-FT	-812.52	-	-	1.007	36.26	1.306	47.00
					218.00	301.16				
50.00	100.0	Shear	KIPS	206.48	25.86	0.00	99.000	3564.00	99.000	3564.00

Span 3

							Inventory	Inventory	Operating	Operating
							Rating	Load Rating	Rating	Load Rating
Location										
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.312	47.24	1.701	61.23
					155.97	266.07				
2.50	6.3	Shear	KIPS	206.48	23.50	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.524	54.85	1.975	71.10
					121.89	247.68				
4.00	10.0	Shear	KIPS	207.64	21.94	0.00	99.000	3564.00	99.000	3564.00
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.351	48.62	1.751	63.02
					111.05	242.06				
4.50	11.3	Shear	KIPS	207.64	21.42	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-	1.790	64.43	2.320	83.51
						211.03				
8.00	20.0	Shear	KIPS	207.64	17.85	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Flexure	KIP-FT	817.88	20.89	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Shear	KIPS	207.64	13.76	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Flexure	KIP-FT	817.88	46.37	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Shear	KIPS	207.64	11.72	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Flexure	KIP-FT	812.52	67.75	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Shear	KIPS	206.48	9.66	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Flexure	KIP-FT	812.52	97.80	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Shear	KIPS	206.48	5.44	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Flexure	KIP-FT	812.52	111.04	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Shear	KIPS	206.48	1.32	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Flexure	KIP-FT	812.52	111.47	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Shear	KIPS	206.48	0.81	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Flexure	KIP-FT	817.88	107.80	0.00	99.000	3564.00	99.000	3564.00

28.00	70.0	Shear	KIPS	207.64	2.85	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Flexure	KIP-FT	817.88	88.21	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Shear	KIPS	207.64	6.94	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Flexure	KIP-FT	817.88	52.28	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Shear	KIPS	207.64	11.03	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	15.11	0.00	99.000	3564.00	99.000	3564.00

**Detailed Rating Results
HL-93 (US)
Tandem + Lane
Impact: As Requested
Lane: As Requested**

Span 1

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
0.00	0.0	Shear	KIPS	207.64	15.11	59.02	1.821	65.56	2.361	84.99
4.00	10.0	Flexure	KIP-FT	817.88	52.28	168.70	2.541	91.49	3.295	118.60
4.00	10.0	Shear	KIPS	207.64	11.03	50.53	2.187	78.73	2.835	102.05
8.00	20.0	Flexure	KIP-FT	817.88	88.21	288.39	1.395	50.21	1.808	65.08
8.00	20.0	Shear	KIPS	207.64	6.94	35.98	3.156	113.60	4.091	147.26
12.00	30.0	Flexure	KIP-FT	817.88	107.80	361.12	1.074	38.65	1.392	50.11
12.00	30.0	Shear	KIPS	207.64	2.85	29.49	3.953	142.29	5.124	184.45
14.00	35.0	Flexure	KIP-FT	812.52	111.47	381.01	1.003	36.09	1.300	46.78
14.00	35.0	Shear	KIPS	206.48	0.81	26.42	4.443	159.95	5.760	207.35
16.00	40.0	Flexure	KIP-FT	812.52	111.04	389.85	0.981	35.30	1.271	45.76
16.00	40.0	Shear	KIPS	206.48	1.32	23.43	4.993	179.76	6.473	233.02
20.00	50.0	Flexure	KIP-FT	812.52	97.80	383.60	1.022	36.80	1.325	47.70
20.00	50.0	Shear	KIPS	206.48	5.44	28.34	4.021	144.77	5.213	187.67
24.00	60.0	Flexure	KIP-FT	812.52	67.75	346.97	1.194	42.98	1.548	55.72
24.00	60.0	Shear	KIPS	206.48	9.66	34.22	3.239	116.61	4.199	151.16

26.00	65.0	Flexure	KIP-FT	812.52	46.37	315.54	1.363	49.06	1.767	63.60
26.00	65.0	Shear	KIPS	206.48	11.72	37.10	2.947	106.09	3.820	137.52
28.00	70.0	Flexure	KIP-FT	817.88	20.89	276.39	1.635	58.86	2.120	76.31
28.00	70.0	Shear	KIPS	207.64	13.76	39.92	2.717	97.83	3.523	126.82
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-202.84	1.862	67.03	2.413	86.89
32.00	80.0	Shear	KIPS	207.64	17.85	45.33	2.327	83.76	3.016	108.58
35.50	88.8	Flexure	KIP-FT	-715.59	-	-111.05	1.398	50.32	1.812	65.23
35.50	88.8	Shear	KIPS	207.64	21.42	49.74	2.067	74.43	2.680	96.48
36.00	90.0	Flexure	KIP-FT	-817.88	-	-121.89	1.575	56.69	2.041	73.49
36.00	90.0	Shear	KIPS	207.64	21.94	50.34	2.035	73.26	2.638	94.97
37.50	93.8	Flexure	KIP-FT	-812.52	-	-155.97	1.350	48.61	1.750	63.01
37.50	93.8	Shear	KIPS	206.48	23.50	52.08	1.932	69.57	2.505	90.18
40.00	100.0	Flexure	KIP-FT	-812.52	-	-218.00	1.028	37.00	1.332	47.97
40.00	100.0	Shear	KIPS	206.48	25.86	55.64	1.777	63.99	2.304	82.94

Span 2

							Inventory	Inventory	Operating	Operating
							Rating	Load Rating	Rating	Load Rating
Location										
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-	-156.63	1.533	55.18	1.987	71.53
2.50	5.0	Shear	KIPS	206.48	23.24	52.91	1.906	68.60	2.470	88.93
4.50	9.0	Flexure	KIP-FT	-817.88	-	-112.22	1.904	68.54	2.468	88.85
4.50	9.0	Shear	KIPS	207.64	21.16	50.61	2.036	73.28	2.639	94.99
5.00	10.0	Flexure	KIP-FT	-817.88	-	-101.77	1.999	71.96	2.591	93.28
5.00	10.0	Shear	KIPS	207.64	20.65	50.02	2.067	74.42	2.680	96.47
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	201.15	2.365	85.14	3.066	110.36
10.00	20.0	Shear	KIPS	207.64	15.54	43.79	2.448	88.11	3.173	114.22
15.00	30.0	Flexure	KIP-FT	817.88	53.66	307.74	1.390	50.04	1.802	64.86
15.00	30.0	Shear	KIPS	207.64	10.44	37.20	2.982	107.36	3.866	139.18
19.00	38.0	Flexure	KIP-FT	812.52	86.55	366.03	1.094	39.38	1.418	51.05
19.00	38.0	Shear	KIPS	206.48	6.18	31.81	3.566	128.38	4.623	166.41
20.00	40.0	Flexure	KIP-	812.52	92.22	375.49	1.055	37.99	1.368	49.24

			FT							
20.00	40.0	Shear	KIPS	206.48	5.15	30.47	3.748	134.93	4.859	174.91
25.00	50.0	Flexure	KIP- FT	812.52	105.09	395.07	0.979	35.24	1.269	45.68
25.00	50.0	Shear	KIPS	206.48	0.00	23.87	4.944	177.98	6.409	230.71
30.00	60.0	Flexure	KIP- FT	812.52	92.22	375.49	1.055	37.99	1.368	49.24
30.00	60.0	Shear	KIPS	206.48	5.15	30.47	3.748	134.93	4.859	174.91
31.00	62.0	Flexure	KIP- FT	812.52	86.55	366.03	1.094	39.38	1.418	51.05
31.00	62.0	Shear	KIPS	206.48	6.18	31.81	3.566	128.38	4.623	166.41
35.00	70.0	Flexure	KIP- FT	817.88	53.66	307.74	1.390	50.04	1.802	64.86
35.00	70.0	Shear	KIPS	207.64	10.44	37.20	2.982	107.36	3.866	139.18
40.00	80.0	Flexure	KIP- FT	817.88	-11.29	201.15	2.365	85.14	3.066	110.36
40.00	80.0	Shear	KIPS	207.64	15.54	43.79	2.448	88.11	3.173	114.22
45.00	90.0	Flexure	KIP- FT	-817.88	-	-	1.999	71.96	2.591	93.28
45.00	90.0	Shear	KIPS	207.64	20.65	50.02	2.067	74.42	2.680	96.47
45.50	91.0	Flexure	KIP- FT	-817.88	-	-	1.904	68.54	2.468	88.85
45.50	91.0	Shear	KIPS	207.64	21.16	50.61	2.036	73.28	2.639	94.99
47.50	95.0	Flexure	KIP- FT	-812.52	-	-	1.533	55.18	1.987	71.53
47.50	95.0	Shear	KIPS	206.48	23.24	52.91	1.906	68.60	2.470	88.93
50.00	100.0	Flexure	KIP- FT	-812.52	-	-	1.028	37.00	1.332	47.97
50.00	100.0	Shear	KIPS	206.48	25.86	55.64	1.777	63.99	2.304	82.94

Span 3

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.350	48.61	1.750	63.01
2.50	6.3	Shear	KIPS	206.48	23.50	52.08	1.932	69.57	2.505	90.18
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.575	56.69	2.041	73.49
4.00	10.0	Shear	KIPS	207.64	21.94	50.34	2.035	73.26	2.638	94.97
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.398	50.32	1.812	65.23
4.50	11.3	Shear	KIPS	207.64	21.42	49.74	2.067	74.43	2.680	96.48
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-	1.862	67.03	2.413	86.89

8.00	20.0	Shear	KIPS	207.64	17.85	45.33	2.327	83.76	3.016	108.58
12.00	30.0	Flexure	KIP-FT	817.88	20.89	276.14	1.637	58.92	2.122	76.38
12.00	30.0	Shear	KIPS	207.64	13.76	39.92	2.717	97.83	3.523	126.82
14.00	35.0	Flexure	KIP-FT	812.52	46.37	315.25	1.364	49.11	1.768	63.66
14.00	35.0	Shear	KIPS	206.48	11.72	37.10	2.947	106.09	3.820	137.52
16.00	40.0	Flexure	KIP-FT	812.52	67.75	346.66	1.195	43.02	1.549	55.77
16.00	40.0	Shear	KIPS	206.48	9.66	34.22	3.239	116.61	4.199	151.16
20.00	50.0	Flexure	KIP-FT	812.52	97.80	383.25	1.023	36.83	1.326	47.74
20.00	50.0	Shear	KIPS	206.48	5.44	28.34	4.021	144.77	5.213	187.67
24.00	60.0	Flexure	KIP-FT	812.52	111.04	389.49	0.982	35.33	1.272	45.80
24.00	60.0	Shear	KIPS	206.48	1.32	23.43	4.993	179.76	6.473	233.02
26.00	65.0	Flexure	KIP-FT	812.52	111.47	380.66	1.003	36.12	1.301	46.83
26.00	65.0	Shear	KIPS	206.48	0.81	26.42	4.443	159.95	5.760	207.35
28.00	70.0	Flexure	KIP-FT	817.88	107.80	360.79	1.075	38.69	1.393	50.15
28.00	70.0	Shear	KIPS	207.64	2.85	29.49	3.953	142.29	5.124	184.45
32.00	80.0	Flexure	KIP-FT	817.88	88.21	288.12	1.396	50.25	1.810	65.14
32.00	80.0	Shear	KIPS	207.64	6.94	35.98	3.156	113.60	4.091	147.26
36.00	90.0	Flexure	KIP-FT	817.88	52.28	168.54	2.544	91.58	3.298	118.71
36.00	90.0	Shear	KIPS	207.64	11.03	50.53	2.187	78.73	2.835	102.05
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	15.11	59.02	1.821	65.56	2.361	84.99

Bridge Name: I95 over Souadabscook Stream West
NBI Structure ID: 1433+5951
Bridge ID: Br. No. 1433+5951

Analyzed By: Virtis
Analyze Date: Thursday, April 25, 2013 10:34:53
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Thursday, April 25, 2013 10:58:03

Structure Definition Name: 1433+5951
Member Name: G1
Member Alternative Name: G1

Report by Action: ☒ **Flexure** ☒ **Shear** ☐ **Overload** ☐ **Critical**

Detailed Rating Results
Legal Lane Load
Lane
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	0.00
0.00	0.0	Shear	KIPS	207.64	15.11	2.91	49.371	0.00
4.00	10.0	Flexure	KIP-FT	817.88	52.28	8.49	67.425	0.00
4.00	10.0	Shear	KIPS	207.64	11.03	2.31	63.897	0.00
8.00	20.0	Flexure	KIP-FT	817.88	88.21	14.90	36.068	0.00
8.00	20.0	Shear	KIPS	207.64	6.94	1.52	99.000	0.00
12.00	30.0	Flexure	KIP-FT	817.88	107.80	19.21	26.969	0.00
12.00	30.0	Shear	KIPS	207.64	2.85	1.14	99.000	0.00
14.00	35.0	Flexure	KIP-FT	812.52	111.47	20.58	24.799	0.00
14.00	35.0	Shear	KIPS	207.64	0.81	0.98	99.000	0.00
16.00	40.0	Flexure	KIP-FT	812.52	111.04	21.42	23.838	0.00
16.00	40.0	Shear	KIPS	206.48	1.32	1.00	99.000	0.00
20.00	50.0	Flexure	KIP-FT	812.52	97.80	21.55	24.307	0.00
20.00	50.0	Shear	KIPS	206.48	5.44	1.29	99.000	0.00
24.00	60.0	Flexure	KIP-FT	812.52	67.75	19.58	28.264	0.00
24.00	60.0	Shear	KIPS	206.48	9.66	1.64	90.155	0.00
26.00	65.0	Flexure	KIP-FT	812.52	46.37	17.81	32.254	0.00

26.00	65.0	Shear	KIPS	206.48	11.72	1.84	79.499	0.00
28.00	70.0	Flexure	KIP-FT	817.88	20.89	15.52	38.900	0.00
28.00	70.0	Shear	KIPS	207.64	13.76	2.04	70.886	0.00
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-14.59	34.575	0.00
32.00	80.0	Shear	KIPS	207.64	17.85	2.49	56.490	0.00
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-18.95	23.048	0.00
35.50	88.8	Shear	KIPS	207.64	21.42	2.92	47.018	0.00
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-19.98	25.226	0.00
36.00	90.0	Shear	KIPS	207.64	21.94	2.99	45.847	0.00
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-23.62	19.748	0.00
37.50	93.8	Shear	KIPS	206.48	23.50	3.18	42.294	0.00
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-31.22	12.979	0.00
40.00	100.0	Shear	KIPS	206.48	25.86	3.73	35.452	0.00

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-23.01	20.236	0.00
2.50	5.0	Shear	KIPS	206.48	23.24	3.39	39.686	0.00
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-17.70	29.021	0.00
4.50	9.0	Shear	KIPS	207.64	21.16	3.14	43.879	0.00
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-16.57	31.628	0.00
5.00	10.0	Shear	KIPS	207.64	20.65	3.07	44.944	0.00
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-9.76	62.802	0.00
10.00	20.0	Shear	KIPS	207.64	15.54	2.47	57.854	0.00
15.00	30.0	Flexure	KIP-FT	817.88	53.66	16.18	35.308	0.00
15.00	30.0	Shear	KIPS	207.64	10.44	1.94	76.303	0.00
19.00	38.0	Flexure	KIP-FT	812.52	86.55	20.39	26.235	0.00
19.00	38.0	Shear	KIPS	206.48	6.18	1.57	96.531	0.00
20.00	40.0	Flexure	KIP-FT	812.52	92.22	21.11	25.072	0.00
20.00	40.0	Shear	KIPS	206.48	5.15	1.48	99.000	0.00
25.00	50.0	Flexure	KIP-FT	812.52	105.09	22.75	22.704	0.00
25.00	50.0	Shear	KIPS	206.48	0.00	1.11	99.000	0.00
30.00	60.0	Flexure	KIP-FT	812.52	92.22	21.11	25.072	0.00
30.00	60.0	Shear	KIPS	206.48	5.15	1.48	99.000	0.00
31.00	62.0	Flexure	KIP-FT	812.52	86.55	20.39	26.235	0.00
31.00	62.0	Shear	KIPS	206.48	6.18	1.57	96.531	0.00
35.00	70.0	Flexure	KIP-FT	817.88	53.66	16.18	35.308	0.00
35.00	70.0	Shear	KIPS	207.64	10.44	1.94	76.303	0.00
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-9.76	62.802	0.00
40.00	80.0	Shear	KIPS	207.64	15.54	2.47	57.854	0.00

45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-16.57	31.628	0.00
45.00	90.0	Shear	KIPS	207.64	20.65	3.07	44.944	0.00
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-17.70	29.021	0.00
45.50	91.0	Shear	KIPS	207.64	21.16	3.14	43.879	0.00
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-23.01	20.236	0.00
47.50	95.0	Shear	KIPS	206.48	23.24	3.39	39.686	0.00
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-31.22	12.979	0.00
50.00	100.0	Shear	KIPS	206.48	25.86	3.73	35.452	0.00

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-23.62	19.748	0.00
2.50	6.3	Shear	KIPS	206.48	23.50	3.18	42.294	0.00
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-19.98	25.226	0.00
4.00	10.0	Shear	KIPS	207.64	21.94	2.99	45.847	0.00
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-18.95	23.048	0.00
4.50	11.3	Shear	KIPS	207.64	21.42	2.92	47.018	0.00
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-14.59	34.575	0.00
8.00	20.0	Shear	KIPS	207.64	17.85	2.49	56.490	0.00
12.00	30.0	Flexure	KIP-FT	817.88	20.89	15.51	38.936	0.00
12.00	30.0	Shear	KIPS	207.64	13.76	2.04	70.886	0.00
14.00	35.0	Flexure	KIP-FT	812.52	46.37	17.80	32.284	0.00
14.00	35.0	Shear	KIPS	206.48	11.72	1.84	79.499	0.00
16.00	40.0	Flexure	KIP-FT	812.52	67.75	19.56	28.290	0.00
16.00	40.0	Shear	KIPS	206.48	9.66	1.64	90.155	0.00
20.00	50.0	Flexure	KIP-FT	812.52	97.80	21.53	24.329	0.00
20.00	50.0	Shear	KIPS	206.48	5.44	1.29	99.000	0.00
24.00	60.0	Flexure	KIP-FT	812.52	111.04	21.40	23.860	0.00
24.00	60.0	Shear	KIPS	206.48	1.32	1.00	99.000	0.00
26.00	65.0	Flexure	KIP-FT	812.52	111.47	20.56	24.821	0.00
26.00	65.0	Shear	KIPS	206.48	0.81	0.98	99.000	0.00
28.00	70.0	Flexure	KIP-FT	817.88	107.80	19.19	26.994	0.00
28.00	70.0	Shear	KIPS	207.64	2.85	1.14	99.000	0.00
32.00	80.0	Flexure	KIP-FT	817.88	88.21	14.88	36.101	0.00
32.00	80.0	Shear	KIPS	207.64	6.94	1.52	99.000	0.00
36.00	90.0	Flexure	KIP-FT	817.88	52.28	8.49	67.487	0.00
36.00	90.0	Shear	KIPS	207.64	11.03	2.31	63.897	0.00
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	0.00
40.00	100.0	Shear	KIPS	207.64	15.11	2.91	49.371	0.00

**Detailed Rating Results
Maine DOT Config. 1
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4950.00
0.00	0.0	Shear	KIPS	207.64	15.11	53.35	2.692	134.58
4.00	10.0	Flexure	KIP-FT	817.88	52.28	141.63	4.044	202.20
4.00	10.0	Shear	KIPS	207.64	11.03	43.17	3.419	170.96
8.00	20.0	Flexure	KIP-FT	817.88	88.21	225.51	2.383	119.13
8.00	20.0	Shear	KIPS	207.64	6.94	28.68	5.287	264.35
12.00	30.0	Flexure	KIP-FT	817.88	107.80	275.13	1.883	94.13
12.00	30.0	Shear	KIPS	207.64	2.85	23.33	6.675	333.74
14.00	35.0	Flexure	KIP-FT	812.52	111.47	292.52	1.744	87.22
14.00	35.0	Shear	KIPS	206.48	0.81	20.85	7.523	376.13
16.00	40.0	Flexure	KIP-FT	812.52	111.04	302.82	1.687	84.33
16.00	40.0	Shear	KIPS	206.48	1.32	18.42	8.488	424.39
20.00	50.0	Flexure	KIP-FT	812.52	97.80	298.12	1.757	87.85
20.00	50.0	Shear	KIPS	206.48	5.44	23.45	6.494	324.68
24.00	60.0	Flexure	KIP-FT	812.52	67.75	262.95	2.105	105.23
24.00	60.0	Shear	KIPS	206.48	9.66	29.84	4.962	248.12
26.00	65.0	Flexure	KIP-FT	812.52	46.37	242.56	2.368	118.42
26.00	65.0	Shear	KIPS	206.48	11.72	32.72	4.463	223.16
28.00	70.0	Flexure	KIP-FT	817.88	20.89	211.97	2.848	142.41
28.00	70.0	Shear	KIPS	207.64	13.76	35.36	4.098	204.92
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-194.24	2.597	129.86
32.00	80.0	Shear	KIPS	207.64	17.85	40.03	3.520	175.98
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-215.49	2.027	101.33
35.50	88.8	Shear	KIPS	207.64	21.42	44.73	3.071	153.57
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-218.52	2.307	115.34
36.00	90.0	Shear	KIPS	207.64	21.94	45.72	2.993	149.66
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-241.47	1.931	96.57
37.50	93.8	Shear	KIPS	206.48	23.50	48.58	2.767	138.35
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-333.12	1.216	60.82
40.00	100.0	Shear	KIPS	206.48	25.86	57.09	2.314	115.70

Span 2

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-245.33	1.898	94.92
2.50	5.0	Shear	KIPS	206.48	23.24	52.77	2.552	127.62
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-176.93	2.903	145.15
4.50	9.0	Shear	KIPS	207.64	21.16	49.28	2.793	139.65
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-160.99	3.255	162.73
5.00	10.0	Shear	KIPS	207.64	20.65	48.40	2.854	142.70
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	152.17	4.176	208.81
10.00	20.0	Shear	KIPS	207.64	15.54	39.53	3.622	181.08
15.00	30.0	Flexure	KIP-FT	817.88	53.66	256.02	2.232	111.60
15.00	30.0	Shear	KIPS	207.64	10.44	32.12	4.614	230.71
19.00	38.0	Flexure	KIP-FT	812.52	86.55	297.24	1.799	89.97
19.00	38.0	Shear	KIPS	206.48	6.18	26.66	5.684	284.22
20.00	40.0	Flexure	KIP-FT	812.52	92.22	301.98	1.753	87.63
20.00	40.0	Shear	KIPS	206.48	5.15	25.22	6.048	302.42
25.00	50.0	Flexure	KIP-FT	812.52	105.09	295.00	1.751	87.55
25.00	50.0	Shear	KIPS	206.48	0.00	17.42	9.046	452.32
30.00	60.0	Flexure	KIP-FT	812.52	92.22	301.98	1.753	87.63
30.00	60.0	Shear	KIPS	206.48	5.15	25.22	6.048	302.42
31.00	62.0	Flexure	KIP-FT	812.52	86.55	297.24	1.799	89.97
31.00	62.0	Shear	KIPS	206.48	6.18	26.66	5.684	284.22
35.00	70.0	Flexure	KIP-FT	817.88	53.66	256.02	2.232	111.60
35.00	70.0	Shear	KIPS	207.64	10.44	32.12	4.614	230.71
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	152.17	4.176	208.81
40.00	80.0	Shear	KIPS	207.64	15.54	39.53	3.622	181.08
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-160.99	3.255	162.73
45.00	90.0	Shear	KIPS	207.64	20.65	48.40	2.854	142.70
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-176.93	2.903	145.15
45.50	91.0	Shear	KIPS	207.64	21.16	49.28	2.793	139.65
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-245.33	1.898	94.92
47.50	95.0	Shear	KIPS	206.48	23.24	52.77	2.552	127.62
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-333.12	1.216	60.82
50.00	100.0	Shear	KIPS	206.48	25.86	57.09	2.314	115.70

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-241.47	1.931	96.57
2.50	6.3	Shear	KIPS	206.48	23.50	48.58	2.767	138.35

4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-218.52	2.307	115.34
4.00	10.0	Shear	KIPS	207.64	21.94	45.72	2.993	149.66
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-215.49	2.027	101.33
4.50	11.3	Shear	KIPS	207.64	21.42	44.73	3.071	153.57
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-194.24	2.597	129.86
8.00	20.0	Shear	KIPS	207.64	17.85	40.03	3.520	175.98
12.00	30.0	Flexure	KIP-FT	817.88	20.89	211.77	2.851	142.54
12.00	30.0	Shear	KIPS	207.64	13.76	35.36	4.098	204.92
14.00	35.0	Flexure	KIP-FT	812.52	46.37	242.34	2.371	118.53
14.00	35.0	Shear	KIPS	206.48	11.72	32.72	4.463	223.16
16.00	40.0	Flexure	KIP-FT	812.52	67.75	262.70	2.107	105.33
16.00	40.0	Shear	KIPS	206.48	9.66	29.84	4.962	248.12
20.00	50.0	Flexure	KIP-FT	812.52	97.80	297.84	1.759	87.93
20.00	50.0	Shear	KIPS	206.48	5.44	23.45	6.494	324.68
24.00	60.0	Flexure	KIP-FT	812.52	111.04	302.54	1.688	84.40
24.00	60.0	Shear	KIPS	206.48	1.32	18.42	8.488	424.39
26.00	65.0	Flexure	KIP-FT	812.52	111.47	292.26	1.746	87.30
26.00	65.0	Shear	KIPS	206.48	0.81	20.85	7.523	376.13
28.00	70.0	Flexure	KIP-FT	817.88	107.80	274.88	1.884	94.22
28.00	70.0	Shear	KIPS	207.64	2.85	23.33	6.675	333.74
32.00	80.0	Flexure	KIP-FT	817.88	88.21	225.30	2.385	119.24
32.00	80.0	Shear	KIPS	207.64	6.94	28.68	5.287	264.35
36.00	90.0	Flexure	KIP-FT	817.88	52.28	141.50	4.048	202.39
36.00	90.0	Shear	KIPS	207.64	11.03	43.17	3.419	170.96
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4950.00
40.00	100.0	Shear	KIPS	207.64	15.11	53.35	2.692	134.58

Detailed Rating Results
Maine DOT Config. 1 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9900.00
0.00	0.0	Shear	KIPS	207.64	15.11	53.35	2.692	269.16
4.00	10.0	Flexure	KIP-FT	817.88	52.28	141.63	4.044	404.40
4.00	10.0	Shear	KIPS	207.64	11.03	43.17	3.419	341.93
8.00	20.0	Flexure	KIP-FT	817.88	88.21	225.51	2.383	238.26
8.00	20.0	Shear	KIPS	207.64	6.94	28.68	5.287	528.70

12.00	30.0	Flexure	KIP-FT	817.88	107.80	275.13	1.883	188.26
12.00	30.0	Shear	KIPS	207.64	2.85	23.33	6.675	667.47
14.00	35.0	Flexure	KIP-FT	812.52	111.47	292.52	1.744	174.44
14.00	35.0	Shear	KIPS	206.48	0.81	20.85	7.523	752.26
16.00	40.0	Flexure	KIP-FT	812.52	111.04	302.82	1.687	168.65
16.00	40.0	Shear	KIPS	206.48	1.32	22.20	7.043	704.28
20.00	50.0	Flexure	KIP-FT	812.52	97.80	298.12	1.757	175.69
20.00	50.0	Shear	KIPS	206.48	5.44	26.80	5.682	568.21
24.00	60.0	Flexure	KIP-FT	812.52	67.75	262.95	2.105	210.47
24.00	60.0	Shear	KIPS	206.48	9.66	30.89	4.794	479.38
26.00	65.0	Flexure	KIP-FT	812.52	46.37	242.56	2.368	236.85
26.00	65.0	Shear	KIPS	206.48	11.72	32.79	4.454	445.44
28.00	70.0	Flexure	KIP-FT	817.88	20.89	211.97	2.848	284.82
28.00	70.0	Shear	KIPS	207.64	13.76	35.36	4.098	409.85
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-181.02	2.787	278.70
32.00	80.0	Shear	KIPS	207.64	17.85	40.09	3.514	351.42
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-247.99	1.761	176.10
35.50	88.8	Shear	KIPS	207.64	21.42	46.47	2.956	295.64
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-258.05	1.953	195.35
36.00	90.0	Shear	KIPS	207.64	21.94	47.35	2.890	289.05
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-289.48	1.611	161.11
37.50	93.8	Shear	KIPS	206.48	23.50	49.88	2.695	269.49
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-346.74	1.169	116.85
40.00	100.0	Shear	KIPS	206.48	25.86	57.63	2.292	229.22

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-265.12	1.757	175.67
2.50	5.0	Shear	KIPS	206.48	23.24	53.71	2.508	250.78
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-207.78	2.472	247.20
4.50	9.0	Shear	KIPS	207.64	21.16	50.57	2.721	272.14
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-195.28	2.683	268.30
5.00	10.0	Shear	KIPS	207.64	20.65	49.82	2.772	277.24
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	154.72	4.107	410.73
10.00	20.0	Shear	KIPS	207.64	15.54	42.15	3.397	339.66
15.00	30.0	Flexure	KIP-FT	817.88	53.66	252.56	2.262	226.25
15.00	30.0	Shear	KIPS	207.64	10.44	34.41	4.307	430.67
19.00	38.0	Flexure	KIP-FT	812.52	86.55	295.07	1.813	181.27
19.00	38.0	Shear	KIPS	206.48	6.18	28.31	5.352	535.18
20.00	40.0	Flexure	KIP-FT	812.52	92.22	300.35	1.762	176.22

20.00	40.0	Shear	KIPS	206.48	5.15	26.82	5.688	568.79
25.00	50.0	Flexure	KIP-FT	812.52	105.09	293.73	1.759	175.87
25.00	50.0	Shear	KIPS	206.48	0.00	19.57	8.052	805.23
30.00	60.0	Flexure	KIP-FT	812.52	92.22	300.35	1.762	176.22
30.00	60.0	Shear	KIPS	206.48	5.15	26.82	5.688	568.79
31.00	62.0	Flexure	KIP-FT	812.52	86.55	295.07	1.813	181.27
31.00	62.0	Shear	KIPS	206.48	6.18	28.31	5.352	535.18
35.00	70.0	Flexure	KIP-FT	817.88	53.66	252.56	2.262	226.25
35.00	70.0	Shear	KIPS	207.64	10.44	34.41	4.307	430.67
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	154.72	4.107	410.73
40.00	80.0	Shear	KIPS	207.64	15.54	42.15	3.397	339.66
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-195.28	2.683	268.30
45.00	90.0	Shear	KIPS	207.64	20.65	49.82	2.772	277.24
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-207.78	2.472	247.20
45.50	91.0	Shear	KIPS	207.64	21.16	50.57	2.721	272.14
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-265.12	1.757	175.67
47.50	95.0	Shear	KIPS	206.48	23.24	53.71	2.508	250.78
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-346.74	1.169	116.85
50.00	100.0	Shear	KIPS	206.48	25.86	57.63	2.292	229.22

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-289.48	1.611	161.11
2.50	6.3	Shear	KIPS	206.48	23.50	49.88	2.695	269.49
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-258.05	1.953	195.35
4.00	10.0	Shear	KIPS	207.64	21.94	47.35	2.890	289.05
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-247.99	1.761	176.10
4.50	11.3	Shear	KIPS	207.64	21.42	46.47	2.956	295.64
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-181.02	2.787	278.70
8.00	20.0	Shear	KIPS	207.64	17.85	40.09	3.514	351.42
12.00	30.0	Flexure	KIP-FT	817.88	20.89	211.77	2.851	285.08
12.00	30.0	Shear	KIPS	207.64	13.76	35.36	4.098	409.85
14.00	35.0	Flexure	KIP-FT	812.52	46.37	242.34	2.371	237.07
14.00	35.0	Shear	KIPS	206.48	11.72	32.79	4.454	445.44
16.00	40.0	Flexure	KIP-FT	812.52	67.75	262.70	2.107	210.66
16.00	40.0	Shear	KIPS	206.48	9.66	30.89	4.794	479.38
20.00	50.0	Flexure	KIP-FT	812.52	97.80	297.84	1.759	175.85
20.00	50.0	Shear	KIPS	206.48	5.44	26.80	5.682	568.21
24.00	60.0	Flexure	KIP-FT	812.52	111.04	302.54	1.688	168.81
24.00	60.0	Shear	KIPS	206.48	1.32	22.20	7.043	704.28

26.00	65.0	Flexure	KIP-FT	812.52	111.47	292.26	1.746	174.60
26.00	65.0	Shear	KIPS	206.48	0.81	20.85	7.523	752.26
28.00	70.0	Flexure	KIP-FT	817.88	107.80	274.88	1.884	188.44
28.00	70.0	Shear	KIPS	207.64	2.85	23.33	6.675	667.47
32.00	80.0	Flexure	KIP-FT	817.88	88.21	225.30	2.385	238.48
32.00	80.0	Shear	KIPS	207.64	6.94	28.68	5.287	528.70
36.00	90.0	Flexure	KIP-FT	817.88	52.28	141.50	4.048	404.77
36.00	90.0	Shear	KIPS	207.64	11.03	43.17	3.419	341.93
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9900.00
40.00	100.0	Shear	KIPS	207.64	15.11	53.35	2.692	269.16

Detailed Rating Results
Maine DOT Config. 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4653.00
0.00	0.0	Shear	KIPS	207.64	15.11	55.16	2.603	122.34
4.00	10.0	Flexure	KIP-FT	817.88	52.28	150.25	3.812	179.16
4.00	10.0	Shear	KIPS	207.64	11.03	45.80	3.223	151.48
8.00	20.0	Flexure	KIP-FT	817.88	88.21	242.76	2.213	104.02
8.00	20.0	Shear	KIPS	207.64	6.94	31.37	4.834	227.21
12.00	30.0	Flexure	KIP-FT	817.88	107.80	306.78	1.688	79.36
12.00	30.0	Shear	KIPS	207.64	2.85	23.89	6.516	306.27
14.00	35.0	Flexure	KIP-FT	812.52	111.47	331.13	1.541	72.43
14.00	35.0	Shear	KIPS	206.48	0.81	20.12	7.794	366.31
16.00	40.0	Flexure	KIP-FT	812.52	111.04	342.45	1.491	70.09
16.00	40.0	Shear	KIPS	206.48	1.32	16.49	9.482	445.66
20.00	50.0	Flexure	KIP-FT	812.52	97.80	347.79	1.506	70.78
20.00	50.0	Shear	KIPS	206.48	5.44	21.08	7.223	339.49
24.00	60.0	Flexure	KIP-FT	812.52	67.75	307.21	1.801	84.67
24.00	60.0	Shear	KIPS	206.48	9.66	28.57	5.184	243.65
26.00	65.0	Flexure	KIP-FT	812.52	46.37	271.93	2.113	99.30
26.00	65.0	Shear	KIPS	206.48	11.72	32.15	4.544	213.55
28.00	70.0	Flexure	KIP-FT	817.88	20.89	227.75	2.651	124.59
28.00	70.0	Shear	KIPS	207.64	13.76	35.60	4.071	191.36
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-200.58	2.515	118.22
32.00	80.0	Shear	KIPS	207.64	17.85	42.05	3.350	157.47

35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-232.62	1.877	88.24
35.50	88.8	Shear	KIPS	207.64	21.42	47.14	2.914	136.97
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-241.25	2.090	98.21
36.00	90.0	Shear	KIPS	207.64	21.94	47.82	2.862	134.50
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-267.17	1.746	82.04
37.50	93.8	Shear	KIPS	206.48	23.50	49.78	2.701	126.92
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-311.11	1.302	61.21
40.00	100.0	Shear	KIPS	206.48	25.86	56.21	2.350	110.46

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-229.51	2.029	95.37
2.50	5.0	Shear	KIPS	206.48	23.24	52.60	2.561	120.36
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-198.05	2.593	121.89
4.50	9.0	Shear	KIPS	207.64	21.16	49.55	2.778	130.54
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-190.23	2.754	129.45
5.00	10.0	Shear	KIPS	207.64	20.65	48.79	2.831	133.07
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-151.35	4.052	190.42
10.00	20.0	Shear	KIPS	207.64	15.54	40.77	3.511	165.03
15.00	30.0	Flexure	KIP-FT	817.88	53.66	274.32	2.083	97.90
15.00	30.0	Shear	KIPS	207.64	10.44	32.41	4.573	214.92
19.00	38.0	Flexure	KIP-FT	812.52	86.55	332.35	1.609	75.64
19.00	38.0	Shear	KIPS	206.48	6.18	25.85	5.862	275.50
20.00	40.0	Flexure	KIP-FT	812.52	92.22	341.56	1.550	72.83
20.00	40.0	Shear	KIPS	206.48	5.15	24.24	6.293	295.76
25.00	50.0	Flexure	KIP-FT	812.52	105.09	354.06	1.459	68.57
25.00	50.0	Shear	KIPS	206.48	0.00	15.97	9.870	463.87
30.00	60.0	Flexure	KIP-FT	812.52	92.22	341.56	1.550	72.83
30.00	60.0	Shear	KIPS	206.48	5.15	24.24	6.293	295.76
31.00	62.0	Flexure	KIP-FT	812.52	86.55	332.35	1.609	75.64
31.00	62.0	Shear	KIPS	206.48	6.18	25.85	5.862	275.50
35.00	70.0	Flexure	KIP-FT	817.88	53.66	274.32	2.083	97.90
35.00	70.0	Shear	KIPS	207.64	10.44	32.41	4.573	214.92
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-151.35	4.052	190.42
40.00	80.0	Shear	KIPS	207.64	15.54	40.77	3.511	165.03
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-190.23	2.754	129.45
45.00	90.0	Shear	KIPS	207.64	20.65	48.79	2.831	133.07
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-198.05	2.593	121.89
45.50	91.0	Shear	KIPS	207.64	21.16	49.55	2.778	130.54
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-229.51	2.029	95.37

47.50	95.0	Shear	KIPS	206.48	23.24	52.60	2.561	120.36
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-311.11	1.302	61.21
50.00	100.0	Shear	KIPS	206.48	25.86	56.21	2.350	110.46

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-267.17	1.746	82.04
2.50	6.3	Shear	KIPS	206.48	23.50	49.78	2.701	126.92
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-241.25	2.090	98.21
4.00	10.0	Shear	KIPS	207.64	21.94	47.82	2.862	134.50
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-232.62	1.877	88.24
4.50	11.3	Shear	KIPS	207.64	21.42	47.14	2.914	136.97
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-200.58	2.515	118.22
8.00	20.0	Shear	KIPS	207.64	17.85	42.05	3.350	157.47
12.00	30.0	Flexure	KIP-FT	817.88	20.89	227.54	2.653	124.70
12.00	30.0	Shear	KIPS	207.64	13.76	35.60	4.071	191.36
14.00	35.0	Flexure	KIP-FT	812.52	46.37	271.68	2.115	99.39
14.00	35.0	Shear	KIPS	206.48	11.72	32.15	4.544	213.55
16.00	40.0	Flexure	KIP-FT	812.52	67.75	306.93	1.803	84.75
16.00	40.0	Shear	KIPS	206.48	9.66	28.57	5.184	243.65
20.00	50.0	Flexure	KIP-FT	812.52	97.80	347.47	1.507	70.85
20.00	50.0	Shear	KIPS	206.48	5.44	21.08	7.223	339.49
24.00	60.0	Flexure	KIP-FT	812.52	111.04	342.13	1.493	70.16
24.00	60.0	Shear	KIPS	206.48	1.32	16.49	9.482	445.66
26.00	65.0	Flexure	KIP-FT	812.52	111.47	330.82	1.542	72.49
26.00	65.0	Shear	KIPS	206.48	0.81	20.12	7.794	366.31
28.00	70.0	Flexure	KIP-FT	817.88	107.80	306.50	1.690	79.43
28.00	70.0	Shear	KIPS	207.64	2.85	23.89	6.516	306.27
32.00	80.0	Flexure	KIP-FT	817.88	88.21	242.54	2.215	104.12
32.00	80.0	Shear	KIPS	207.64	6.94	31.37	4.834	227.21
36.00	90.0	Flexure	KIP-FT	817.88	52.28	150.12	3.815	179.32
36.00	90.0	Shear	KIPS	207.64	11.03	45.80	3.223	151.48
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4653.00
40.00	100.0	Shear	KIPS	207.64	15.11	55.16	2.603	122.34

Detailed Rating Results
Maine DOT Config. 2 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9306.00
0.00	0.0	Shear	KIPS	207.64	15.11	55.16	2.603	244.68
4.00	10.0	Flexure	KIP-FT	817.88	52.28	150.25	3.812	358.32
4.00	10.0	Shear	KIPS	207.64	11.03	45.80	3.223	302.96
8.00	20.0	Flexure	KIP-FT	817.88	88.21	242.84	2.213	207.98
8.00	20.0	Shear	KIPS	207.64	6.94	31.39	4.832	454.16
12.00	30.0	Flexure	KIP-FT	817.88	107.80	306.78	1.688	158.71
12.00	30.0	Shear	KIPS	207.64	2.85	24.51	6.352	597.12
14.00	35.0	Flexure	KIP-FT	812.52	111.47	331.13	1.541	144.85
14.00	35.0	Shear	KIPS	206.48	0.81	20.97	7.477	702.83
16.00	40.0	Flexure	KIP-FT	812.52	111.04	342.45	1.491	140.18
16.00	40.0	Shear	KIPS	206.48	1.32	17.57	8.895	836.12
20.00	50.0	Flexure	KIP-FT	812.52	97.80	347.79	1.506	141.56
20.00	50.0	Shear	KIPS	206.48	5.44	22.66	6.719	631.59
24.00	60.0	Flexure	KIP-FT	812.52	67.75	307.21	1.801	169.33
24.00	60.0	Shear	KIPS	206.48	9.66	29.41	5.036	473.39
26.00	65.0	Flexure	KIP-FT	812.52	46.37	272.31	2.110	198.31
26.00	65.0	Shear	KIPS	206.48	11.72	32.67	4.470	420.22
28.00	70.0	Flexure	KIP-FT	817.88	20.89	234.30	2.577	242.21
28.00	70.0	Shear	KIPS	207.64	13.76	35.82	4.046	380.30
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-197.34	2.557	240.32
32.00	80.0	Shear	KIPS	207.64	17.85	42.05	3.350	314.94
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-239.53	1.823	171.38
35.50	88.8	Shear	KIPS	207.64	21.42	47.14	2.914	273.94
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-246.03	2.049	192.60
36.00	90.0	Shear	KIPS	207.64	21.94	47.82	2.862	269.01
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-267.17	1.746	164.09
37.50	93.8	Shear	KIPS	206.48	23.50	49.78	2.701	253.85
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-311.11	1.302	122.42
40.00	100.0	Shear	KIPS	206.48	25.86	56.21	2.350	220.91

Span 2								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)

2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-229.51	2.029	190.75
2.50	5.0	Shear	KIPS	206.48	23.24	52.84	2.549	239.61
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-198.05	2.593	243.78
4.50	9.0	Shear	KIPS	207.64	21.16	49.99	2.753	258.81
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-190.23	2.754	258.90
5.00	10.0	Shear	KIPS	207.64	20.65	49.27	2.804	263.54
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	157.27	4.041	379.83
10.00	20.0	Shear	KIPS	207.64	15.54	41.69	3.434	322.79
15.00	30.0	Flexure	KIP-FT	817.88	53.66	271.98	2.101	197.49
15.00	30.0	Shear	KIPS	207.64	10.44	33.67	4.402	413.75
19.00	38.0	Flexure	KIP-FT	812.52	86.55	329.52	1.623	152.58
19.00	38.0	Shear	KIPS	206.48	6.18	27.13	5.585	524.95
20.00	40.0	Flexure	KIP-FT	812.52	92.22	338.83	1.562	146.84
20.00	40.0	Shear	KIPS	206.48	5.15	25.50	5.981	562.20
25.00	50.0	Flexure	KIP-FT	812.52	105.09	353.55	1.461	137.34
25.00	50.0	Shear	KIPS	206.48	0.00	17.91	8.800	827.15
30.00	60.0	Flexure	KIP-FT	812.52	92.22	338.83	1.562	146.84
30.00	60.0	Shear	KIPS	206.48	5.15	25.50	5.981	562.20
31.00	62.0	Flexure	KIP-FT	812.52	86.55	329.52	1.623	152.58
31.00	62.0	Shear	KIPS	206.48	6.18	27.13	5.585	524.95
35.00	70.0	Flexure	KIP-FT	817.88	53.66	271.98	2.101	197.49
35.00	70.0	Shear	KIPS	207.64	10.44	33.67	4.402	413.75
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	157.27	4.041	379.83
40.00	80.0	Shear	KIPS	207.64	15.54	41.69	3.434	322.79
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-190.23	2.754	258.90
45.00	90.0	Shear	KIPS	207.64	20.65	49.27	2.804	263.54
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-198.05	2.593	243.78
45.50	91.0	Shear	KIPS	207.64	21.16	49.99	2.753	258.81
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-229.51	2.029	190.75
47.50	95.0	Shear	KIPS	206.48	23.24	52.84	2.549	239.61
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-311.11	1.302	122.42
50.00	100.0	Shear	KIPS	206.48	25.86	56.21	2.350	220.91

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-267.17	1.746	164.09
2.50	6.3	Shear	KIPS	206.48	23.50	49.78	2.701	253.85
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-246.03	2.049	192.60
4.00	10.0	Shear	KIPS	207.64	21.94	47.82	2.862	269.01
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-239.53	1.823	171.38

4.50	11.3	Shear	KIPS	207.64	21.42	47.14	2.914	273.94
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-197.34	2.557	240.32
8.00	20.0	Shear	KIPS	207.64	17.85	42.05	3.350	314.94
12.00	30.0	Flexure	KIP-FT	817.88	20.89	234.09	2.579	242.43
12.00	30.0	Shear	KIPS	207.64	13.76	35.82	4.046	380.30
14.00	35.0	Flexure	KIP-FT	812.52	46.37	272.06	2.112	198.50
14.00	35.0	Shear	KIPS	206.48	11.72	32.67	4.470	420.22
16.00	40.0	Flexure	KIP-FT	812.52	67.75	306.93	1.803	169.49
16.00	40.0	Shear	KIPS	206.48	9.66	29.41	5.036	473.39
20.00	50.0	Flexure	KIP-FT	812.52	97.80	347.47	1.507	141.69
20.00	50.0	Shear	KIPS	206.48	5.44	22.66	6.719	631.59
24.00	60.0	Flexure	KIP-FT	812.52	111.04	342.13	1.493	140.31
24.00	60.0	Shear	KIPS	206.48	1.32	17.57	8.895	836.12
26.00	65.0	Flexure	KIP-FT	812.52	111.47	330.82	1.542	144.99
26.00	65.0	Shear	KIPS	206.48	0.81	20.97	7.477	702.83
28.00	70.0	Flexure	KIP-FT	817.88	107.80	306.50	1.690	158.86
28.00	70.0	Shear	KIPS	207.64	2.85	24.51	6.352	597.12
32.00	80.0	Flexure	KIP-FT	817.88	88.21	242.62	2.215	208.17
32.00	80.0	Shear	KIPS	207.64	6.94	31.39	4.832	454.16
36.00	90.0	Flexure	KIP-FT	817.88	52.28	150.12	3.815	358.65
36.00	90.0	Shear	KIPS	207.64	11.03	45.80	3.223	302.96
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9306.00
40.00	100.0	Shear	KIPS	207.64	15.11	55.16	2.603	244.68

**Detailed Rating Results
Maine DOT Config. 3
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1									
							Legal Rating	Legal Load Rating	
Location	(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
	0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
	0.00	0.0	Shear	KIPS	207.64	15.11	56.98	2.520	110.87
	4.00	10.0	Flexure	KIP-FT	817.88	52.28	156.04	3.671	161.51
	4.00	10.0	Shear	KIPS	207.64	11.03	47.57	3.104	136.56
	8.00	20.0	Flexure	KIP-FT	817.88	88.21	254.33	2.113	92.96
	8.00	20.0	Shear	KIPS	207.64	6.94	32.74	4.632	203.82
	12.00	30.0	Flexure	KIP-FT	817.88	107.80	322.19	1.608	70.74
	12.00	30.0	Shear	KIPS	207.64	2.85	25.08	6.207	273.11
	14.00	35.0	Flexure	KIP-FT	812.52	111.47	337.09	1.514	66.60

14.00	35.0	Shear	KIPS	206.48	0.81	21.22	7.391	325.19
16.00	40.0	Flexure	KIP-FT	812.52	111.04	347.75	1.469	64.62
16.00	40.0	Shear	KIPS	206.48	1.32	17.68	8.843	389.09
20.00	50.0	Flexure	KIP-FT	812.52	97.80	332.51	1.575	69.31
20.00	50.0	Shear	KIPS	206.48	5.44	20.12	7.566	332.89
24.00	60.0	Flexure	KIP-FT	812.52	67.75	305.92	1.809	79.60
24.00	60.0	Shear	KIPS	206.48	9.66	27.52	5.382	236.81
26.00	65.0	Flexure	KIP-FT	812.52	46.37	274.20	2.095	92.19
26.00	65.0	Shear	KIPS	206.48	11.72	31.49	4.639	204.11
28.00	70.0	Flexure	KIP-FT	817.88	20.89	230.77	2.616	115.11
28.00	70.0	Shear	KIPS	207.64	13.76	35.58	4.074	179.24
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-214.31	2.354	103.58
32.00	80.0	Shear	KIPS	207.64	17.85	43.29	3.255	143.21
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-237.75	1.837	80.82
35.50	88.8	Shear	KIPS	207.64	21.42	49.47	2.777	122.17
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-241.10	2.091	92.00
36.00	90.0	Shear	KIPS	207.64	21.94	50.31	2.720	119.68
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-251.14	1.857	81.71
37.50	93.8	Shear	KIPS	206.48	23.50	52.71	2.550	112.21
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-267.88	1.513	66.55
40.00	100.0	Shear	KIPS	206.48	25.86	57.44	2.300	101.20

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-191.27	2.435	107.13
2.50	5.0	Shear	KIPS	206.48	23.24	53.98	2.495	109.79
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-180.73	2.842	125.04
4.50	9.0	Shear	KIPS	207.64	21.16	51.03	2.697	118.67
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-178.10	2.942	129.44
5.00	10.0	Shear	KIPS	207.64	20.65	50.28	2.747	120.89
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-151.74	4.041	177.80
10.00	20.0	Shear	KIPS	207.64	15.54	42.30	3.384	148.91
15.00	30.0	Flexure	KIP-FT	817.88	53.66	278.34	2.053	90.33
15.00	30.0	Shear	KIPS	207.64	10.44	33.85	4.379	192.68
19.00	38.0	Flexure	KIP-FT	812.52	86.55	341.58	1.566	68.90
19.00	38.0	Shear	KIPS	206.48	6.18	26.95	5.621	247.34
20.00	40.0	Flexure	KIP-FT	812.52	92.22	352.06	1.503	66.15
20.00	40.0	Shear	KIPS	206.48	5.15	25.24	6.044	265.95
25.00	50.0	Flexure	KIP-FT	812.52	105.09	368.40	1.402	61.70
25.00	50.0	Shear	KIPS	206.48	0.00	16.88	9.338	410.88

30.00	60.0	Flexure	KIP-FT	812.52	92.22	352.06	1.503	66.15
30.00	60.0	Shear	KIPS	206.48	5.15	25.24	6.044	265.95
31.00	62.0	Flexure	KIP-FT	812.52	86.55	341.58	1.566	68.90
31.00	62.0	Shear	KIPS	206.48	6.18	26.95	5.621	247.34
35.00	70.0	Flexure	KIP-FT	817.88	53.66	278.34	2.053	90.33
35.00	70.0	Shear	KIPS	207.64	10.44	33.85	4.379	192.68
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-151.74	4.041	177.80
40.00	80.0	Shear	KIPS	207.64	15.54	42.30	3.384	148.91
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-178.10	2.942	129.44
45.00	90.0	Shear	KIPS	207.64	20.65	50.28	2.747	120.89
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-180.73	2.842	125.04
45.50	91.0	Shear	KIPS	207.64	21.16	51.03	2.697	118.67
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-191.27	2.435	107.13
47.50	95.0	Shear	KIPS	206.48	23.24	53.98	2.495	109.79
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-267.88	1.513	66.55
50.00	100.0	Shear	KIPS	206.48	25.86	57.44	2.300	101.20

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-251.14	1.857	81.71
2.50	6.3	Shear	KIPS	206.48	23.50	52.71	2.550	112.21
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-241.10	2.091	92.00
4.00	10.0	Shear	KIPS	207.64	21.94	50.31	2.720	119.68
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-237.75	1.837	80.82
4.50	11.3	Shear	KIPS	207.64	21.42	49.47	2.777	122.17
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-214.31	2.354	103.58
8.00	20.0	Shear	KIPS	207.64	17.85	43.29	3.255	143.21
12.00	30.0	Flexure	KIP-FT	817.88	20.89	230.55	2.619	115.22
12.00	30.0	Shear	KIPS	207.64	13.76	35.58	4.074	179.24
14.00	35.0	Flexure	KIP-FT	812.52	46.37	273.95	2.097	92.27
14.00	35.0	Shear	KIPS	206.48	11.72	31.49	4.639	204.11
16.00	40.0	Flexure	KIP-FT	812.52	67.75	305.64	1.811	79.67
16.00	40.0	Shear	KIPS	206.48	9.66	27.52	5.382	236.81
20.00	50.0	Flexure	KIP-FT	812.52	97.80	332.20	1.577	69.37
20.00	50.0	Shear	KIPS	206.48	5.44	20.12	7.566	332.89
24.00	60.0	Flexure	KIP-FT	812.52	111.04	347.43	1.470	64.68
24.00	60.0	Shear	KIPS	206.48	1.32	17.68	8.843	389.09
26.00	65.0	Flexure	KIP-FT	812.52	111.47	336.78	1.515	66.67
26.00	65.0	Shear	KIPS	206.48	0.81	21.22	7.391	325.19
28.00	70.0	Flexure	KIP-FT	817.88	107.80	321.89	1.609	70.80

28.00	70.0	Shear	KIPS	207.64	2.85	25.08	6.207	273.11
32.00	80.0	Flexure	KIP-FT	817.88	88.21	254.09	2.115	93.04
32.00	80.0	Shear	KIPS	207.64	6.94	32.74	4.632	203.82
36.00	90.0	Flexure	KIP-FT	817.88	52.28	155.89	3.674	161.66
36.00	90.0	Shear	KIPS	207.64	11.03	47.57	3.104	136.56
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	15.11	56.98	2.520	110.87

Detailed Rating Results
Maine DOT Config. 3 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
0.00	0.0	Shear	KIPS	207.64	15.11	56.98	2.520	221.75
4.00	10.0	Flexure	KIP-FT	817.88	52.28	156.04	3.671	323.01
4.00	10.0	Shear	KIPS	207.64	11.03	47.57	3.104	273.11
8.00	20.0	Flexure	KIP-FT	817.88	88.21	254.33	2.113	185.91
8.00	20.0	Shear	KIPS	207.64	6.94	32.74	4.632	407.63
12.00	30.0	Flexure	KIP-FT	817.88	107.80	322.19	1.608	141.47
12.00	30.0	Shear	KIPS	207.64	2.85	25.08	6.207	546.23
14.00	35.0	Flexure	KIP-FT	812.52	111.47	337.09	1.514	133.21
14.00	35.0	Shear	KIPS	206.48	0.81	21.22	7.391	650.37
16.00	40.0	Flexure	KIP-FT	812.52	111.04	347.75	1.469	129.24
16.00	40.0	Shear	KIPS	206.48	1.32	19.76	7.913	696.31
20.00	50.0	Flexure	KIP-FT	812.52	97.80	332.51	1.575	138.62
20.00	50.0	Shear	KIPS	206.48	5.44	24.71	6.161	542.19
24.00	60.0	Flexure	KIP-FT	812.52	67.75	305.92	1.809	159.19
24.00	60.0	Shear	KIPS	206.48	9.66	30.75	4.816	423.80
26.00	65.0	Flexure	KIP-FT	812.52	46.37	274.20	2.095	184.38
26.00	65.0	Shear	KIPS	206.48	11.72	34.40	4.247	373.70
28.00	70.0	Flexure	KIP-FT	817.88	20.89	230.77	2.616	230.22
28.00	70.0	Shear	KIPS	207.64	13.76	37.92	3.822	336.30
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-208.94	2.415	212.49
32.00	80.0	Shear	KIPS	207.64	17.85	44.60	3.159	278.03
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-264.12	1.653	145.50
35.50	88.8	Shear	KIPS	207.64	21.42	49.96	2.750	241.96
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-272.30	1.851	162.91

36.00	90.0	Shear	KIPS	207.64	21.94	50.69	2.700	237.57
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-304.14	1.533	134.94
37.50	93.8	Shear	KIPS	206.48	23.50	52.78	2.547	224.13
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-366.39	1.106	97.32
40.00	100.0	Shear	KIPS	206.48	25.86	57.44	2.300	202.39

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-287.97	1.617	142.32
2.50	5.0	Shear	KIPS	206.48	23.24	54.18	2.486	218.76
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-241.19	2.130	187.40
4.50	9.0	Shear	KIPS	207.64	21.16	51.43	2.676	235.50
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-225.20	2.327	204.74
5.00	10.0	Shear	KIPS	207.64	20.65	50.75	2.722	239.50
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	159.41	3.987	350.81
10.00	20.0	Shear	KIPS	207.64	15.54	43.53	3.289	289.42
15.00	30.0	Flexure	KIP-FT	817.88	53.66	264.56	2.160	190.07
15.00	30.0	Shear	KIPS	207.64	10.44	35.71	4.151	365.28
19.00	38.0	Flexure	KIP-FT	812.52	86.55	320.46	1.669	146.88
19.00	38.0	Shear	KIPS	206.48	6.18	29.46	5.144	452.67
20.00	40.0	Flexure	KIP-FT	812.52	92.22	330.58	1.601	140.89
20.00	40.0	Shear	KIPS	206.48	5.15	27.91	5.465	480.94
25.00	50.0	Flexure	KIP-FT	812.52	105.09	350.88	1.472	129.55
25.00	50.0	Shear	KIPS	206.48	0.00	20.72	7.607	669.41
30.00	60.0	Flexure	KIP-FT	812.52	92.22	330.58	1.601	140.89
30.00	60.0	Shear	KIPS	206.48	5.15	27.91	5.465	480.94
31.00	62.0	Flexure	KIP-FT	812.52	86.55	320.46	1.669	146.88
31.00	62.0	Shear	KIPS	206.48	6.18	29.46	5.144	452.67
35.00	70.0	Flexure	KIP-FT	817.88	53.66	264.56	2.160	190.07
35.00	70.0	Shear	KIPS	207.64	10.44	35.71	4.151	365.28
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	159.41	3.987	350.81
40.00	80.0	Shear	KIPS	207.64	15.54	43.53	3.289	289.42
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-225.20	2.327	204.74
45.00	90.0	Shear	KIPS	207.64	20.65	50.75	2.722	239.50
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-241.19	2.130	187.40
45.50	91.0	Shear	KIPS	207.64	21.16	51.43	2.676	235.50
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-287.97	1.617	142.32
47.50	95.0	Shear	KIPS	206.48	23.24	54.18	2.486	218.76
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-366.39	1.106	97.32
50.00	100.0	Shear	KIPS	206.48	25.86	57.44	2.300	202.39

Span 3							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-304.14	1.533	134.94
2.50	6.3	Shear	KIPS	206.48	23.50	52.78	2.547	224.13
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-272.30	1.851	162.91
4.00	10.0	Shear	KIPS	207.64	21.94	50.69	2.700	237.57
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-264.12	1.653	145.50
4.50	11.3	Shear	KIPS	207.64	21.42	49.96	2.750	241.96
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-208.94	2.415	212.49
8.00	20.0	Shear	KIPS	207.64	17.85	44.60	3.159	278.03
12.00	30.0	Flexure	KIP-FT	817.88	20.89	230.55	2.619	230.44
12.00	30.0	Shear	KIPS	207.64	13.76	37.92	3.822	336.30
14.00	35.0	Flexure	KIP-FT	812.52	46.37	273.95	2.097	184.55
14.00	35.0	Shear	KIPS	206.48	11.72	34.40	4.247	373.70
16.00	40.0	Flexure	KIP-FT	812.52	67.75	305.64	1.811	159.34
16.00	40.0	Shear	KIPS	206.48	9.66	30.75	4.816	423.80
20.00	50.0	Flexure	KIP-FT	812.52	97.80	332.20	1.577	138.74
20.00	50.0	Shear	KIPS	206.48	5.44	24.71	6.161	542.19
24.00	60.0	Flexure	KIP-FT	812.52	111.04	347.43	1.470	129.36
24.00	60.0	Shear	KIPS	206.48	1.32	19.76	7.913	696.31
26.00	65.0	Flexure	KIP-FT	812.52	111.47	336.78	1.515	133.33
26.00	65.0	Shear	KIPS	206.48	0.81	21.22	7.391	650.37
28.00	70.0	Flexure	KIP-FT	817.88	107.80	321.89	1.609	141.60
28.00	70.0	Shear	KIPS	207.64	2.85	25.08	6.207	546.23
32.00	80.0	Flexure	KIP-FT	817.88	88.21	254.09	2.115	186.08
32.00	80.0	Shear	KIPS	207.64	6.94	32.74	4.632	407.63
36.00	90.0	Flexure	KIP-FT	817.88	52.28	155.89	3.674	323.31
36.00	90.0	Shear	KIPS	207.64	11.03	47.57	3.104	273.11
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	15.11	56.98	2.520	221.75

Detailed Rating Results
Maine DOT Config. 4
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	15.11	58.38	2.460	108.23
4.00	10.0	Flexure	KIP-FT	817.88	52.28	158.33	3.617	159.17
4.00	10.0	Shear	KIPS	207.64	11.03	48.26	3.059	134.58
8.00	20.0	Flexure	KIP-FT	817.88	88.21	253.85	2.117	93.13
8.00	20.0	Shear	KIPS	207.64	6.94	32.81	4.622	203.37
12.00	30.0	Flexure	KIP-FT	817.88	107.80	315.37	1.642	72.27
12.00	30.0	Shear	KIPS	207.64	2.85	25.30	6.153	270.72
14.00	35.0	Flexure	KIP-FT	812.52	111.47	327.19	1.560	68.62
14.00	35.0	Shear	KIPS	206.48	0.81	21.82	7.187	316.24
16.00	40.0	Flexure	KIP-FT	812.52	111.04	327.75	1.558	68.56
16.00	40.0	Shear	KIPS	206.48	1.32	18.49	8.454	371.97
20.00	50.0	Flexure	KIP-FT	812.52	97.80	318.70	1.643	72.31
20.00	50.0	Shear	KIPS	206.48	5.44	22.30	6.828	300.42
24.00	60.0	Flexure	KIP-FT	812.52	67.75	296.18	1.869	82.21
24.00	60.0	Shear	KIPS	206.48	9.66	28.55	5.188	228.26
26.00	65.0	Flexure	KIP-FT	812.52	46.37	269.62	2.131	93.75
26.00	65.0	Shear	KIPS	206.48	11.72	32.45	4.501	198.04
28.00	70.0	Flexure	KIP-FT	817.88	20.89	232.02	2.602	114.49
28.00	70.0	Shear	KIPS	207.64	13.76	36.25	3.998	175.91
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-214.86	2.348	103.31
32.00	80.0	Shear	KIPS	207.64	17.85	43.46	3.242	142.64
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-238.36	1.832	80.61
35.50	88.8	Shear	KIPS	207.64	21.42	49.74	2.762	121.51
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-241.72	2.085	91.76
36.00	90.0	Shear	KIPS	207.64	21.94	50.68	2.700	118.81
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-251.79	1.852	81.50
37.50	93.8	Shear	KIPS	206.48	23.50	53.40	2.517	110.77
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-268.58	1.509	66.38
40.00	100.0	Shear	KIPS	206.48	25.86	59.58	2.217	97.56

Span 2

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-192.24	2.423	106.60
2.50	5.0	Shear	KIPS	206.48	23.24	55.77	2.415	106.27
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-183.16	2.804	123.38
4.50	9.0	Shear	KIPS	207.64	21.16	52.59	2.617	115.14

5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-180.49	2.903	127.72
5.00	10.0	Shear	KIPS	207.64	20.65	51.78	2.668	117.37
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-153.78	3.987	175.45
10.00	20.0	Shear	KIPS	207.64	15.54	43.41	3.298	145.13
15.00	30.0	Flexure	KIP-FT	817.88	53.66	273.02	2.093	92.09
15.00	30.0	Shear	KIPS	207.64	10.44	34.90	4.247	186.86
19.00	38.0	Flexure	KIP-FT	812.52	86.55	325.49	1.643	72.30
19.00	38.0	Shear	KIPS	206.48	6.18	28.17	5.378	236.63
20.00	40.0	Flexure	KIP-FT	812.52	92.22	332.30	1.593	70.08
20.00	40.0	Shear	KIPS	206.48	5.15	26.54	5.748	252.93
25.00	50.0	Flexure	KIP-FT	812.52	105.09	348.65	1.482	65.19
25.00	50.0	Shear	KIPS	206.48	0.00	18.74	8.409	370.01
30.00	60.0	Flexure	KIP-FT	812.52	92.22	332.30	1.593	70.08
30.00	60.0	Shear	KIPS	206.48	5.15	26.54	5.748	252.93
31.00	62.0	Flexure	KIP-FT	812.52	86.55	325.49	1.643	72.30
31.00	62.0	Shear	KIPS	206.48	6.18	28.17	5.378	236.63
35.00	70.0	Flexure	KIP-FT	817.88	53.66	273.02	2.093	92.09
35.00	70.0	Shear	KIPS	207.64	10.44	34.90	4.247	186.86
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-153.78	3.987	175.45
40.00	80.0	Shear	KIPS	207.64	15.54	43.41	3.298	145.13
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-180.49	2.903	127.72
45.00	90.0	Shear	KIPS	207.64	20.65	51.78	2.668	117.37
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-183.16	2.804	123.38
45.50	91.0	Shear	KIPS	207.64	21.16	52.59	2.617	115.14
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-192.24	2.423	106.60
47.50	95.0	Shear	KIPS	206.48	23.24	55.77	2.415	106.27
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-268.58	1.509	66.38
50.00	100.0	Shear	KIPS	206.48	25.86	59.58	2.217	97.56

Span 3

							Legal Rating	Legal Load Rating
Location	(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor
	2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-251.79	1.852
	2.50	6.3	Shear	KIPS	206.48	23.50	53.40	2.517
	4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-241.72	2.085
	4.00	10.0	Shear	KIPS	207.64	21.94	50.68	2.700
	4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-238.36	1.832
	4.50	11.3	Shear	KIPS	207.64	21.42	49.74	2.762
	8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-214.86	2.348
	8.00	20.0	Shear	KIPS	207.64	17.85	43.46	3.242
	12.00	30.0	Flexure	KIP-FT	817.88	20.89	231.81	2.604

12.00	30.0	Shear	KIPS	207.64	13.76	36.25	3.998	175.91
14.00	35.0	Flexure	KIP-FT	812.52	46.37	269.37	2.133	93.84
14.00	35.0	Shear	KIPS	206.48	11.72	32.45	4.501	198.04
16.00	40.0	Flexure	KIP-FT	812.52	67.75	295.91	1.870	82.29
16.00	40.0	Shear	KIPS	206.48	9.66	28.55	5.188	228.26
20.00	50.0	Flexure	KIP-FT	812.52	97.80	318.41	1.645	72.38
20.00	50.0	Shear	KIPS	206.48	5.44	22.30	6.828	300.42
24.00	60.0	Flexure	KIP-FT	812.52	111.04	327.45	1.560	68.62
24.00	60.0	Shear	KIPS	206.48	1.32	18.49	8.454	371.97
26.00	65.0	Flexure	KIP-FT	812.52	111.47	326.89	1.561	68.68
26.00	65.0	Shear	KIPS	206.48	0.81	21.82	7.187	316.24
28.00	70.0	Flexure	KIP-FT	817.88	107.80	315.08	1.644	72.33
28.00	70.0	Shear	KIPS	207.64	2.85	25.30	6.153	270.72
32.00	80.0	Flexure	KIP-FT	817.88	88.21	253.61	2.119	93.22
32.00	80.0	Shear	KIPS	207.64	6.94	32.81	4.622	203.37
36.00	90.0	Flexure	KIP-FT	817.88	52.28	158.18	3.621	159.31
36.00	90.0	Shear	KIPS	207.64	11.03	48.26	3.059	134.58
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	15.11	58.38	2.460	108.23

Detailed Rating Results
Maine DOT Config. 4 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location							Factor	(Ton)
(ft)	Percent	Limit State	Units	Capacity	DL	LL		
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
0.00	0.0	Shear	KIPS	207.64	15.11	58.38	2.460	216.45
4.00	10.0	Flexure	KIP-FT	817.88	52.28	158.33	3.617	318.34
4.00	10.0	Shear	KIPS	207.64	11.03	48.26	3.059	269.16
8.00	20.0	Flexure	KIP-FT	817.88	88.21	253.85	2.117	186.26
8.00	20.0	Shear	KIPS	207.64	6.94	32.81	4.622	406.75
12.00	30.0	Flexure	KIP-FT	817.88	107.80	315.37	1.642	144.53
12.00	30.0	Shear	KIPS	207.64	2.85	25.30	6.153	541.43
14.00	35.0	Flexure	KIP-FT	812.52	111.47	327.19	1.560	137.24
14.00	35.0	Shear	KIPS	206.48	0.81	21.82	7.187	632.48
16.00	40.0	Flexure	KIP-FT	812.52	111.04	327.75	1.558	137.12
16.00	40.0	Shear	KIPS	206.48	1.32	21.96	7.120	626.52
20.00	50.0	Flexure	KIP-FT	812.52	97.80	318.70	1.643	144.62

20.00	50.0	Shear	KIPS	206.48	5.44	27.82	5.472	481.53
24.00	60.0	Flexure	KIP-FT	812.52	67.75	296.18	1.869	164.43
24.00	60.0	Shear	KIPS	206.48	9.66	33.13	4.470	393.36
26.00	65.0	Flexure	KIP-FT	812.52	46.37	269.62	2.131	187.51
26.00	65.0	Shear	KIPS	206.48	11.72	36.53	3.998	351.86
28.00	70.0	Flexure	KIP-FT	817.88	20.89	232.02	2.602	228.98
28.00	70.0	Shear	KIPS	207.64	13.76	39.80	3.642	320.48
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-205.90	2.450	215.62
32.00	80.0	Shear	KIPS	207.64	17.85	45.94	3.067	269.89
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-262.73	1.662	146.27
35.50	88.8	Shear	KIPS	207.64	21.42	51.33	2.676	235.51
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-271.48	1.857	163.40
36.00	90.0	Shear	KIPS	207.64	21.94	52.15	2.624	230.94
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-300.29	1.553	136.67
37.50	93.8	Shear	KIPS	206.48	23.50	54.50	2.467	217.06
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-360.47	1.124	98.92
40.00	100.0	Shear	KIPS	206.48	25.86	60.12	2.197	193.36

Span 2

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-286.90	1.623	142.85
2.50	5.0	Shear	KIPS	206.48	23.24	56.65	2.378	209.22
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-241.13	2.130	187.45
4.50	9.0	Shear	KIPS	207.64	21.16	53.73	2.561	225.41
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-230.50	2.273	200.03
5.00	10.0	Shear	KIPS	207.64	20.65	52.98	2.607	229.44
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	161.88	3.926	345.46
10.00	20.0	Shear	KIPS	207.64	15.54	45.14	3.172	279.12
15.00	30.0	Flexure	KIP-FT	817.88	53.66	263.28	2.170	190.99
15.00	30.0	Shear	KIPS	207.64	10.44	37.66	3.936	346.36
19.00	38.0	Flexure	KIP-FT	812.52	86.55	311.53	1.717	151.09
19.00	38.0	Shear	KIPS	206.48	6.18	31.51	4.808	423.14
20.00	40.0	Flexure	KIP-FT	812.52	92.22	318.17	1.664	146.39
20.00	40.0	Shear	KIPS	206.48	5.15	29.99	5.087	447.63
25.00	50.0	Flexure	KIP-FT	812.52	105.09	325.81	1.586	139.53
25.00	50.0	Shear	KIPS	206.48	0.00	23.06	6.835	601.52
30.00	60.0	Flexure	KIP-FT	812.52	92.22	318.17	1.664	146.39
30.00	60.0	Shear	KIPS	206.48	5.15	29.99	5.087	447.63
31.00	62.0	Flexure	KIP-FT	812.52	86.55	311.53	1.717	151.09
31.00	62.0	Shear	KIPS	206.48	6.18	31.51	4.808	423.14

35.00	70.0	Flexure	KIP-FT	817.88	53.66	263.28	2.170	190.99
35.00	70.0	Shear	KIPS	207.64	10.44	37.66	3.936	346.36
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	161.88	3.926	345.46
40.00	80.0	Shear	KIPS	207.64	15.54	45.14	3.172	279.12
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-230.50	2.273	200.03
45.00	90.0	Shear	KIPS	207.64	20.65	52.98	2.607	229.44
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-241.13	2.130	187.45
45.50	91.0	Shear	KIPS	207.64	21.16	53.73	2.561	225.41
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-286.90	1.623	142.85
47.50	95.0	Shear	KIPS	206.48	23.24	56.65	2.378	209.22
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-360.47	1.124	98.92
50.00	100.0	Shear	KIPS	206.48	25.86	60.12	2.197	193.36

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-300.29	1.553	136.67
2.50	6.3	Shear	KIPS	206.48	23.50	54.50	2.467	217.06
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-271.48	1.857	163.40
4.00	10.0	Shear	KIPS	207.64	21.94	52.15	2.624	230.94
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-262.73	1.662	146.27
4.50	11.3	Shear	KIPS	207.64	21.42	51.33	2.676	235.51
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-205.90	2.450	215.62
8.00	20.0	Shear	KIPS	207.64	17.85	45.94	3.067	269.89
12.00	30.0	Flexure	KIP-FT	817.88	20.89	231.81	2.604	229.19
12.00	30.0	Shear	KIPS	207.64	13.76	39.80	3.642	320.48
14.00	35.0	Flexure	KIP-FT	812.52	46.37	269.37	2.133	187.68
14.00	35.0	Shear	KIPS	206.48	11.72	36.53	3.998	351.86
16.00	40.0	Flexure	KIP-FT	812.52	67.75	295.91	1.870	164.58
16.00	40.0	Shear	KIPS	206.48	9.66	33.13	4.470	393.36
20.00	50.0	Flexure	KIP-FT	812.52	97.80	318.41	1.645	144.76
20.00	50.0	Shear	KIPS	206.48	5.44	27.82	5.472	481.53
24.00	60.0	Flexure	KIP-FT	812.52	111.04	327.45	1.560	137.25
24.00	60.0	Shear	KIPS	206.48	1.32	21.96	7.120	626.52
26.00	65.0	Flexure	KIP-FT	812.52	111.47	326.89	1.561	137.36
26.00	65.0	Shear	KIPS	206.48	0.81	21.82	7.187	632.48
28.00	70.0	Flexure	KIP-FT	817.88	107.80	315.08	1.644	144.67
28.00	70.0	Shear	KIPS	207.64	2.85	25.30	6.153	541.43
32.00	80.0	Flexure	KIP-FT	817.88	88.21	253.61	2.119	186.43
32.00	80.0	Shear	KIPS	207.64	6.94	32.81	4.622	406.75
36.00	90.0	Flexure	KIP-FT	817.88	52.28	158.18	3.621	318.63

36.00	90.0	Shear	KIPS	207.64	11.03	48.26	3.059	269.16
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	15.11	58.38	2.460	216.45

**Detailed Rating Results
Maine DOT Config. 5
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	15.11	56.58	2.538	111.67
4.00	10.0	Flexure	KIP-FT	817.88	52.28	155.01	3.695	162.58
4.00	10.0	Shear	KIPS	207.64	11.03	47.25	3.124	137.46
8.00	20.0	Flexure	KIP-FT	817.88	88.21	251.89	2.133	93.85
8.00	20.0	Shear	KIPS	207.64	6.94	32.56	4.658	204.95
12.00	30.0	Flexure	KIP-FT	817.88	107.80	307.54	1.684	74.11
12.00	30.0	Shear	KIPS	207.64	2.85	25.03	6.220	273.69
14.00	35.0	Flexure	KIP-FT	812.52	111.47	321.84	1.585	69.76
14.00	35.0	Shear	KIPS	206.48	0.81	22.38	7.007	308.31
16.00	40.0	Flexure	KIP-FT	812.52	111.04	327.72	1.558	68.57
16.00	40.0	Shear	KIPS	206.48	1.32	19.79	7.899	347.57
20.00	50.0	Flexure	KIP-FT	812.52	97.80	313.74	1.669	73.45
20.00	50.0	Shear	KIPS	206.48	5.44	22.09	6.893	303.27
24.00	60.0	Flexure	KIP-FT	812.52	67.75	287.55	1.925	84.68
24.00	60.0	Shear	KIPS	206.48	9.66	28.97	5.112	224.95
26.00	65.0	Flexure	KIP-FT	812.52	46.37	263.22	2.183	96.03
26.00	65.0	Shear	KIPS	206.48	11.72	32.14	4.545	199.96
28.00	70.0	Flexure	KIP-FT	817.88	20.89	229.38	2.632	115.81
28.00	70.0	Shear	KIPS	207.64	13.76	35.13	4.125	181.51
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-206.97	2.438	107.25
32.00	80.0	Shear	KIPS	207.64	17.85	42.50	3.315	145.85
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-229.61	1.902	83.69
35.50	88.8	Shear	KIPS	207.64	21.42	48.66	2.823	124.22
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-232.84	2.165	95.26
36.00	90.0	Shear	KIPS	207.64	21.94	49.49	2.765	121.67
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-242.54	1.923	84.61
37.50	93.8	Shear	KIPS	206.48	23.50	51.88	2.591	114.01
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-258.71	1.566	68.91

40.00	100.0	Shear	KIPS	206.48	25.86	56.71	2.330	102.50
Span 2								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-179.97	2.588	113.86
2.50	5.0	Shear	KIPS	206.48	23.24	53.29	2.527	111.20
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-170.06	3.020	132.89
4.50	9.0	Shear	KIPS	207.64	21.16	50.40	2.731	120.16
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-167.58	3.127	137.57
5.00	10.0	Shear	KIPS	207.64	20.65	49.65	2.782	122.41
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	157.63	4.031	177.38
10.00	20.0	Shear	KIPS	207.64	15.54	41.78	3.427	150.78
15.00	30.0	Flexure	KIP-FT	817.88	53.66	271.60	2.104	92.57
15.00	30.0	Shear	KIPS	207.64	10.44	33.46	4.430	194.92
19.00	38.0	Flexure	KIP-FT	812.52	86.55	325.21	1.645	72.37
19.00	38.0	Shear	KIPS	206.48	6.18	26.67	5.681	249.95
20.00	40.0	Flexure	KIP-FT	812.52	92.22	335.24	1.579	69.47
20.00	40.0	Shear	KIPS	206.48	5.15	24.98	6.105	268.64
25.00	50.0	Flexure	KIP-FT	812.52	105.09	351.19	1.471	64.72
25.00	50.0	Shear	KIPS	206.48	0.00	16.79	9.387	413.02
30.00	60.0	Flexure	KIP-FT	812.52	92.22	335.24	1.579	69.47
30.00	60.0	Shear	KIPS	206.48	5.15	24.98	6.105	268.64
31.00	62.0	Flexure	KIP-FT	812.52	86.55	325.21	1.645	72.37
31.00	62.0	Shear	KIPS	206.48	6.18	26.67	5.681	249.95
35.00	70.0	Flexure	KIP-FT	817.88	53.66	271.60	2.104	92.57
35.00	70.0	Shear	KIPS	207.64	10.44	33.46	4.430	194.92
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	157.63	4.031	177.38
40.00	80.0	Shear	KIPS	207.64	15.54	41.78	3.427	150.78
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-167.58	3.127	137.57
45.00	90.0	Shear	KIPS	207.64	20.65	49.65	2.782	122.41
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-170.06	3.020	132.89
45.50	91.0	Shear	KIPS	207.64	21.16	50.40	2.731	120.16
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-179.97	2.588	113.86
47.50	95.0	Shear	KIPS	206.48	23.24	53.29	2.527	111.20
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-258.71	1.566	68.91
50.00	100.0	Shear	KIPS	206.48	25.86	56.71	2.330	102.50

Span 3								
Location							Legal Rating	Legal Load

								Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-242.54	1.923	84.61
2.50	6.3	Shear	KIPS	206.48	23.50	51.88	2.591	114.01
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-232.84	2.165	95.26
4.00	10.0	Shear	KIPS	207.64	21.94	49.49	2.765	121.67
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-229.61	1.902	83.69
4.50	11.3	Shear	KIPS	207.64	21.42	48.66	2.823	124.22
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-206.97	2.438	107.25
8.00	20.0	Shear	KIPS	207.64	17.85	42.50	3.315	145.85
12.00	30.0	Flexure	KIP-FT	817.88	20.89	229.17	2.634	115.91
12.00	30.0	Shear	KIPS	207.64	13.76	35.13	4.125	181.51
14.00	35.0	Flexure	KIP-FT	812.52	46.37	262.98	2.185	96.12
14.00	35.0	Shear	KIPS	206.48	11.72	32.14	4.545	199.96
16.00	40.0	Flexure	KIP-FT	812.52	67.75	287.29	1.926	84.76
16.00	40.0	Shear	KIPS	206.48	9.66	28.97	5.112	224.95
20.00	50.0	Flexure	KIP-FT	812.52	97.80	313.45	1.671	73.52
20.00	50.0	Shear	KIPS	206.48	5.44	22.09	6.893	303.27
24.00	60.0	Flexure	KIP-FT	812.52	111.04	327.42	1.560	68.63
24.00	60.0	Shear	KIPS	206.48	1.32	19.79	7.899	347.57
26.00	65.0	Flexure	KIP-FT	812.52	111.47	321.54	1.587	69.83
26.00	65.0	Shear	KIPS	206.48	0.81	22.38	7.007	308.31
28.00	70.0	Flexure	KIP-FT	817.88	107.80	307.26	1.686	74.18
28.00	70.0	Shear	KIPS	207.64	2.85	25.03	6.220	273.69
32.00	80.0	Flexure	KIP-FT	817.88	88.21	251.66	2.135	93.94
32.00	80.0	Shear	KIPS	207.64	6.94	32.56	4.658	204.95
36.00	90.0	Flexure	KIP-FT	817.88	52.28	154.87	3.698	162.73
36.00	90.0	Shear	KIPS	207.64	11.03	47.25	3.124	137.46
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	15.11	56.58	2.538	111.67

Detailed Rating Results
Maine DOT Config. 5 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00

0.00	0.0	Shear	KIPS	207.64	15.11	56.58	2.538	223.35
4.00	10.0	Flexure	KIP-FT	817.88	52.28	155.01	3.695	325.16
4.00	10.0	Shear	KIPS	207.64	11.03	47.25	3.124	274.93
8.00	20.0	Flexure	KIP-FT	817.88	88.21	251.89	2.133	187.71
8.00	20.0	Shear	KIPS	207.64	6.94	32.56	4.658	409.90
12.00	30.0	Flexure	KIP-FT	817.88	107.80	307.54	1.684	148.21
12.00	30.0	Shear	KIPS	207.64	2.85	25.03	6.220	547.38
14.00	35.0	Flexure	KIP-FT	812.52	111.47	321.84	1.585	139.52
14.00	35.0	Shear	KIPS	206.48	0.81	22.38	7.007	616.61
16.00	40.0	Flexure	KIP-FT	812.52	111.04	327.72	1.558	137.13
16.00	40.0	Shear	KIPS	206.48	1.32	20.04	7.800	686.41
20.00	50.0	Flexure	KIP-FT	812.52	97.80	313.74	1.669	146.91
20.00	50.0	Shear	KIPS	206.48	5.44	24.35	6.253	550.23
24.00	60.0	Flexure	KIP-FT	812.52	67.75	287.55	1.925	169.36
24.00	60.0	Shear	KIPS	206.48	9.66	30.08	4.923	433.23
26.00	65.0	Flexure	KIP-FT	812.52	46.37	263.22	2.183	192.06
26.00	65.0	Shear	KIPS	206.48	11.72	33.75	4.327	380.79
28.00	70.0	Flexure	KIP-FT	817.88	20.89	229.38	2.632	231.62
28.00	70.0	Shear	KIPS	207.64	13.76	37.28	3.887	342.07
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-198.92	2.536	223.18
32.00	80.0	Shear	KIPS	207.64	17.85	43.97	3.204	281.99
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-261.63	1.669	146.89
35.50	88.8	Shear	KIPS	207.64	21.42	49.33	2.785	245.08
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-270.73	1.862	163.85
36.00	90.0	Shear	KIPS	207.64	21.94	50.06	2.734	240.60
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-303.03	1.539	135.44
37.50	93.8	Shear	KIPS	206.48	23.50	52.14	2.578	226.88
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-364.20	1.113	97.90
40.00	100.0	Shear	KIPS	206.48	25.86	56.71	2.330	205.00

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-283.43	1.643	144.60
2.50	5.0	Shear	KIPS	206.48	23.24	53.54	2.516	221.39
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-231.27	2.221	195.44
4.50	9.0	Shear	KIPS	207.64	21.16	50.88	2.705	238.03
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-220.86	2.372	208.76
5.00	10.0	Shear	KIPS	207.64	20.65	50.23	2.750	241.98
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	162.27	3.916	344.62
10.00	20.0	Shear	KIPS	207.64	15.54	43.27	3.309	291.16

15.00	30.0	Flexure	KIP-FT	817.88	53.66	260.46	2.194	193.06
15.00	30.0	Shear	KIPS	207.64	10.44	35.72	4.150	365.18
19.00	38.0	Flexure	KIP-FT	812.52	86.55	309.80	1.727	151.93
19.00	38.0	Shear	KIPS	206.48	6.18	29.36	5.161	454.13
20.00	40.0	Flexure	KIP-FT	812.52	92.22	316.93	1.670	146.96
20.00	40.0	Shear	KIPS	206.48	5.15	27.77	5.494	483.46
25.00	50.0	Flexure	KIP-FT	812.52	105.09	331.21	1.560	137.25
25.00	50.0	Shear	KIPS	206.48	0.00	20.52	7.683	676.08
30.00	60.0	Flexure	KIP-FT	812.52	92.22	316.93	1.670	146.96
30.00	60.0	Shear	KIPS	206.48	5.15	27.77	5.494	483.46
31.00	62.0	Flexure	KIP-FT	812.52	86.55	309.80	1.727	151.93
31.00	62.0	Shear	KIPS	206.48	6.18	29.36	5.161	454.13
35.00	70.0	Flexure	KIP-FT	817.88	53.66	260.46	2.194	193.06
35.00	70.0	Shear	KIPS	207.64	10.44	35.72	4.150	365.18
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	162.27	3.916	344.62
40.00	80.0	Shear	KIPS	207.64	15.54	43.27	3.309	291.16
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-220.86	2.372	208.76
45.00	90.0	Shear	KIPS	207.64	20.65	50.23	2.750	241.98
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-231.27	2.221	195.44
45.50	91.0	Shear	KIPS	207.64	21.16	50.88	2.705	238.03
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-283.43	1.643	144.60
47.50	95.0	Shear	KIPS	206.48	23.24	53.54	2.516	221.39
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-364.20	1.113	97.90
50.00	100.0	Shear	KIPS	206.48	25.86	56.71	2.330	205.00

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-303.03	1.539	135.44
2.50	6.3	Shear	KIPS	206.48	23.50	52.14	2.578	226.88
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-270.73	1.862	163.85
4.00	10.0	Shear	KIPS	207.64	21.94	50.06	2.734	240.60
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-261.63	1.669	146.89
4.50	11.3	Shear	KIPS	207.64	21.42	49.33	2.785	245.08
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-198.92	2.536	223.18
8.00	20.0	Shear	KIPS	207.64	17.85	43.97	3.204	281.99
12.00	30.0	Flexure	KIP-FT	817.88	20.89	229.17	2.634	231.83
12.00	30.0	Shear	KIPS	207.64	13.76	37.28	3.887	342.07
14.00	35.0	Flexure	KIP-FT	812.52	46.37	262.98	2.185	192.24
14.00	35.0	Shear	KIPS	206.48	11.72	33.75	4.327	380.79
16.00	40.0	Flexure	KIP-FT	812.52	67.75	287.29	1.926	169.52

16.00	40.0	Shear	KIPS	206.48	9.66	30.08	4.923	433.23
20.00	50.0	Flexure	KIP-FT	812.52	97.80	313.45	1.671	147.04
20.00	50.0	Shear	KIPS	206.48	5.44	24.35	6.253	550.23
24.00	60.0	Flexure	KIP-FT	812.52	111.04	327.42	1.560	137.26
24.00	60.0	Shear	KIPS	206.48	1.32	20.04	7.800	686.41
26.00	65.0	Flexure	KIP-FT	812.52	111.47	321.54	1.587	139.65
26.00	65.0	Shear	KIPS	206.48	0.81	22.38	7.007	616.61
28.00	70.0	Flexure	KIP-FT	817.88	107.80	307.26	1.686	148.35
28.00	70.0	Shear	KIPS	207.64	2.85	25.03	6.220	547.38
32.00	80.0	Flexure	KIP-FT	817.88	88.21	251.66	2.135	187.88
32.00	80.0	Shear	KIPS	207.64	6.94	32.56	4.658	409.90
36.00	90.0	Flexure	KIP-FT	817.88	52.28	154.87	3.698	325.46
36.00	90.0	Shear	KIPS	207.64	11.03	47.25	3.124	274.93
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	15.11	56.58	2.538	223.35

**Detailed Rating Results
Maine DOT Config. 6
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3757.05
0.00	0.0	Shear	KIPS	207.64	15.11	65.61	2.189	83.06
4.00	10.0	Flexure	KIP-FT	817.88	52.28	183.43	3.122	118.50
4.00	10.0	Shear	KIPS	207.64	11.03	55.92	2.640	100.19
8.00	20.0	Flexure	KIP-FT	817.88	88.21	305.31	1.760	66.79
8.00	20.0	Shear	KIPS	207.64	6.94	39.46	3.843	145.84
12.00	30.0	Flexure	KIP-FT	817.88	107.80	383.87	1.349	51.21
12.00	30.0	Shear	KIPS	207.64	2.85	31.87	4.885	185.37
14.00	35.0	Flexure	KIP-FT	812.52	111.47	408.36	1.250	47.42
14.00	35.0	Shear	KIPS	206.48	0.81	28.25	5.551	210.67
16.00	40.0	Flexure	KIP-FT	812.52	111.04	419.08	1.219	46.25
16.00	40.0	Shear	KIPS	206.48	1.32	24.74	6.318	239.78
20.00	50.0	Flexure	KIP-FT	812.52	97.80	409.10	1.280	48.59
20.00	50.0	Shear	KIPS	206.48	5.44	28.71	5.302	201.22
24.00	60.0	Flexure	KIP-FT	812.52	67.75	366.36	1.511	57.33
24.00	60.0	Shear	KIPS	206.48	9.66	36.32	4.078	154.74
26.00	65.0	Flexure	KIP-FT	812.52	46.37	329.72	1.742	66.12

26.00	65.0	Shear	KIPS	206.48	11.72	39.95	3.656	138.76
28.00	70.0	Flexure	KIP-FT	817.88	20.89	283.46	2.130	80.83
28.00	70.0	Shear	KIPS	207.64	13.76	43.48	3.333	126.49
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-223.76	2.255	85.56
32.00	80.0	Shear	KIPS	207.64	17.85	50.08	2.813	106.76
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-248.23	1.759	66.76
35.50	88.8	Shear	KIPS	207.64	21.42	55.29	2.484	94.28
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-251.73	2.003	76.00
36.00	90.0	Shear	KIPS	207.64	21.94	56.00	2.444	92.74
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-262.22	1.779	67.50
37.50	93.8	Shear	KIPS	206.48	23.50	57.99	2.318	87.97
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-279.70	1.449	54.98
40.00	100.0	Shear	KIPS	206.48	25.86	61.51	2.148	81.51

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-217.65	2.140	81.20
2.50	5.0	Shear	KIPS	206.48	23.24	58.55	2.300	87.30
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-205.66	2.497	94.78
4.50	9.0	Shear	KIPS	207.64	21.16	55.98	2.459	93.31
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-202.66	2.585	98.11
5.00	10.0	Shear	KIPS	207.64	20.65	55.31	2.497	94.77
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	207.98	3.055	115.95
10.00	20.0	Shear	KIPS	207.64	15.54	48.23	2.969	112.66
15.00	30.0	Flexure	KIP-FT	817.88	53.66	328.65	1.739	65.98
15.00	30.0	Shear	KIPS	207.64	10.44	40.53	3.657	138.79
19.00	38.0	Flexure	KIP-FT	812.52	86.55	392.91	1.361	51.66
19.00	38.0	Shear	KIPS	206.48	6.18	34.14	4.438	168.42
20.00	40.0	Flexure	KIP-FT	812.52	92.22	404.12	1.310	49.70
20.00	40.0	Shear	KIPS	206.48	5.15	32.55	4.687	177.86
25.00	50.0	Flexure	KIP-FT	812.52	105.09	425.94	1.213	46.03
25.00	50.0	Shear	KIPS	206.48	0.00	24.63	6.401	242.91
30.00	60.0	Flexure	KIP-FT	812.52	92.22	404.12	1.310	49.70
30.00	60.0	Shear	KIPS	206.48	5.15	32.55	4.687	177.86
31.00	62.0	Flexure	KIP-FT	812.52	86.55	392.91	1.361	51.66
31.00	62.0	Shear	KIPS	206.48	6.18	34.14	4.438	168.42
35.00	70.0	Flexure	KIP-FT	817.88	53.66	328.65	1.739	65.98
35.00	70.0	Shear	KIPS	207.64	10.44	40.53	3.657	138.79
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	207.98	3.055	115.95
40.00	80.0	Shear	KIPS	207.64	15.54	48.23	2.969	112.66

45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-202.66	2.585	98.11
45.00	90.0	Shear	KIPS	207.64	20.65	55.31	2.497	94.77
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-205.66	2.497	94.78
45.50	91.0	Shear	KIPS	207.64	21.16	55.98	2.459	93.31
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-217.65	2.140	81.20
47.50	95.0	Shear	KIPS	206.48	23.24	58.55	2.300	87.30
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-279.70	1.449	54.98
50.00	100.0	Shear	KIPS	206.48	25.86	61.51	2.148	81.51

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-262.22	1.779	67.50
2.50	6.3	Shear	KIPS	206.48	23.50	57.99	2.318	87.97
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-251.73	2.003	76.00
4.00	10.0	Shear	KIPS	207.64	21.94	56.00	2.444	92.74
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-248.23	1.759	66.76
4.50	11.3	Shear	KIPS	207.64	21.42	55.29	2.484	94.28
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-223.76	2.255	85.56
8.00	20.0	Shear	KIPS	207.64	17.85	50.08	2.813	106.76
12.00	30.0	Flexure	KIP-FT	817.88	20.89	283.20	2.132	80.90
12.00	30.0	Shear	KIPS	207.64	13.76	43.48	3.333	126.49
14.00	35.0	Flexure	KIP-FT	812.52	46.37	329.41	1.744	66.19
14.00	35.0	Shear	KIPS	206.48	11.72	39.95	3.656	138.76
16.00	40.0	Flexure	KIP-FT	812.52	67.75	366.02	1.512	57.38
16.00	40.0	Shear	KIPS	206.48	9.66	36.32	4.078	154.74
20.00	50.0	Flexure	KIP-FT	812.52	97.80	408.72	1.281	48.63
20.00	50.0	Shear	KIPS	206.48	5.44	28.71	5.302	201.22
24.00	60.0	Flexure	KIP-FT	812.52	111.04	418.69	1.220	46.29
24.00	60.0	Shear	KIPS	206.48	1.32	24.74	6.318	239.78
26.00	65.0	Flexure	KIP-FT	812.52	111.47	407.98	1.251	47.46
26.00	65.0	Shear	KIPS	206.48	0.81	28.25	5.551	210.67
28.00	70.0	Flexure	KIP-FT	817.88	107.80	383.52	1.351	51.25
28.00	70.0	Shear	KIPS	207.64	2.85	31.87	4.885	185.37
32.00	80.0	Flexure	KIP-FT	817.88	88.21	305.03	1.761	66.85
32.00	80.0	Shear	KIPS	207.64	6.94	39.46	3.843	145.84
36.00	90.0	Flexure	KIP-FT	817.88	52.28	183.26	3.125	118.61
36.00	90.0	Shear	KIPS	207.64	11.03	55.92	2.640	100.19
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3757.05
40.00	100.0	Shear	KIPS	207.64	15.11	65.61	2.189	83.06

**Detailed Rating Results
Maine DOT Config. 6 x2
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	7514.10
0.00	0.0	Shear	KIPS	207.64	15.11	65.61	2.189	166.12
4.00	10.0	Flexure	KIP-FT	817.88	52.28	183.43	3.122	237.00
4.00	10.0	Shear	KIPS	207.64	11.03	55.92	2.640	200.39
8.00	20.0	Flexure	KIP-FT	817.88	88.21	305.31	1.760	133.57
8.00	20.0	Shear	KIPS	207.64	6.94	39.46	3.843	291.68
12.00	30.0	Flexure	KIP-FT	817.88	107.80	383.87	1.349	102.42
12.00	30.0	Shear	KIPS	207.64	2.85	31.87	4.885	370.75
14.00	35.0	Flexure	KIP-FT	812.52	111.47	408.36	1.250	94.84
14.00	35.0	Shear	KIPS	206.48	0.81	28.25	5.551	421.34
16.00	40.0	Flexure	KIP-FT	812.52	111.04	419.08	1.219	92.49
16.00	40.0	Shear	KIPS	206.48	1.32	28.15	5.553	421.51
20.00	50.0	Flexure	KIP-FT	812.52	97.80	409.10	1.280	97.17
20.00	50.0	Shear	KIPS	206.48	5.44	35.84	4.249	322.48
24.00	60.0	Flexure	KIP-FT	812.52	67.75	366.36	1.511	114.65
24.00	60.0	Shear	KIPS	206.48	9.66	43.03	3.441	261.20
26.00	65.0	Flexure	KIP-FT	812.52	46.37	329.72	1.742	132.25
26.00	65.0	Shear	KIPS	206.48	11.72	46.35	3.151	239.18
28.00	70.0	Flexure	KIP-FT	817.88	20.89	283.46	2.130	161.65
28.00	70.0	Shear	KIPS	207.64	13.76	49.47	2.930	222.36
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-203.77	2.476	187.92
32.00	80.0	Shear	KIPS	207.64	17.85	55.07	2.559	194.19
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-310.18	1.408	106.86
35.50	88.8	Shear	KIPS	207.64	21.42	59.27	2.318	175.90
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-327.61	1.539	116.79
36.00	90.0	Shear	KIPS	207.64	21.94	59.83	2.287	173.61
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-380.93	1.224	92.93
37.50	93.8	Shear	KIPS	206.48	23.50	61.37	2.191	166.27
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-480.21	0.844	64.04
40.00	100.0	Shear	KIPS	206.48	26.12	63.79	2.067	156.87

Span 2

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-386.01	1.207	91.58
2.50	5.0	Shear	KIPS	206.48	23.24	59.75	2.254	171.09
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-316.70	1.622	123.10
4.50	9.0	Shear	KIPS	207.64	21.16	57.68	2.386	181.09
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-300.27	1.745	132.44
5.00	10.0	Shear	KIPS	207.64	20.65	57.16	2.417	183.41
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	213.42	2.978	226.00
10.00	20.0	Shear	KIPS	207.64	15.54	51.71	2.769	210.14
15.00	30.0	Flexure	KIP-FT	817.88	53.66	306.71	1.863	141.41
15.00	30.0	Shear	KIPS	207.64	10.44	45.51	3.256	247.16
19.00	38.0	Flexure	KIP-FT	812.52	86.55	346.03	1.546	117.32
19.00	38.0	Shear	KIPS	206.48	6.18	39.92	3.796	288.08
20.00	40.0	Flexure	KIP-FT	812.52	92.22	351.77	1.505	114.20
20.00	40.0	Shear	KIPS	206.48	5.15	38.43	3.969	301.24
25.00	50.0	Flexure	KIP-FT	812.52	105.09	352.56	1.465	111.21
25.00	50.0	Shear	KIPS	206.48	0.00	30.66	5.141	390.18
30.00	60.0	Flexure	KIP-FT	812.52	92.22	351.77	1.505	114.20
30.00	60.0	Shear	KIPS	206.48	5.15	38.43	3.969	301.24
31.00	62.0	Flexure	KIP-FT	812.52	86.55	346.03	1.546	117.32
31.00	62.0	Shear	KIPS	206.48	6.18	39.92	3.796	288.08
35.00	70.0	Flexure	KIP-FT	817.88	53.66	306.71	1.863	141.41
35.00	70.0	Shear	KIPS	207.64	10.44	45.51	3.256	247.16
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	213.42	2.978	226.00
40.00	80.0	Shear	KIPS	207.64	15.54	51.71	2.769	210.14
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-300.27	1.745	132.44
45.00	90.0	Shear	KIPS	207.64	20.65	57.16	2.417	183.41
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-316.70	1.622	123.10
45.50	91.0	Shear	KIPS	207.64	21.16	57.68	2.386	181.09
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-386.01	1.207	91.58
47.50	95.0	Shear	KIPS	206.48	23.24	59.75	2.254	171.09
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-480.21	0.844	64.04
50.00	100.0	Shear	KIPS	206.48	26.12	63.79	2.067	156.87

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-380.93	1.224	92.93
2.50	6.3	Shear	KIPS	206.48	23.50	61.37	2.191	166.27

4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-327.61	1.539	116.79
4.00	10.0	Shear	KIPS	207.64	21.94	59.83	2.287	173.61
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-310.18	1.408	106.86
4.50	11.3	Shear	KIPS	207.64	21.42	59.27	2.318	175.90
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-203.77	2.476	187.92
8.00	20.0	Shear	KIPS	207.64	17.85	55.07	2.559	194.19
12.00	30.0	Flexure	KIP-FT	817.88	20.89	283.20	2.132	161.80
12.00	30.0	Shear	KIPS	207.64	13.76	49.47	2.930	222.36
14.00	35.0	Flexure	KIP-FT	812.52	46.37	329.41	1.744	132.37
14.00	35.0	Shear	KIPS	206.48	11.72	46.35	3.151	239.18
16.00	40.0	Flexure	KIP-FT	812.52	67.75	366.02	1.512	114.76
16.00	40.0	Shear	KIPS	206.48	9.66	43.03	3.441	261.20
20.00	50.0	Flexure	KIP-FT	812.52	97.80	408.72	1.281	97.26
20.00	50.0	Shear	KIPS	206.48	5.44	35.84	4.249	322.48
24.00	60.0	Flexure	KIP-FT	812.52	111.04	418.69	1.220	92.58
24.00	60.0	Shear	KIPS	206.48	1.32	28.15	5.553	421.51
26.00	65.0	Flexure	KIP-FT	812.52	111.47	407.98	1.251	94.93
26.00	65.0	Shear	KIPS	206.48	0.81	28.25	5.551	421.34
28.00	70.0	Flexure	KIP-FT	817.88	107.80	383.52	1.351	102.51
28.00	70.0	Shear	KIPS	207.64	2.85	31.87	4.885	370.75
32.00	80.0	Flexure	KIP-FT	817.88	88.21	305.03	1.761	133.69
32.00	80.0	Shear	KIPS	207.64	6.94	39.46	3.843	291.68
36.00	90.0	Flexure	KIP-FT	817.88	52.28	183.26	3.125	237.22
36.00	90.0	Shear	KIPS	207.64	11.03	55.92	2.640	200.39
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	7514.10
40.00	100.0	Shear	KIPS	207.64	15.11	65.61	2.189	166.12

Detailed Rating Results
Maine DOT Config. 7
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	2940.30
0.00	0.0	Shear	KIPS	207.64	15.11	53.89	2.665	79.14
4.00	10.0	Flexure	KIP-FT	817.88	52.28	151.72	3.775	112.12
4.00	10.0	Shear	KIPS	207.64	11.03	46.25	3.192	94.80
8.00	20.0	Flexure	KIP-FT	817.88	88.21	254.54	2.111	62.69
8.00	20.0	Shear	KIPS	207.64	6.94	32.90	4.609	136.90

12.00	30.0	Flexure	KIP-FT	817.88	107.80	311.55	1.663	49.38
12.00	30.0	Shear	KIPS	207.64	2.85	26.85	5.799	172.24
14.00	35.0	Flexure	KIP-FT	812.52	111.47	324.34	1.573	46.73
14.00	35.0	Shear	KIPS	206.48	0.81	23.96	6.546	194.42
16.00	40.0	Flexure	KIP-FT	812.52	111.04	335.39	1.523	45.22
16.00	40.0	Shear	KIPS	206.48	1.32	21.14	7.396	219.67
20.00	50.0	Flexure	KIP-FT	812.52	97.80	329.34	1.590	47.23
20.00	50.0	Shear	KIPS	206.48	5.44	24.51	6.212	184.49
24.00	60.0	Flexure	KIP-FT	812.52	67.75	291.89	1.896	56.31
24.00	60.0	Shear	KIPS	206.48	9.66	30.37	4.877	144.84
26.00	65.0	Flexure	KIP-FT	812.52	46.37	266.19	2.158	64.10
26.00	65.0	Shear	KIPS	206.48	11.72	33.16	4.405	130.81
28.00	70.0	Flexure	KIP-FT	817.88	20.89	232.61	2.595	77.08
28.00	70.0	Shear	KIPS	207.64	13.76	35.85	4.043	120.07
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-177.62	2.840	84.36
32.00	80.0	Shear	KIPS	207.64	17.85	40.85	3.449	102.44
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-197.05	2.216	65.82
35.50	88.8	Shear	KIPS	207.64	21.42	44.78	3.068	91.12
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-199.83	2.523	74.92
36.00	90.0	Shear	KIPS	207.64	21.94	45.30	3.021	89.72
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-208.15	2.241	66.54
37.50	93.8	Shear	KIPS	206.48	23.50	46.78	2.874	85.34
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-222.03	1.825	54.20
40.00	100.0	Shear	KIPS	206.48	25.86	49.33	2.678	79.55

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-171.79	2.711	80.52
2.50	5.0	Shear	KIPS	206.48	23.24	47.13	2.858	84.88
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-162.32	3.164	93.98
4.50	9.0	Shear	KIPS	207.64	21.16	45.22	3.043	90.39
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-159.95	3.276	97.28
5.00	10.0	Shear	KIPS	207.64	20.65	44.72	3.088	91.73
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	171.60	3.703	109.99
10.00	20.0	Shear	KIPS	207.64	15.54	39.31	3.642	108.16
15.00	30.0	Flexure	KIP-FT	817.88	53.66	263.57	2.168	64.39
15.00	30.0	Shear	KIPS	207.64	10.44	33.38	4.441	131.88
19.00	38.0	Flexure	KIP-FT	812.52	86.55	312.89	1.709	50.77
19.00	38.0	Shear	KIPS	206.48	6.18	28.39	5.338	158.52
20.00	40.0	Flexure	KIP-FT	812.52	92.22	322.31	1.642	48.77

20.00	40.0	Shear	KIPS	206.48	5.15	27.13	5.623	166.99
25.00	50.0	Flexure	KIP-FT	812.52	105.09	342.83	1.507	44.75
25.00	50.0	Shear	KIPS	206.48	0.00	20.89	7.546	224.13
30.00	60.0	Flexure	KIP-FT	812.52	92.22	322.31	1.642	48.77
30.00	60.0	Shear	KIPS	206.48	5.15	27.13	5.623	166.99
31.00	62.0	Flexure	KIP-FT	812.52	86.55	312.89	1.709	50.77
31.00	62.0	Shear	KIPS	206.48	6.18	28.39	5.338	158.52
35.00	70.0	Flexure	KIP-FT	817.88	53.66	263.57	2.168	64.39
35.00	70.0	Shear	KIPS	207.64	10.44	33.38	4.441	131.88
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	171.60	3.703	109.99
40.00	80.0	Shear	KIPS	207.64	15.54	39.31	3.642	108.16
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-159.95	3.276	97.28
45.00	90.0	Shear	KIPS	207.64	20.65	44.72	3.088	91.73
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-162.32	3.164	93.98
45.50	91.0	Shear	KIPS	207.64	21.16	45.22	3.043	90.39
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-171.79	2.711	80.52
47.50	95.0	Shear	KIPS	206.48	23.24	47.13	2.858	84.88
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-222.03	1.825	54.20
50.00	100.0	Shear	KIPS	206.48	25.86	49.33	2.678	79.55

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-208.15	2.241	66.54
2.50	6.3	Shear	KIPS	206.48	23.50	46.78	2.874	85.34
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-199.83	2.523	74.92
4.00	10.0	Shear	KIPS	207.64	21.94	45.30	3.021	89.72
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-197.05	2.216	65.82
4.50	11.3	Shear	KIPS	207.64	21.42	44.78	3.068	91.12
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-177.62	2.840	84.36
8.00	20.0	Shear	KIPS	207.64	17.85	40.85	3.449	102.44
12.00	30.0	Flexure	KIP-FT	817.88	20.89	232.39	2.598	77.16
12.00	30.0	Shear	KIPS	207.64	13.76	35.85	4.043	120.07
14.00	35.0	Flexure	KIP-FT	812.52	46.37	265.94	2.160	64.16
14.00	35.0	Shear	KIPS	206.48	11.72	33.16	4.405	130.81
16.00	40.0	Flexure	KIP-FT	812.52	67.75	291.62	1.898	56.36
16.00	40.0	Shear	KIPS	206.48	9.66	30.37	4.877	144.84
20.00	50.0	Flexure	KIP-FT	812.52	97.80	329.03	1.592	47.28
20.00	50.0	Shear	KIPS	206.48	5.44	24.51	6.212	184.49
24.00	60.0	Flexure	KIP-FT	812.52	111.04	335.08	1.524	45.27
24.00	60.0	Shear	KIPS	206.48	1.32	21.14	7.396	219.67

26.00	65.0	Flexure	KIP-FT	812.52	111.47	324.04	1.575	46.77
26.00	65.0	Shear	KIPS	206.48	0.81	23.96	6.546	194.42
28.00	70.0	Flexure	KIP-FT	817.88	107.80	311.26	1.664	49.42
28.00	70.0	Shear	KIPS	207.64	2.85	26.85	5.799	172.24
32.00	80.0	Flexure	KIP-FT	817.88	88.21	254.31	2.113	62.75
32.00	80.0	Shear	KIPS	207.64	6.94	32.90	4.609	136.90
36.00	90.0	Flexure	KIP-FT	817.88	52.28	151.58	3.778	112.22
36.00	90.0	Shear	KIPS	207.64	11.03	46.25	3.192	94.80
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	2940.30
40.00	100.0	Shear	KIPS	207.64	15.11	53.89	2.665	79.14

Detailed Rating Results
Maine DOT Config. 7 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	5880.60
0.00	0.0	Shear	KIPS	207.64	15.11	53.89	2.665	158.28
4.00	10.0	Flexure	KIP-FT	817.88	52.28	151.72	3.775	224.24
4.00	10.0	Shear	KIPS	207.64	11.03	46.25	3.192	189.60
8.00	20.0	Flexure	KIP-FT	817.88	88.21	254.54	2.111	125.38
8.00	20.0	Shear	KIPS	207.64	6.94	32.90	4.609	273.80
12.00	30.0	Flexure	KIP-FT	817.88	107.80	311.55	1.663	98.76
12.00	30.0	Shear	KIPS	207.64	2.85	26.85	5.799	344.47
14.00	35.0	Flexure	KIP-FT	812.52	111.47	324.34	1.573	93.45
14.00	35.0	Shear	KIPS	206.48	0.81	23.96	6.546	388.84
16.00	40.0	Flexure	KIP-FT	812.52	111.04	335.39	1.523	90.45
16.00	40.0	Shear	KIPS	206.48	1.32	23.77	6.575	390.56
20.00	50.0	Flexure	KIP-FT	812.52	97.80	329.34	1.590	94.47
20.00	50.0	Shear	KIPS	206.48	5.44	30.16	5.048	299.85
24.00	60.0	Flexure	KIP-FT	812.52	67.75	291.89	1.896	112.62
24.00	60.0	Shear	KIPS	206.48	9.66	35.81	4.135	245.63
26.00	65.0	Flexure	KIP-FT	812.52	46.37	266.19	2.158	128.20
26.00	65.0	Shear	KIPS	206.48	11.72	38.42	3.801	225.80
28.00	70.0	Flexure	KIP-FT	817.88	20.89	232.61	2.595	154.17
28.00	70.0	Shear	KIPS	207.64	13.76	40.82	3.550	210.89
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-152.52	3.308	196.48
32.00	80.0	Shear	KIPS	207.64	17.85	45.11	3.124	185.55

35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-246.71	1.770	105.14
35.50	88.8	Shear	KIPS	207.64	21.42	48.28	2.845	169.00
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-261.63	1.927	114.45
36.00	90.0	Shear	KIPS	207.64	21.94	48.69	2.811	166.96
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-307.66	1.516	90.04
37.50	93.8	Shear	KIPS	206.48	23.50	49.82	2.699	160.29
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-389.15	1.041	61.85
40.00	100.0	Shear	KIPS	206.48	26.12	51.58	2.556	151.83

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-311.04	1.497	88.94
2.50	5.0	Shear	KIPS	206.48	23.24	48.33	2.787	165.54
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-251.34	2.044	121.39
4.50	9.0	Shear	KIPS	207.64	21.16	46.85	2.938	174.50
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-237.40	2.207	131.09
5.00	10.0	Shear	KIPS	207.64	20.65	46.50	2.970	176.44
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	175.84	3.614	214.67
10.00	20.0	Shear	KIPS	207.64	15.54	42.49	3.370	200.16
15.00	30.0	Flexure	KIP-FT	817.88	53.66	246.57	2.317	137.66
15.00	30.0	Shear	KIPS	207.64	10.44	37.61	3.941	234.09
19.00	38.0	Flexure	KIP-FT	812.52	86.55	277.56	1.927	114.46
19.00	38.0	Shear	KIPS	206.48	6.18	33.09	4.580	272.04
20.00	40.0	Flexure	KIP-FT	812.52	92.22	281.59	1.880	111.65
20.00	40.0	Shear	KIPS	206.48	5.15	31.90	4.781	284.00
25.00	50.0	Flexure	KIP-FT	812.52	105.09	278.52	1.855	110.17
25.00	50.0	Shear	KIPS	206.48	0.00	25.54	6.173	366.65
30.00	60.0	Flexure	KIP-FT	812.52	92.22	281.59	1.880	111.65
30.00	60.0	Shear	KIPS	206.48	5.15	31.90	4.781	284.00
31.00	62.0	Flexure	KIP-FT	812.52	86.55	277.56	1.927	114.46
31.00	62.0	Shear	KIPS	206.48	6.18	33.09	4.580	272.04
35.00	70.0	Flexure	KIP-FT	817.88	53.66	246.57	2.317	137.66
35.00	70.0	Shear	KIPS	207.64	10.44	37.61	3.941	234.09
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	175.84	3.614	214.67
40.00	80.0	Shear	KIPS	207.64	15.54	42.49	3.370	200.16
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-237.40	2.207	131.09
45.00	90.0	Shear	KIPS	207.64	20.65	46.50	2.970	176.44
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-251.34	2.044	121.39
45.50	91.0	Shear	KIPS	207.64	21.16	46.85	2.938	174.50
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-311.04	1.497	88.94

47.50	95.0	Shear	KIPS	206.48	23.24	48.33	2.787	165.54
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-389.15	1.041	61.85
50.00	100.0	Shear	KIPS	206.48	26.12	51.58	2.556	151.83

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-307.66	1.516	90.04
2.50	6.3	Shear	KIPS	206.48	23.50	49.82	2.699	160.29
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-261.63	1.927	114.45
4.00	10.0	Shear	KIPS	207.64	21.94	48.69	2.811	166.96
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-246.71	1.770	105.14
4.50	11.3	Shear	KIPS	207.64	21.42	48.28	2.845	169.00
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-152.52	3.308	196.48
8.00	20.0	Shear	KIPS	207.64	17.85	45.11	3.124	185.55
12.00	30.0	Flexure	KIP-FT	817.88	20.89	232.39	2.598	154.31
12.00	30.0	Shear	KIPS	207.64	13.76	40.82	3.550	210.89
14.00	35.0	Flexure	KIP-FT	812.52	46.37	265.94	2.160	128.32
14.00	35.0	Shear	KIPS	206.48	11.72	38.42	3.801	225.80
16.00	40.0	Flexure	KIP-FT	812.52	67.75	291.62	1.898	112.73
16.00	40.0	Shear	KIPS	206.48	9.66	35.81	4.135	245.63
20.00	50.0	Flexure	KIP-FT	812.52	97.80	329.03	1.592	94.55
20.00	50.0	Shear	KIPS	206.48	5.44	30.16	5.048	299.85
24.00	60.0	Flexure	KIP-FT	812.52	111.04	335.08	1.524	90.53
24.00	60.0	Shear	KIPS	206.48	1.32	23.77	6.575	390.56
26.00	65.0	Flexure	KIP-FT	812.52	111.47	324.04	1.575	93.54
26.00	65.0	Shear	KIPS	206.48	0.81	23.96	6.546	388.84
28.00	70.0	Flexure	KIP-FT	817.88	107.80	311.26	1.664	98.85
28.00	70.0	Shear	KIPS	207.64	2.85	26.85	5.799	344.47
32.00	80.0	Flexure	KIP-FT	817.88	88.21	254.31	2.113	125.50
32.00	80.0	Shear	KIPS	207.64	6.94	32.90	4.609	273.80
36.00	90.0	Flexure	KIP-FT	817.88	52.28	151.58	3.778	224.44
36.00	90.0	Shear	KIPS	207.64	11.03	46.25	3.192	189.60
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	5880.60
40.00	100.0	Shear	KIPS	207.64	15.11	53.89	2.665	158.28

**Detailed Rating Results
Maine DOT Config. 8
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	1851.30
0.00	0.0	Shear	KIPS	207.64	15.11	35.35	4.062	75.97
4.00	10.0	Flexure	KIP-FT	817.88	52.28	100.02	5.726	107.08
4.00	10.0	Shear	KIPS	207.64	11.03	30.49	4.842	90.54
8.00	20.0	Flexure	KIP-FT	817.88	88.21	169.03	3.179	59.44
8.00	20.0	Shear	KIPS	207.64	6.94	21.85	6.942	129.81
12.00	30.0	Flexure	KIP-FT	817.88	107.80	208.48	2.485	46.46
12.00	30.0	Shear	KIPS	207.64	2.85	17.96	8.666	162.06
14.00	35.0	Flexure	KIP-FT	812.52	111.47	217.96	2.341	43.78
14.00	35.0	Shear	KIPS	206.48	0.81	16.10	9.741	182.16
16.00	40.0	Flexure	KIP-FT	812.52	111.04	221.06	2.310	43.20
16.00	40.0	Shear	KIPS	206.48	1.32	14.29	10.942	204.61
20.00	50.0	Flexure	KIP-FT	812.52	97.80	215.34	2.432	45.48
20.00	50.0	Shear	KIPS	206.48	5.44	16.57	9.191	171.87
24.00	60.0	Flexure	KIP-FT	812.52	67.75	197.07	2.808	52.51
24.00	60.0	Shear	KIPS	206.48	9.66	20.20	7.332	137.11
26.00	65.0	Flexure	KIP-FT	812.52	46.37	179.71	3.197	59.78
26.00	65.0	Shear	KIPS	206.48	11.72	21.92	6.663	124.60
28.00	70.0	Flexure	KIP-FT	817.88	20.89	157.83	3.825	71.53
28.00	70.0	Shear	KIPS	207.64	13.76	23.57	6.150	115.01
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-112.79	4.473	83.64
32.00	80.0	Shear	KIPS	207.64	17.85	26.64	5.289	98.91
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-125.13	3.490	65.27
35.50	88.8	Shear	KIPS	207.64	21.42	29.01	4.734	88.53
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-126.89	3.973	74.29
36.00	90.0	Shear	KIPS	207.64	21.94	29.33	4.666	87.25
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-132.18	3.528	65.98
37.50	93.8	Shear	KIPS	206.48	23.50	30.24	4.446	83.13
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-140.99	2.874	53.74
40.00	100.0	Shear	KIPS	206.48	25.86	31.73	4.164	77.86

Span 2								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)

2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-109.65	4.247	79.43
2.50	5.0	Shear	KIPS	206.48	23.24	30.38	4.433	82.89
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-103.61	4.957	92.70
4.50	9.0	Shear	KIPS	207.64	21.16	29.24	4.707	88.02
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-102.10	5.132	95.96
5.00	10.0	Shear	KIPS	207.64	20.65	28.94	4.773	89.25
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	118.36	5.369	100.40
10.00	20.0	Shear	KIPS	207.64	15.54	25.63	5.586	104.46
15.00	30.0	Flexure	KIP-FT	817.88	53.66	177.99	3.210	60.04
15.00	30.0	Shear	KIPS	207.64	10.44	21.93	6.759	126.40
19.00	38.0	Flexure	KIP-FT	812.52	86.55	208.72	2.563	47.92
19.00	38.0	Shear	KIPS	206.48	6.18	18.80	8.060	150.72
20.00	40.0	Flexure	KIP-FT	812.52	92.22	213.41	2.480	46.38
20.00	40.0	Shear	KIPS	206.48	5.15	18.00	8.473	158.45
25.00	50.0	Flexure	KIP-FT	812.52	105.09	221.43	2.333	43.62
25.00	50.0	Shear	KIPS	206.48	0.00	14.03	11.235	210.09
30.00	60.0	Flexure	KIP-FT	812.52	92.22	213.41	2.480	46.38
30.00	60.0	Shear	KIPS	206.48	5.15	18.00	8.473	158.45
31.00	62.0	Flexure	KIP-FT	812.52	86.55	208.72	2.563	47.92
31.00	62.0	Shear	KIPS	206.48	6.18	18.80	8.060	150.72
35.00	70.0	Flexure	KIP-FT	817.88	53.66	177.99	3.210	60.04
35.00	70.0	Shear	KIPS	207.64	10.44	21.93	6.759	126.40
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	118.36	5.369	100.40
40.00	80.0	Shear	KIPS	207.64	15.54	25.63	5.586	104.46
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-102.10	5.132	95.96
45.00	90.0	Shear	KIPS	207.64	20.65	28.94	4.773	89.25
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-103.61	4.957	92.70
45.50	91.0	Shear	KIPS	207.64	21.16	29.24	4.707	88.02
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-109.65	4.247	79.43
47.50	95.0	Shear	KIPS	206.48	23.24	30.38	4.433	82.89
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-140.99	2.874	53.74
50.00	100.0	Shear	KIPS	206.48	25.86	31.73	4.164	77.86

Span 3

Location		Limit State	Units	Capacity	DL	LL	Legal Rating	Legal Load Rating
(ft)	Percent						Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-132.18	3.528	65.98
2.50	6.3	Shear	KIPS	206.48	23.50	30.24	4.446	83.13
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-126.89	3.973	74.29
4.00	10.0	Shear	KIPS	207.64	21.94	29.33	4.666	87.25
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-125.13	3.490	65.27

4.50	11.3	Shear	KIPS	207.64	21.42	29.01	4.734	88.53
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-112.79	4.473	83.64
8.00	20.0	Shear	KIPS	207.64	17.85	26.64	5.289	98.91
12.00	30.0	Flexure	KIP-FT	817.88	20.89	157.69	3.829	71.59
12.00	30.0	Shear	KIPS	207.64	13.76	23.57	6.150	115.01
14.00	35.0	Flexure	KIP-FT	812.52	46.37	179.54	3.200	59.84
14.00	35.0	Shear	KIPS	206.48	11.72	21.92	6.663	124.60
16.00	40.0	Flexure	KIP-FT	812.52	67.75	196.88	2.811	52.56
16.00	40.0	Shear	KIPS	206.48	9.66	20.20	7.332	137.11
20.00	50.0	Flexure	KIP-FT	812.52	97.80	215.14	2.435	45.53
20.00	50.0	Shear	KIPS	206.48	5.44	16.57	9.191	171.87
24.00	60.0	Flexure	KIP-FT	812.52	111.04	220.85	2.312	43.24
24.00	60.0	Shear	KIPS	206.48	1.32	14.29	10.942	204.61
26.00	65.0	Flexure	KIP-FT	812.52	111.47	217.76	2.343	43.82
26.00	65.0	Shear	KIPS	206.48	0.81	16.10	9.741	182.16
28.00	70.0	Flexure	KIP-FT	817.88	107.80	208.29	2.487	46.50
28.00	70.0	Shear	KIPS	207.64	2.85	17.96	8.666	162.06
32.00	80.0	Flexure	KIP-FT	817.88	88.21	168.87	3.182	59.50
32.00	80.0	Shear	KIPS	207.64	6.94	21.85	6.942	129.81
36.00	90.0	Flexure	KIP-FT	817.88	52.28	99.93	5.732	107.18
36.00	90.0	Shear	KIPS	207.64	11.03	30.49	4.842	90.54
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	1851.30
40.00	100.0	Shear	KIPS	207.64	15.11	35.35	4.062	75.97

Detailed Rating Results
Maine DOT Config. 8 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal	Legal
							Rating	Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3702.60
0.00	0.0	Shear	KIPS	207.64	15.11	35.35	4.062	151.94
4.00	10.0	Flexure	KIP-FT	817.88	52.28	100.02	5.726	214.17
4.00	10.0	Shear	KIPS	207.64	11.03	30.49	4.842	181.08
8.00	20.0	Flexure	KIP-FT	817.88	88.21	169.03	3.179	118.89
8.00	20.0	Shear	KIPS	207.64	6.94	21.85	6.942	259.61
12.00	30.0	Flexure	KIP-FT	817.88	107.80	208.48	2.485	92.92
12.00	30.0	Shear	KIPS	207.64	2.85	17.96	8.666	324.12
14.00	35.0	Flexure	KIP-FT	812.52	111.47	217.96	2.341	87.56

14.00	35.0	Shear	KIPS	206.48	0.81	16.10	9.741	364.32
16.00	40.0	Flexure	KIP-FT	812.52	111.04	221.06	2.310	86.40
16.00	40.0	Shear	KIPS	206.48	1.32	15.91	9.823	367.37
20.00	50.0	Flexure	KIP-FT	812.52	97.80	215.34	2.432	90.97
20.00	50.0	Shear	KIPS	206.48	5.44	20.12	7.567	282.99
24.00	60.0	Flexure	KIP-FT	812.52	67.75	197.07	2.808	105.03
24.00	60.0	Shear	KIPS	206.48	9.66	23.78	6.228	232.94
26.00	65.0	Flexure	KIP-FT	812.52	46.37	179.71	3.197	119.56
26.00	65.0	Shear	KIPS	206.48	11.72	25.45	5.740	214.67
28.00	70.0	Flexure	KIP-FT	817.88	20.89	157.83	3.825	143.06
28.00	70.0	Shear	KIPS	207.64	13.76	26.97	5.374	201.00
32.00	80.0	Flexure	KIP-FT	-715.59	-42.33	-94.48	5.340	199.71
32.00	80.0	Shear	KIPS	207.64	17.85	29.68	4.747	177.55
35.50	88.8	Flexure	KIP-FT	-715.59	-111.05	-155.64	2.806	104.94
35.50	88.8	Shear	KIPS	207.64	21.42	31.64	4.342	162.39
36.00	90.0	Flexure	KIP-FT	-817.88	-121.89	-166.33	3.031	113.35
36.00	90.0	Shear	KIPS	207.64	21.94	31.88	4.292	160.53
37.50	93.8	Flexure	KIP-FT	-812.52	-155.97	-196.69	2.371	88.68
37.50	93.8	Shear	KIPS	206.48	23.50	32.58	4.127	154.33
40.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-255.30	1.587	59.36
40.00	100.0	Shear	KIPS	206.48	25.86	35.22	3.751	140.28

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.63	-200.66	2.321	86.80
2.50	5.0	Shear	KIPS	206.48	23.24	32.51	4.143	154.93
4.50	9.0	Flexure	KIP-FT	-817.88	-112.22	-159.05	3.229	120.78
4.50	9.0	Shear	KIPS	207.64	21.16	30.82	4.466	167.03
5.00	10.0	Flexure	KIP-FT	-817.88	-101.77	-149.22	3.511	131.32
5.00	10.0	Shear	KIPS	207.64	20.65	30.61	4.513	168.79
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	119.53	5.316	198.84
10.00	20.0	Shear	KIPS	207.64	15.54	28.08	5.099	190.71
15.00	30.0	Flexure	KIP-FT	817.88	53.66	169.57	3.370	126.03
15.00	30.0	Shear	KIPS	207.64	10.44	24.88	5.958	222.82
19.00	38.0	Flexure	KIP-FT	812.52	86.55	186.85	2.863	107.06
19.00	38.0	Shear	KIPS	206.48	6.18	21.88	6.926	259.03
20.00	40.0	Flexure	KIP-FT	812.52	92.22	188.09	2.814	105.24
20.00	40.0	Shear	KIPS	206.48	5.15	21.09	7.234	270.55
25.00	50.0	Flexure	KIP-FT	812.52	105.09	184.77	2.796	104.56
25.00	50.0	Shear	KIPS	206.48	0.00	16.77	9.401	351.59

30.00	60.0	Flexure	KIP-FT	812.52	92.22	188.09	2.814	105.24
30.00	60.0	Shear	KIPS	206.48	5.15	21.09	7.234	270.55
31.00	62.0	Flexure	KIP-FT	812.52	86.55	186.85	2.863	107.06
31.00	62.0	Shear	KIPS	206.48	6.18	21.88	6.926	259.03
35.00	70.0	Flexure	KIP-FT	817.88	53.66	169.57	3.370	126.03
35.00	70.0	Shear	KIPS	207.64	10.44	24.88	5.958	222.82
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	119.53	5.316	198.84
40.00	80.0	Shear	KIPS	207.64	15.54	28.08	5.099	190.71
45.00	90.0	Flexure	KIP-FT	-817.88	-101.77	-149.22	3.511	131.32
45.00	90.0	Shear	KIPS	207.64	20.65	30.61	4.513	168.79
45.50	91.0	Flexure	KIP-FT	-817.88	-112.22	-159.05	3.229	120.78
45.50	91.0	Shear	KIPS	207.64	21.16	30.82	4.466	167.03
47.50	95.0	Flexure	KIP-FT	-812.52	-156.63	-200.66	2.321	86.80
47.50	95.0	Shear	KIPS	206.48	23.24	32.51	4.143	154.93
50.00	100.0	Flexure	KIP-FT	-812.52	-218.00	-255.30	1.587	59.36
50.00	100.0	Shear	KIPS	206.48	25.86	35.22	3.751	140.28

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-155.97	-196.69	2.371	88.68
2.50	6.3	Shear	KIPS	206.48	23.50	32.58	4.127	154.33
4.00	10.0	Flexure	KIP-FT	-817.88	-121.89	-166.33	3.031	113.35
4.00	10.0	Shear	KIPS	207.64	21.94	31.88	4.292	160.53
4.50	11.3	Flexure	KIP-FT	-715.59	-111.05	-155.64	2.806	104.94
4.50	11.3	Shear	KIPS	207.64	21.42	31.64	4.342	162.39
8.00	20.0	Flexure	KIP-FT	-715.59	-42.33	-94.48	5.340	199.71
8.00	20.0	Shear	KIPS	207.64	17.85	29.68	4.747	177.55
12.00	30.0	Flexure	KIP-FT	817.88	20.89	157.69	3.829	143.19
12.00	30.0	Shear	KIPS	207.64	13.76	26.97	5.374	201.00
14.00	35.0	Flexure	KIP-FT	812.52	46.37	179.54	3.200	119.67
14.00	35.0	Shear	KIPS	206.48	11.72	25.45	5.740	214.67
16.00	40.0	Flexure	KIP-FT	812.52	67.75	196.88	2.811	105.13
16.00	40.0	Shear	KIPS	206.48	9.66	23.78	6.228	232.94
20.00	50.0	Flexure	KIP-FT	812.52	97.80	215.14	2.435	91.05
20.00	50.0	Shear	KIPS	206.48	5.44	20.12	7.567	282.99
24.00	60.0	Flexure	KIP-FT	812.52	111.04	220.85	2.312	86.48
24.00	60.0	Shear	KIPS	206.48	1.32	15.91	9.823	367.37
26.00	65.0	Flexure	KIP-FT	812.52	111.47	217.76	2.343	87.64
26.00	65.0	Shear	KIPS	206.48	0.81	16.10	9.741	364.32
28.00	70.0	Flexure	KIP-FT	817.88	107.80	208.29	2.487	93.01

28.00	70.0	Shear	KIPS	207.64	2.85	17.96	8.666	324.12
32.00	80.0	Flexure	KIP-FT	817.88	88.21	168.87	3.182	119.00
32.00	80.0	Shear	KIPS	207.64	6.94	21.85	6.942	259.61
36.00	90.0	Flexure	KIP-FT	817.88	52.28	99.93	5.732	214.36
36.00	90.0	Shear	KIPS	207.64	11.03	30.49	4.842	181.08
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3702.60
40.00	100.0	Shear	KIPS	207.64	15.11	35.35	4.062	151.94



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Legal Load Rating

Objective

Rate girder for legal loads using combined legal trucks and legal lane load output from Virtis

Location of Interest

Girder 1, Pier 1

Moments (Taken From Virtis)

Maximum Live Load Forces	
Load Case/Configuration:	Moment, kip-ft
Config.	
DC Moment	181.10
DW Moment	36.90
Legal Lane	31.22
Config. 1	346.74
Config. 2	311.11
Config. 3	366.39
Config. 4	360.47
Config. 5	364.20
Config. 6	480.21
Config. 7	389.15
Config. 8	255.30

(All loads are unfactored)

Legal Lane = 41.63

0.75 factor is only applied to truck, not lane. Since the entire legal load live load factor is multiplied by 0.75, the inputted lane must be divided by 0.75 so it cancels out.

Capacity	
Moment, kip-ft	812.52

Load and Resistance Factors

$\phi_c =$	1.00	Condition Factor, MBE 6A.4.2.3
$\phi_s =$	1.00	System Factor, MBE 6A.4.2.4
$\phi_f =$	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
$\phi_s =$	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

$*V_{DC} =$	1.25
$*V_{DW} =$	1.50

$*V_{LL} = 1.31$ Maine Truck Config. 1-5, 7-8

$*V_{LL} = 1.31$ Maine Truck Config. 6

$*V_{LL} = 0.98$ Maine Truck Config. 1-5, 7-8

$*V_{LL} = 0.98$ Maine Truck Config. 6

0.75 factor applied per MaineDOT Load Rating Guide (3.3.3.3)



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 1

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	388	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 1 Strength I	
RF _{Flexure} =	1.39

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 2

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	353	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

ϕ_c =	1.00	Condition Factor, MBE 6A.4.2.3
ϕ_s =	1.00	System Factor, MBE 6A.4.2.4
ϕ_f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
ϕ_s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

$C = \phi_c \phi_s \phi_R$ for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 2 Strength I	
RF _{Flexure} =	1.53

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 3

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	408	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 3 Strength I	
RF _{Flexure} =	1.32

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 4

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	402	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 4 Strength I	
RF _{Flexure} =	1.34

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 5

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	406	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 5 Strength I	
RF _{Flexure} =	1.33

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 6

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	522	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 6 Strength I	
RF _{Flexure} =	1.04

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 7

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	431	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

$\phi_c =$	1.00	Condition Factor, MBE 6A.4.2.3
$\phi_s =$	1.00	System Factor, MBE 6A.4.2.4
$\phi_f =$	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
$\phi_s =$	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

$C = \phi_c \phi_s \phi_R$ for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 7 Strength I	
RF _{Flexure} =	1.25

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 8

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	297	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 8 Strength I	
RF _{Flexure} =	1.82

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Summary of Ratings

Rating Summary	
Load Case/Configuration:	Strength I
Config.	
Config. 1	1.39
Config. 2	1.53
Config. 3	1.32
Config. 4	1.34
Config. 5	1.33
Config. 6	1.04
Config. 7	1.25
Config. 8	1.82

Rating Results Summary Report

Name: I95 over Souadabscook Stream ...
Struct-Def: 1433+5951

Bridge ID: Br. No. 1433+5951
Member: G2

NBl: 1433+5951
Member Alt: G2

Live Load	Live Load Type	Rating Method	Rating Level	Load Rating (Ton)	Rating Factor	Location (ft)	Location Span-(%)	Limit State	Impact	Lane
HL-93 (US)	Truck + Lane	LRFR	Inventory	32.38	0.899	40.00	1 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	Truck + Lane	LRFR	Operating	41.97	1.166	40.00	1 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Inventory	36.88	1.024	116.00	3 - (65.0)	SERVICE-II Steel Flexure Stress	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Operating	47.94	1.332	116.00	3 - (65.0)	SERVICE-II Steel Flexure Stress	As Requested	As Requested
HL-93 (US)	90%(Truck Pair + Lane)	LRFR	Inventory	38.02	1.056	40.00	1 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	90%(Truck Pair + Lane)	LRFR	Operating	49.29	1.369	40.00	1 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested

Bridge Name: I95 over Souadabscook Stream West
NBI Structure ID: 1433+5951
Bridge ID: Br. No. 1433+5951

Analyzed By: Virtis
Analyze Date: Friday, May 10, 2013 09:42:06
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Friday, May 10, 2013 10:00:50

Structure Definition Name: 1433+5951
Member Name: G2
Pier Alternative Name: G2

6A.4.2.1 General Load Rating Equation - Steel Flexure Moment

Limit State: Stage: 3
Vehicle: Flex Sense: N/A

6A Load and Resistance Factor Rating
6A.4 Load Rating Procedures
6A.4.2 General Load-Rating Equation
6A.4.2.1 Steel Flexure Moment General
(AASHTO Manual for Bridge Evaluation, Second Edition - 2011)

Steel Rolled Shape - At Location = 40.000 (ft) - Left Stage 3

Section at Brace Point

Input:

Section Type: Noncomposite
Top Flange Laterally Supported: Yes
Compact: No
Allow Plastic Analysis Control Option: Yes
Allow Moment Redistribution Control Option: No
Moment Redistribution Qualified: No, redistribution did not occur.

For positive flexure, composite, noncompact sections:

Condition Factor = 1.0000
System Factor = 1.0000
DC Moment = -205.5918 (kip-ft)
DW Moment = -36.9119 (kip-ft)
DW-WS Moment = 0.0000 (kip-ft) (Moment due to wearing surface)

LL total = LL + (1/3)LL_{f1}

Location: 40.00 ft
Pass/Fail: Failed

Load	Vehicle	Limit State	LL (kip-ft)		LL fl (kip-ft)	DC	Load Factors		LL	Phi	Mn (kip-ft)	RF	Capacity (Ton)
			LL	LL			DW	DW-WS					
DesignInv	HL-93 (US) - Truck + Lane	STR-I	58.71	0.00	1.25	1.25	1.50	1.50	1.75	1.00	-812.52	NA	NA
DesignInv	HL-93 (US) - Truck + Lane	STR-I	-317.80	0.00	1.25	1.25	1.50	1.50	1.75	1.00	-812.52	0.90	32.38
DesignOp	HL-93 (US) - Truck + Lane	STR-I	58.71	0.00	1.25	1.25	1.50	1.50	1.35	1.00	-812.52	NA	NA
DesignOp	HL-93 (US) - Truck + Lane	STR-I	-317.80	0.00	1.25	1.25	1.50	1.50	1.35	1.00	-812.52	1.17	41.97
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	53.48	0.00	1.25	1.25	1.50	1.50	1.75	1.00	-812.52	NA	NA
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	-265.16	0.00	1.25	1.25	1.50	1.50	1.75	1.00	-812.52	1.08	38.80
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	53.48	0.00	1.25	1.25	1.50	1.50	1.35	1.00	-812.52	NA	NA
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	-265.16	0.00	1.25	1.25	1.50	1.50	1.35	1.00	-812.52	1.40	50.30
DesignInv	HL-93 (US) - 90% (Truck Pair +-)	STR-I	0.00	0.00	1.25	1.25	1.50	1.50	1.75	1.00	-812.52	99.00	3564.00
DesignInv	HL-93 (US) - 90% (Truck Pair +-)	STR-I	-270.62	0.00	1.25	1.25	1.50	1.50	1.75	1.00	-812.52	1.06	38.02
DesignOp	HL-93 (US) - 90% (Truck Pair +-)	STR-I	0.00	0.00	1.25	1.25	1.50	1.50	1.35	1.00	-812.52	99.00	3564.00
DesignOp	HL-93 (US) - 90% (Truck Pair +-)	STR-I	-270.62	0.00	1.25	1.25	1.50	1.50	1.35	1.00	-812.52	1.37	49.29
Legal	Maine DOT Config. 1 - Legal T-	STR-I	44.06	0.00	1.25	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 1 - Legal T-	STR-I	-299.34	0.00	1.25	1.25	1.50	1.50	1.31	1.00	-812.52	1.28	63.78
Legal	Maine DOT Config. 1 x2 - Legal	STR-I	44.06	0.00	1.25	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 1 x2 - Legal	STR-I	-311.58	0.00	1.25	1.25	1.50	1.50	1.31	1.00	-812.52	1.23	122.54
Legal	Maine DOT Config. 2 - Legal T-	STR-I	52.96	0.00	1.25	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA

Legal	Maine DOT Config. 2 - Legal T~ STR-I	-279.56	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.37	64.19	
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	52.96	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	-279.56	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.37	128.38	
Legal	Maine DOT Config. 3 - Legal T~ STR-I	53.10	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 3 - Legal T~ STR-I	-240.72	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.59	69.79	
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	53.10	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	-329.24	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.16	102.05	
Legal	Maine DOT Config. 4 - Legal T~ STR-I	53.81	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 4 - Legal T~ STR-I	-241.34	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.58	69.61	
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	53.81	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	-323.91	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.18	103.73	
Legal	Maine DOT Config. 5 - Legal T~ STR-I	49.96	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 5 - Legal T~ STR-I	-232.48	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.64	72.26	
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	49.96	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	-327.26	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.17	102.67	
Legal	Maine DOT Config. 6 - Legal T~ STR-I	60.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 6 - Legal T~ STR-I	-251.34	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.52	57.65	
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	60.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	-431.52	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	0.88	67.16	
Legal	Maine DOT Config. 7 - Legal T~ STR-I	47.69	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 7 - Legal T~ STR-I	-199.52	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.91	56.84	
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	47.69	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	-349.69	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.09	64.86	
Legal	Maine DOT Config. 8 - Legal T~ STR-I	30.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 8 - Legal T~ STR-I	-126.69	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	3.01	56.36	
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	30.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	-229.41	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.66	62.24	

Legend:
NA - Resistance and live load are of opposite sign so rating factor is not applicable.

Controlling Rating Factors

Limit State	Vehicle	Design Inv-	Capacity (Ton)	Vehicle	Design Op-	Capacity (Ton)	Vehicle	Legal Load-	Capacity (Ton)	Vehicle	Permit Load-	Capacity (Ton)
STR-I	HL-93 (US) - Truck + Lane	0.90	32.38	HL-93 (US) - Truck + Lane	1.17	41.97	Maine DOT Config. 6 x2 - L~	0.88	67.16			

Steel Rolled Shape - At Location = 40.0000 (ft) - Right Stage 3

Section at Brace Point

Input:

Section Type: Noncomposite
Top Flange Laterally Supported: Yes
Compact: No
Allow Plastic Analysis Control Option: Yes
Allow Moment Redistribution Control Option: No
Moment Redistribution Qualified: No, redistribution did not occur.

For positive flexure, composite, noncompact sections:

Condition Factor = 1.0000
System Factor = 1.0000
DC Moment = -205.5918 (kip-ft)
DW Moment = -36.9119 (kip-ft)
DW-WS Moment = 0.0000 (kip-ft) (Moment due to wearing surface)

LL total = LL + (1/3)LL_{f1}

Load	Vehicle	Limit State	LL (kip-ft)	LL _{fl} (kip-ft)	DC	DW	Load Factors DW-WS	Phi	Mn (kip-ft)	RF	Capacity (Ton)
DesignInv	HL-93 (US) - Truck + Lane	STR-I	58.71	0.00	1.25	1.50	1.50	1.75	-812.52	NA	NA
DesignInv	HL-93 (US) - Truck + Lane	STR-I	-317.80	0.00	1.25	1.50	1.50	1.75	-812.52	0.90	32.38
DesignOp	HL-93 (US) - Truck + Lane	STR-I	58.71	0.00	1.25	1.50	1.50	1.35	-812.52	NA	NA
DesignOp	HL-93 (US) - Truck + Lane	STR-I	-317.80	0.00	1.25	1.50	1.50	1.35	-812.52	1.17	41.97
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	53.48	0.00	1.25	1.50	1.50	1.75	-812.52	NA	NA
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	-265.16	0.00	1.25	1.50	1.50	1.75	-812.52	1.08	38.80

DesignOp	HL-93 (US) - Tandem + Lane	STR-I	53.48	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	NA	NA
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	-265.16	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	1.40	50.30
DesignInv	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	0.00	0.00	1.25	1.50	1.50	1.75	1.00	-812.52	99.00	3564.00
DesignInv	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	-270.62	0.00	1.25	1.50	1.50	1.75	1.00	-812.52	1.06	36.02
DesignOp	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	0.00	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	99.00	3564.00
DesignOp	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	-270.62	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	1.37	49.29
Legal	Maine DOT Config. 1 - Legal ~- STR-I	STR-I	44.06	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 1 - Legal ~- STR-I	STR-I	-299.34	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.28	63.78
Legal	Maine DOT Config. 1 x2 - Lega~ STR-I	STR-I	44.06	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 1 x2 - Lega~ STR-I	STR-I	-311.58	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.23	122.54
Legal	Maine DOT Config. 2 - Legal ~- STR-I	STR-I	52.96	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 2 - Legal ~- STR-I	STR-I	-279.56	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.37	64.19
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	STR-I	52.96	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	STR-I	-279.56	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.37	128.38
Legal	Maine DOT Config. 3 - Legal ~- STR-I	STR-I	53.10	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 3 - Legal ~- STR-I	STR-I	-240.72	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.59	69.79
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	STR-I	53.10	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	STR-I	-329.24	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.16	102.05
Legal	Maine DOT Config. 4 - Legal ~- STR-I	STR-I	53.81	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 4 - Legal ~- STR-I	STR-I	-241.34	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.58	69.61
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	STR-I	53.81	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	STR-I	-323.91	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.18	103.73
Legal	Maine DOT Config. 5 - Legal ~- STR-I	STR-I	49.96	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 5 - Legal ~- STR-I	STR-I	-232.48	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.64	72.26
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	STR-I	49.96	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	STR-I	-327.26	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.17	102.67
Legal	Maine DOT Config. 6 - Legal ~- STR-I	STR-I	60.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 6 - Legal ~- STR-I	STR-I	-251.34	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.52	57.65
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	STR-I	60.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	STR-I	-431.52	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	0.88	67.16
Legal	Maine DOT Config. 7 - Legal ~- STR-I	STR-I	47.69	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 7 - Legal ~- STR-I	STR-I	-199.52	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.91	56.84
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	STR-I	47.69	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	STR-I	-349.69	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.09	64.86
Legal	Maine DOT Config. 8 - Legal ~- STR-I	STR-I	30.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 8 - Legal ~- STR-I	STR-I	-126.69	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	3.01	56.36
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	STR-I	30.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	STR-I	-229.41	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.66	62.24

Legend:

NA ~ Resistance and live load are of opposite sign so rating factor is not applicable.

Controlling Rating Factors

Limit State

-----Design Inv-----Design Op-----Permit Load-----

Vehicle

Capacity (ton)

Vehicle

Capacity (ton)

Vehicle

Capacity (ton)

STR-I

HL-93 (US) - Truck + Lane

0.90

32.38

HL-93 (US) - Truck + Lane

1.17

41.97

Maine DOT Config. 6 x2 - L~

0.88

67.16

5/10/2013

Bridge Name: I95 over Souadabscook Stream West
NBI Structure ID: 1433+5951
Bridge ID: Br. No. 1433+5951

Analyzed By: Virtis
Analyze Date: Wednesday, April 24, 2013 09:15:12
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Wednesday, April 24, 2013 09:37:25

Structure Definition Name: 1433+5951
Member Name: G2
Member Alternative Name: G2

Report by Action: ☒ **Flexure** ☒ **Shear** ☐ **Overload** ☐ **Critical**

Detailed Rating Results
HL-93 (US)
Truck + Lane
Impact: As Requested
Lane: As Requested

Span 1

								Inventory	Inventory	Operating	Operating
								Rating	Load Rating	Rating	Load Rating
Location	(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
	0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
	0.00	0.0	Shear	KIPS	207.64	16.74	74.31	1.431	51.51	1.855	66.77
	4.00	10.0	Flexure	KIP-FT	817.88	57.93	163.72	2.594	93.39	3.363	121.06
	4.00	10.0	Shear	KIPS	207.64	12.22	62.04	1.767	63.62	2.291	82.47
	8.00	20.0	Flexure	KIP-FT	817.88	97.79	271.04	1.459	52.51	1.891	68.07
	8.00	20.0	Shear	KIPS	207.64	7.70	42.78	2.641	95.08	3.424	123.25
	12.00	30.0	Flexure	KIP-FT	817.88	119.57	326.51	1.162	41.82	1.506	54.22
	12.00	30.0	Shear	KIPS	207.64	3.18	33.68	3.454	124.33	4.477	161.17
	14.00	35.0	Flexure	KIP-FT	812.52	123.68	338.64	1.102	39.68	1.429	51.44
	14.00	35.0	Shear	KIPS	206.48	0.93	29.63	3.959	142.54	5.133	184.77
	16.00	40.0	Flexure	KIP-FT	812.52	123.25	347.01	1.077	38.76	1.396	50.24
	16.00	40.0	Shear	KIPS	206.48	1.49	25.80	4.531	163.13	5.874	211.47

20.00	50.0	Flexure	KIP-FT	812.52	108.74	338.76	1.134	40.84	1.470	52.93
20.00	50.0	Shear	KIPS	206.48	6.04	30.61	3.709	133.51	4.808	173.07
24.00	60.0	Flexure	KIP-FT	812.52	75.33	312.79	1.307	47.06	1.694	61.00
24.00	60.0	Shear	KIPS	206.48	10.80	39.34	2.797	100.70	3.626	130.54
26.00	65.0	Flexure	KIP-FT	812.52	51.46	282.78	1.508	54.29	1.955	70.37
26.00	65.0	Shear	KIPS	206.48	13.07	43.63	2.484	89.41	3.219	115.90
28.00	70.0	Flexure	KIP-FT	817.88	23.05	247.29	1.821	65.57	2.361	84.99
28.00	70.0	Shear	KIPS	207.64	15.33	48.05	2.235	80.45	2.897	104.28
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-212.05	1.764	63.51	2.287	82.33
32.00	80.0	Shear	KIPS	207.64	19.85	56.99	1.826	65.72	2.366	85.19
35.50	88.8	Flexure	KIP-FT	-715.59	-	-123.72	1.307	47.05	1.694	61.00
35.50	88.8	Shear	KIPS	207.64	23.81	64.64	1.565	56.32	2.028	73.01
36.00	90.0	Flexure	KIP-FT	-817.88	-	-135.77	1.477	53.16	1.914	68.91
36.00	90.0	Shear	KIPS	207.64	24.38	65.70	1.533	55.18	1.987	71.53
37.50	93.8	Flexure	KIP-FT	-812.52	-	-173.63	1.259	45.33	1.632	58.76
37.50	93.8	Shear	KIPS	206.48	26.10	68.80	1.436	51.69	1.861	67.00
40.00	100.0	Flexure	KIP-FT	-812.52	-	-242.50	0.899	32.38	1.166	41.97
40.00	100.0	Shear	KIPS	206.48	28.74	75.51	1.283	46.17	1.663	59.85

Span 2

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	- 174.28	- 238.90	1.407	50.64	1.823	65.64
2.50	5.0	Shear	KIPS	206.48	25.85	70.85	1.397	50.28	1.811	65.18
4.50	9.0	Flexure	KIP-FT	-817.88	- 124.88	- 197.47	1.901	68.44	2.465	88.72
4.50	9.0	Shear	KIPS	207.64	23.55	67.02	1.512	54.43	1.960	70.55
5.00	10.0	Flexure	KIP-FT	-817.88	- 113.24	- 192.08	1.999	71.97	2.592	93.30
5.00	10.0	Shear	KIPS	207.64	22.99	66.05	1.540	55.45	1.997	71.88
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	166.86	2.856	102.81	3.702	133.27
10.00	20.0	Shear	KIPS	207.64	17.34	56.01	1.890	68.06	2.451	88.22
15.00	30.0	Flexure	KIP-	817.88	60.12	263.92	1.603	57.72	2.078	74.82

			FT							
15.00	30.0	Shear	KIPS	207.64	11.69	45.80	2.403	86.51	3.115	112.14
19.00	38.0	Flexure	KIP-FT	812.52	96.48	318.89	1.233	44.40	1.599	57.56
19.00	38.0	Shear	KIPS	206.48	6.83	37.77	2.991	107.68	3.877	139.58
20.00	40.0	Flexure	KIP-FT	812.52	102.75	327.75	1.186	42.69	1.537	55.34
20.00	40.0	Shear	KIPS	206.48	5.69	35.80	3.179	114.45	4.121	148.36
25.00	50.0	Flexure	KIP-FT	812.52	116.98	341.77	1.107	39.84	1.434	51.64
25.00	50.0	Shear	KIPS	206.48	0.00	26.67	4.424	159.27	5.735	206.46
30.00	60.0	Flexure	KIP-FT	812.52	102.75	327.75	1.186	42.69	1.537	55.34
30.00	60.0	Shear	KIPS	206.48	5.69	35.80	3.179	114.45	4.121	148.36
31.00	62.0	Flexure	KIP-FT	812.52	96.48	318.89	1.233	44.40	1.599	57.56
31.00	62.0	Shear	KIPS	206.48	6.83	37.77	2.991	107.68	3.877	139.58
35.00	70.0	Flexure	KIP-FT	817.88	60.12	263.92	1.603	57.72	2.078	74.82
35.00	70.0	Shear	KIPS	207.64	11.69	45.80	2.403	86.51	3.115	112.14
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	166.86	2.856	102.81	3.702	133.27
40.00	80.0	Shear	KIPS	207.64	17.34	56.01	1.890	68.06	2.451	88.22
45.00	90.0	Flexure	KIP-FT	-817.88	-	-	1.999	71.97	2.592	93.30
45.00	90.0	Shear	KIPS	207.64	22.99	66.05	1.540	55.45	1.997	71.88
45.50	91.0	Flexure	KIP-FT	-817.88	-	-	1.901	68.44	2.465	88.72
45.50	91.0	Shear	KIPS	207.64	23.55	67.02	1.512	54.43	1.960	70.55
47.50	95.0	Flexure	KIP-FT	-812.52	-	-	1.407	50.64	1.823	65.64
47.50	95.0	Shear	KIPS	206.48	25.85	70.85	1.397	50.28	1.811	65.18

Span 3

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-	-	0.899	32.38	1.166	41.97
0.00	0.0	Shear	KIPS	206.48	28.74	75.51	1.283	46.17	1.663	59.85
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.259	45.33	1.632	58.76
2.50	6.3	Shear	KIPS	206.48	26.10	68.80	1.436	51.69	1.861	67.00
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.477	53.16	1.914	68.91

4.00	10.0	Shear	KIPS	207.64	24.38	65.70	1.533	55.18	1.987	71.53
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.307	47.05	1.694	61.00
4.50	11.3	Shear	KIPS	207.64	23.81	64.64	1.565	56.32	2.028	73.01
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-	1.764	63.51	2.287	82.33
8.00	20.0	Shear	KIPS	207.64	19.85	56.99	1.826	65.72	2.366	85.19
12.00	30.0	Flexure	KIP-FT	817.88	23.05	247.29	1.821	65.57	2.361	84.99
12.00	30.0	Shear	KIPS	207.64	15.33	48.05	2.235	80.45	2.897	104.28
14.00	35.0	Flexure	KIP-FT	812.52	51.46	282.78	1.508	54.29	1.955	70.37
14.00	35.0	Shear	KIPS	206.48	13.07	43.63	2.484	89.41	3.219	115.90
16.00	40.0	Flexure	KIP-FT	812.52	75.33	312.79	1.307	47.06	1.694	61.00
16.00	40.0	Shear	KIPS	206.48	10.80	39.34	2.797	100.70	3.626	130.54
20.00	50.0	Flexure	KIP-FT	812.52	108.74	338.76	1.134	40.84	1.470	52.93
20.00	50.0	Shear	KIPS	206.48	6.04	30.61	3.709	133.51	4.808	173.07
24.00	60.0	Flexure	KIP-FT	812.52	123.25	347.01	1.077	38.76	1.396	50.24
24.00	60.0	Shear	KIPS	206.48	1.49	25.80	4.531	163.13	5.874	211.47
26.00	65.0	Flexure	KIP-FT	812.52	123.68	338.64	1.102	39.68	1.429	51.44
26.00	65.0	Shear	KIPS	206.48	0.93	29.63	3.959	142.54	5.133	184.77
28.00	70.0	Flexure	KIP-FT	817.88	119.57	326.51	1.162	41.82	1.506	54.22
28.00	70.0	Shear	KIPS	207.64	3.18	33.68	3.454	124.33	4.477	161.17
32.00	80.0	Flexure	KIP-FT	817.88	97.79	271.04	1.459	52.51	1.891	68.07
32.00	80.0	Shear	KIPS	207.64	7.70	42.78	2.641	95.08	3.424	123.25
36.00	90.0	Flexure	KIP-FT	817.88	57.93	163.72	2.594	93.39	3.363	121.06
36.00	90.0	Shear	KIPS	207.64	12.22	62.04	1.767	63.62	2.291	82.47
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	16.74	74.31	1.431	51.51	1.855	66.77

Detailed Rating Results
HL-93 (US)
90%(Truck Pair + Lane)
Impact: As Requested
Lane: As Requested

Span 1

Location	Inventory Rating	Inventory Load	Operating Rating	Operating Load
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								Rating		Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
0.00	0.0	Shear	KIPS	207.64	16.74	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Flexure	KIP-FT	817.88	57.93	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Shear	KIPS	207.64	12.22	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Flexure	KIP-FT	817.88	97.79	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Shear	KIPS	207.64	7.70	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Flexure	KIP-FT	817.88	119.57	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Shear	KIPS	207.64	3.18	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Flexure	KIP-FT	817.88	123.68	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Shear	KIPS	207.64	0.93	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Flexure	KIP-FT	812.52	123.25	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Shear	KIPS	206.48	1.49	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Flexure	KIP-FT	812.52	108.74	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Shear	KIPS	206.48	6.04	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Flexure	KIP-FT	812.52	75.33	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Shear	KIPS	206.48	10.80	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Flexure	KIP-FT	812.52	51.46	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Shear	KIPS	206.48	13.07	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Flexure	KIP-FT	817.88	23.05	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Shear	KIPS	207.64	15.33	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-189.63	1.973	71.02	2.557	92.06
32.00	80.0	Shear	KIPS	207.64	19.85	0.00	99.000	3564.00	99.000	3564.00
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-217.51	1.461	52.61	1.894	68.19
35.50	88.8	Shear	KIPS	207.64	23.81	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-222.57	1.651	59.43	2.140	77.04
36.00	90.0	Shear	KIPS	207.64	24.38	0.00	99.000	3564.00	99.000	3564.00
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-239.09	1.407	50.67	1.824	65.68
37.50	93.8	Shear	KIPS	207.64	26.10	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-270.62	1.056	38.02	1.369	49.29
40.00	100.0	Shear	KIPS	206.48	28.99	0.00	99.000	3564.00	99.000	3564.00

Span 2

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-	-	1.628	58.61	2.110	75.98
2.50	5.0	Shear	KIPS	206.48	25.85	0.00	99.000	3564.00	99.000	3564.00
4.50	9.0	Flexure	KIP-FT	-817.88	-	-	2.074	74.66	2.688	96.78
4.50	9.0	Shear	KIPS	207.64	23.55	0.00	99.000	3564.00	99.000	3564.00
5.00	10.0	Flexure	KIP-FT	-817.88	-	-	2.192	78.90	2.841	102.28
5.00	10.0	Shear	KIPS	207.64	22.99	0.00	99.000	3564.00	99.000	3564.00
10.00	20.0	Flexure	KIP-FT	-817.88	-12.44	-	3.315	119.34	4.297	154.71
10.00	20.0	Shear	KIPS	207.64	17.34	0.00	99.000	3564.00	99.000	3564.00
15.00	30.0	Flexure	KIP-FT	817.88	60.12	0.00	99.000	3564.00	99.000	3564.00
15.00	30.0	Shear	KIPS	207.64	11.69	0.00	99.000	3564.00	99.000	3564.00
19.00	38.0	Flexure	KIP-FT	817.88	96.48	0.00	99.000	3564.00	99.000	3564.00
19.00	38.0	Shear	KIPS	207.64	6.83	0.00	99.000	3564.00	99.000	3564.00
20.00	40.0	Flexure	KIP-FT	812.52	102.75	0.00	99.000	3564.00	99.000	3564.00
20.00	40.0	Shear	KIPS	206.48	5.69	0.00	99.000	3564.00	99.000	3564.00
25.00	50.0	Flexure	KIP-FT	812.52	116.98	0.00	99.000	3564.00	99.000	3564.00
25.00	50.0	Shear	KIPS	206.48	0.00	0.00	99.000	3564.00	99.000	3564.00
30.00	60.0	Flexure	KIP-FT	812.52	102.75	0.00	99.000	3564.00	99.000	3564.00
30.00	60.0	Shear	KIPS	206.48	5.69	0.00	99.000	3564.00	99.000	3564.00
31.00	62.0	Flexure	KIP-FT	812.52	96.48	0.00	99.000	3564.00	99.000	3564.00
31.00	62.0	Shear	KIPS	206.48	6.83	0.00	99.000	3564.00	99.000	3564.00
35.00	70.0	Flexure	KIP-FT	817.88	60.12	0.00	99.000	3564.00	99.000	3564.00
35.00	70.0	Shear	KIPS	207.64	11.35	0.00	99.000	3564.00	99.000	3564.00
40.00	80.0	Flexure	KIP-FT	-817.88	-12.44	-	3.315	119.34	4.297	154.71
40.00	80.0	Shear	KIPS	207.64	17.34	0.00	99.000	3564.00	99.000	3564.00
45.00	90.0	Flexure	KIP-FT	-817.88	-	-	2.192	78.90	2.841	102.28
45.00	90.0	Shear	KIPS	207.64	22.99	0.00	99.000	3564.00	99.000	3564.00
45.50	91.0	Flexure	KIP-	-817.88	-	-	2.074	74.66	2.688	96.78

			FT		124.88	181.04				
45.50	91.0	Shear	KIPS	207.64	23.55	0.00	99.000	3564.00	99.000	3564.00
47.50	95.0	Flexure	KIP-FT	-812.52	-	-	1.628	58.61	2.110	75.98
					174.28	206.39				
47.50	95.0	Shear	KIPS	207.64	25.85	0.00	99.000	3564.00	99.000	3564.00

Span 3

							Inventory	Inventory	Operating	Operating
							Rating	Load Rating	Rating	Load Rating
Location										
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-	-	1.056	38.02	1.369	49.29
				242.50	270.62					
0.00	0.0	Shear	KIPS	206.48	28.74	0.00	99.000	3564.00	99.000	3564.00
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.407	50.67	1.824	65.68
				173.63	239.09					
2.50	6.3	Shear	KIPS	206.48	26.10	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.651	59.43	2.140	77.04
				135.77	222.57					
4.00	10.0	Shear	KIPS	207.64	24.38	0.00	99.000	3564.00	99.000	3564.00
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.461	52.61	1.894	68.19
				123.72	217.51					
4.50	11.3	Shear	KIPS	207.64	23.81	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-	1.973	71.02	2.557	92.06
				189.63						
8.00	20.0	Shear	KIPS	207.64	19.85	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Flexure	KIP-FT	817.88	23.05	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Shear	KIPS	207.64	15.33	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Flexure	KIP-FT	817.88	51.46	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Shear	KIPS	207.64	13.07	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Flexure	KIP-FT	812.52	75.33	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Shear	KIPS	206.48	10.80	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Flexure	KIP-FT	812.52	108.74	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Shear	KIPS	206.48	6.04	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Flexure	KIP-FT	812.52	123.25	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Shear	KIPS	206.48	1.49	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Flexure	KIP-FT	812.52	123.68	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Shear	KIPS	206.48	0.93	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Flexure	KIP-FT	817.88	119.57	0.00	99.000	3564.00	99.000	3564.00

28.00	70.0	Shear	KIPS	207.64	3.18	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Flexure	KIP-FT	817.88	97.79	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Shear	KIPS	207.64	7.70	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Flexure	KIP-FT	817.88	57.93	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Shear	KIPS	207.64	12.22	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	16.74	0.00	99.000	3564.00	99.000	3564.00

**Detailed Rating Results
HL-93 (US)
Tandem + Lane
Impact: As Requested
Lane: As Requested**

Span 1

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
0.00	0.0	Shear	KIPS	207.64	16.74	68.00	1.563	56.29	2.027	72.96
4.00	10.0	Flexure	KIP-FT	817.88	57.93	153.80	2.761	99.41	3.580	128.87
4.00	10.0	Shear	KIPS	207.64	12.22	58.22	1.883	67.80	2.441	87.89
8.00	20.0	Flexure	KIP-FT	817.88	97.79	262.92	1.504	54.14	1.949	70.18
8.00	20.0	Shear	KIPS	207.64	7.70	41.45	2.726	98.12	3.533	127.20
12.00	30.0	Flexure	KIP-FT	817.88	119.57	329.23	1.152	41.48	1.494	53.77
12.00	30.0	Shear	KIPS	207.64	3.18	33.97	3.423	123.25	4.438	159.76
14.00	35.0	Flexure	KIP-FT	812.52	123.68	347.36	1.075	38.68	1.393	50.14
14.00	35.0	Shear	KIPS	206.48	0.93	30.44	3.854	138.73	4.995	179.83
16.00	40.0	Flexure	KIP-FT	812.52	123.25	355.42	1.051	37.84	1.363	49.05
16.00	40.0	Shear	KIPS	206.48	1.49	27.00	4.329	155.85	5.612	202.02
20.00	50.0	Flexure	KIP-FT	812.52	108.74	349.72	1.099	39.56	1.424	51.28
20.00	50.0	Shear	KIPS	206.48	6.04	32.65	3.477	125.17	4.507	162.26
24.00	60.0	Flexure	KIP-FT	812.52	75.33	316.33	1.292	46.53	1.675	60.32
24.00	60.0	Shear	KIPS	206.48	10.80	39.43	2.791	100.46	3.617	130.23

26.00	65.0	Flexure	KIP-FT	812.52	51.46	287.67	1.482	53.36	1.922	69.17
26.00	65.0	Shear	KIPS	206.48	13.07	42.75	2.535	91.26	3.286	118.30
28.00	70.0	Flexure	KIP-FT	817.88	23.05	251.98	1.787	64.35	2.317	83.41
28.00	70.0	Shear	KIPS	207.64	15.33	46.00	2.334	84.03	3.026	108.93
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-182.27	2.052	73.89	2.660	95.78
32.00	80.0	Shear	KIPS	207.64	19.85	52.23	1.992	71.71	2.582	92.95
35.50	88.8	Flexure	KIP-FT	-715.59	-	-123.72	1.513	54.45	1.961	70.59
35.50	88.8	Shear	KIPS	207.64	23.81	57.31	1.765	63.53	2.287	82.35
36.00	90.0	Flexure	KIP-FT	-817.88	-	-135.77	1.707	61.43	2.212	79.64
36.00	90.0	Shear	KIPS	207.64	24.38	58.00	1.736	62.50	2.251	81.02
37.50	93.8	Flexure	KIP-FT	-812.52	-	-173.63	1.448	52.14	1.877	67.59
37.50	93.8	Shear	KIPS	206.48	26.10	60.00	1.646	59.26	2.134	76.82
40.00	100.0	Flexure	KIP-FT	-812.52	-	-242.50	1.078	38.80	1.397	50.30
40.00	100.0	Shear	KIPS	206.48	28.74	64.11	1.511	54.38	1.958	70.49

Span 2

							Inventory	Inventory	Operating	Operating
							Rating	Load Rating	Rating	Load Rating
Location										
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-	-174.28	1.644	59.19	2.131	76.73
2.50	5.0	Shear	KIPS	206.48	25.85	60.96	1.623	58.44	2.104	75.76
4.50	9.0	Flexure	KIP-FT	-817.88	-	-124.88	2.069	74.48	2.682	96.55
4.50	9.0	Shear	KIPS	207.64	23.55	58.32	1.737	62.55	2.252	81.08
5.00	10.0	Flexure	KIP-FT	-817.88	-	-113.24	2.178	78.41	2.823	101.64
5.00	10.0	Shear	KIPS	207.64	22.99	57.63	1.765	63.55	2.288	82.37
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	180.75	2.636	94.91	3.417	123.03
10.00	20.0	Shear	KIPS	207.64	17.34	50.45	2.099	75.56	2.721	97.95
15.00	30.0	Flexure	KIP-FT	817.88	60.12	264.85	1.598	57.51	2.071	74.56
15.00	30.0	Shear	KIPS	207.64	11.69	42.86	2.568	92.43	3.328	119.82
19.00	38.0	Flexure	KIP-FT	812.52	96.48	315.01	1.249	44.95	1.618	58.26
19.00	38.0	Shear	KIPS	206.48	6.83	36.65	3.082	110.96	3.996	143.84
20.00	40.0	Flexure	KIP-	812.52	102.75	323.16	1.203	43.30	1.559	56.13

			FT							
20.00	40.0	Shear	KIPS	206.48	5.69	35.10	3.242	116.71	4.203	151.29
25.00	50.0	Flexure	KIP- FT	812.52	116.98	340.00	1.112	40.05	1.442	51.91
25.00	50.0	Shear	KIPS	206.48	0.00	27.50	4.291	154.47	5.562	200.24
30.00	60.0	Flexure	KIP- FT	812.52	102.75	323.16	1.203	43.30	1.559	56.13
30.00	60.0	Shear	KIPS	206.48	5.69	35.10	3.242	116.71	4.203	151.29
31.00	62.0	Flexure	KIP- FT	812.52	96.48	315.01	1.249	44.95	1.618	58.26
31.00	62.0	Shear	KIPS	206.48	6.83	36.65	3.082	110.96	3.996	143.84
35.00	70.0	Flexure	KIP- FT	817.88	60.12	264.85	1.598	57.51	2.071	74.56
35.00	70.0	Shear	KIPS	207.64	11.69	42.86	2.568	92.43	3.328	119.82
40.00	80.0	Flexure	KIP- FT	817.88	-12.44	180.75	2.636	94.91	3.417	123.03
40.00	80.0	Shear	KIPS	207.64	17.34	50.45	2.099	75.56	2.721	97.95
45.00	90.0	Flexure	KIP- FT	-817.88	-	-	2.178	78.41	2.823	101.64
45.00	90.0	Shear	KIPS	207.64	22.99	57.63	1.765	63.55	2.288	82.37
45.50	91.0	Flexure	KIP- FT	-817.88	-	-	2.069	74.48	2.682	96.55
45.50	91.0	Shear	KIPS	207.64	23.55	58.32	1.737	62.55	2.252	81.08
47.50	95.0	Flexure	KIP- FT	-812.52	-	-	1.644	59.19	2.131	76.73
47.50	95.0	Shear	KIPS	206.48	25.85	60.96	1.623	58.44	2.104	75.76

Span 3

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP- FT	-812.52	-	-	1.078	38.80	1.397	50.30
0.00	0.0	Shear	KIPS	206.48	28.74	64.11	1.511	54.38	1.958	70.49
2.50	6.3	Flexure	KIP- FT	-812.52	-	-	1.448	52.14	1.877	67.59
2.50	6.3	Shear	KIPS	206.48	26.10	60.00	1.646	59.26	2.134	76.82
4.00	10.0	Flexure	KIP- FT	-817.88	-	-	1.707	61.43	2.212	79.64
4.00	10.0	Shear	KIPS	207.64	24.38	58.00	1.736	62.50	2.251	81.02
4.50	11.3	Flexure	KIP- FT	-715.59	-	-	1.513	54.45	1.961	70.59
4.50	11.3	Shear	KIPS	207.64	23.81	57.31	1.765	63.53	2.287	82.35
8.00	20.0	Flexure	KIP- FT	-715.59	-47.32	-	2.052	73.89	2.660	95.78

8.00	20.0	Shear	KIPS	207.64	19.85	52.23	1.992	71.71	2.582	92.95
12.00	30.0	Flexure	KIP-FT	817.88	23.05	251.98	1.787	64.35	2.317	83.41
12.00	30.0	Shear	KIPS	207.64	15.33	46.00	2.334	84.03	3.026	108.93
14.00	35.0	Flexure	KIP-FT	812.52	51.46	287.67	1.482	53.36	1.922	69.17
14.00	35.0	Shear	KIPS	206.48	13.07	42.75	2.535	91.26	3.286	118.30
16.00	40.0	Flexure	KIP-FT	812.52	75.33	316.33	1.292	46.53	1.675	60.32
16.00	40.0	Shear	KIPS	206.48	10.80	39.43	2.791	100.46	3.617	130.23
20.00	50.0	Flexure	KIP-FT	812.52	108.74	349.72	1.099	39.56	1.424	51.28
20.00	50.0	Shear	KIPS	206.48	6.04	32.65	3.477	125.17	4.507	162.26
24.00	60.0	Flexure	KIP-FT	812.52	123.25	355.42	1.051	37.84	1.363	49.05
24.00	60.0	Shear	KIPS	206.48	1.49	27.00	4.329	155.85	5.612	202.02
26.00	65.0	Flexure	KIP-FT	812.52	123.68	347.36	1.075	38.68	1.393	50.14
26.00	65.0	Shear	KIPS	206.48	0.93	30.44	3.854	138.73	4.995	179.83
28.00	70.0	Flexure	KIP-FT	817.88	119.57	329.23	1.152	41.48	1.494	53.77
28.00	70.0	Shear	KIPS	207.64	3.18	33.97	3.423	123.25	4.438	159.76
32.00	80.0	Flexure	KIP-FT	817.88	97.79	262.92	1.504	54.14	1.949	70.18
32.00	80.0	Shear	KIPS	207.64	7.70	41.45	2.726	98.12	3.533	127.20
36.00	90.0	Flexure	KIP-FT	817.88	57.93	153.80	2.761	99.41	3.580	128.87
36.00	90.0	Shear	KIPS	207.64	12.22	58.22	1.883	67.80	2.441	87.89
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	16.74	68.00	1.563	56.29	2.027	72.96

Bridge Name: I95 over Souadabscook Stream West
NBI Structure ID: 1433+5951
Bridge ID: Br. No. 1433+5951

Analyzed By: Virtis
Analyze Date: Thursday, April 25, 2013 10:34:53
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Thursday, April 25, 2013 11:14:28

Structure Definition Name: 1433+5951
Member Name: G2
Member Alternative Name: G2

Report by Action: ☒ **Flexure** ☒ **Shear** ☐ **Overload** ☐ **Critical**

Detailed Rating Results
Legal Lane Load
Lane
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	0.00
0.00	0.0	Shear	KIPS	207.64	16.74	3.35	42.385	0.00
4.00	10.0	Flexure	KIP-FT	817.88	57.93	7.74	73.261	0.00
4.00	10.0	Shear	KIPS	207.64	12.22	2.66	55.028	0.00
8.00	20.0	Flexure	KIP-FT	817.88	97.79	13.58	38.890	0.00
8.00	20.0	Shear	KIPS	207.64	7.70	1.75	86.227	0.00
12.00	30.0	Flexure	KIP-FT	817.88	119.57	17.51	28.941	0.00
12.00	30.0	Shear	KIPS	207.64	3.18	1.32	99.000	0.00
14.00	35.0	Flexure	KIP-FT	812.52	123.68	18.76	26.580	0.00
14.00	35.0	Shear	KIPS	207.64	0.93	1.13	99.000	0.00
16.00	40.0	Flexure	KIP-FT	812.52	123.25	19.53	25.551	0.00
16.00	40.0	Shear	KIPS	206.48	1.49	1.16	99.000	0.00
20.00	50.0	Flexure	KIP-FT	812.52	108.74	19.64	26.131	0.00
20.00	50.0	Shear	KIPS	206.48	6.04	1.49	99.000	0.00
24.00	60.0	Flexure	KIP-FT	812.52	75.33	17.85	30.597	0.00
24.00	60.0	Shear	KIPS	206.48	10.80	1.89	77.672	0.00
26.00	65.0	Flexure	KIP-FT	812.52	51.46	16.24	35.080	0.00

26.00	65.0	Shear	KIPS	206.48	13.07	2.12	68.387	0.00
28.00	70.0	Flexure	KIP-FT	817.88	23.05	14.15	42.523	0.00
28.00	70.0	Shear	KIPS	207.64	15.33	2.36	60.886	0.00
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-13.11	38.113	0.00
32.00	80.0	Shear	KIPS	207.64	19.85	2.87	48.363	0.00
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-17.03	24.939	0.00
35.50	88.8	Shear	KIPS	207.64	23.81	3.37	40.131	0.00
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-17.96	27.335	0.00
36.00	90.0	Shear	KIPS	207.64	24.38	3.44	39.114	0.00
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-21.22	21.183	0.00
37.50	93.8	Shear	KIPS	206.48	26.10	3.66	36.029	0.00
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-28.05	13.611	0.00
40.00	100.0	Shear	KIPS	206.48	28.74	4.29	30.130	0.00

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-20.68	21.706	0.00
2.50	5.0	Shear	KIPS	206.48	25.85	3.91	33.808	0.00
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-15.90	31.537	0.00
4.50	9.0	Shear	KIPS	207.64	23.55	3.61	37.452	0.00
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-14.89	34.462	0.00
5.00	10.0	Shear	KIPS	207.64	22.99	3.54	38.378	0.00
10.00	20.0	Flexure	KIP-FT	-817.88	-12.44	-8.77	69.765	0.00
10.00	20.0	Shear	KIPS	207.64	17.34	2.85	49.612	0.00
15.00	30.0	Flexure	KIP-FT	817.88	60.12	13.93	40.583	0.00
15.00	30.0	Shear	KIPS	207.64	11.69	2.24	65.690	0.00
19.00	38.0	Flexure	KIP-FT	812.52	96.48	17.55	29.944	0.00
19.00	38.0	Shear	KIPS	206.48	6.83	1.81	83.437	0.00
20.00	40.0	Flexure	KIP-FT	812.52	102.75	18.17	28.580	0.00
20.00	40.0	Shear	KIPS	206.48	5.69	1.71	88.893	0.00
25.00	50.0	Flexure	KIP-FT	812.52	116.98	19.58	25.802	0.00
25.00	50.0	Shear	KIPS	206.48	0.00	1.27	99.000	0.00
30.00	60.0	Flexure	KIP-FT	812.52	102.75	18.17	28.580	0.00
30.00	60.0	Shear	KIPS	206.48	5.69	1.71	88.893	0.00
31.00	62.0	Flexure	KIP-FT	812.52	96.48	17.55	29.944	0.00
31.00	62.0	Shear	KIPS	206.48	6.83	1.81	83.437	0.00
35.00	70.0	Flexure	KIP-FT	817.88	60.12	13.93	40.583	0.00
35.00	70.0	Shear	KIPS	207.64	11.69	2.24	65.690	0.00
40.00	80.0	Flexure	KIP-FT	-817.88	-12.44	-8.77	69.765	0.00
40.00	80.0	Shear	KIPS	207.64	17.34	2.85	49.612	0.00

45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-14.89	34.462	0.00
45.00	90.0	Shear	KIPS	207.64	22.99	3.54	38.378	0.00
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-15.90	31.537	0.00
45.50	91.0	Shear	KIPS	207.64	23.55	3.61	37.452	0.00
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-20.68	21.706	0.00
47.50	95.0	Shear	KIPS	206.48	25.85	3.91	33.808	0.00

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-28.05	13.611	0.00
0.00	0.0	Shear	KIPS	206.48	28.74	4.29	30.130	0.00
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-21.22	21.183	0.00
2.50	6.3	Shear	KIPS	206.48	26.10	3.66	36.029	0.00
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-17.96	27.335	0.00
4.00	10.0	Shear	KIPS	207.64	24.38	3.44	39.114	0.00
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-17.03	24.939	0.00
4.50	11.3	Shear	KIPS	207.64	23.81	3.37	40.131	0.00
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-13.11	38.113	0.00
8.00	20.0	Shear	KIPS	207.64	19.85	2.87	48.363	0.00
12.00	30.0	Flexure	KIP-FT	817.88	23.05	14.15	42.523	0.00
12.00	30.0	Shear	KIPS	207.64	15.33	2.36	60.886	0.00
14.00	35.0	Flexure	KIP-FT	812.52	51.46	16.24	35.080	0.00
14.00	35.0	Shear	KIPS	206.48	13.07	2.12	68.387	0.00
16.00	40.0	Flexure	KIP-FT	812.52	75.33	17.85	30.597	0.00
16.00	40.0	Shear	KIPS	206.48	10.80	1.89	77.672	0.00
20.00	50.0	Flexure	KIP-FT	812.52	108.74	19.64	26.131	0.00
20.00	50.0	Shear	KIPS	206.48	6.04	1.49	99.000	0.00
24.00	60.0	Flexure	KIP-FT	812.52	123.25	19.53	25.551	0.00
24.00	60.0	Shear	KIPS	206.48	1.49	1.16	99.000	0.00
26.00	65.0	Flexure	KIP-FT	812.52	123.68	18.76	26.580	0.00
26.00	65.0	Shear	KIPS	206.48	0.93	1.13	99.000	0.00
28.00	70.0	Flexure	KIP-FT	817.88	119.57	17.51	28.941	0.00
28.00	70.0	Shear	KIPS	207.64	3.18	1.32	99.000	0.00
32.00	80.0	Flexure	KIP-FT	817.88	97.79	13.58	38.890	0.00
32.00	80.0	Shear	KIPS	207.64	7.70	1.75	86.227	0.00
36.00	90.0	Flexure	KIP-FT	817.88	57.93	7.74	73.261	0.00
36.00	90.0	Shear	KIPS	207.64	12.22	2.66	55.028	0.00
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	0.00
40.00	100.0	Shear	KIPS	207.64	16.74	3.35	42.385	0.00

**Detailed Rating Results
Maine DOT Config. 1
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4950.00
0.00	0.0	Shear	KIPS	207.64	16.74	61.47	2.311	115.54
4.00	10.0	Flexure	KIP-FT	817.88	57.93	129.12	4.394	219.70
4.00	10.0	Shear	KIPS	207.64	12.22	49.74	2.945	147.23
8.00	20.0	Flexure	KIP-FT	817.88	97.79	205.59	2.569	128.45
8.00	20.0	Shear	KIPS	207.64	7.70	33.05	4.567	228.33
12.00	30.0	Flexure	KIP-FT	817.88	119.57	250.83	2.020	101.01
12.00	30.0	Shear	KIPS	207.64	3.18	26.88	5.781	289.07
14.00	35.0	Flexure	KIP-FT	812.52	123.68	266.69	1.870	93.48
14.00	35.0	Shear	KIPS	206.48	0.93	24.02	6.524	326.22
16.00	40.0	Flexure	KIP-FT	812.52	123.25	276.07	1.808	90.38
16.00	40.0	Shear	KIPS	206.48	1.49	21.22	7.359	367.94
20.00	50.0	Flexure	KIP-FT	812.52	108.74	271.79	1.889	94.44
20.00	50.0	Shear	KIPS	206.48	6.04	27.02	5.614	280.72
24.00	60.0	Flexure	KIP-FT	812.52	75.33	239.72	2.278	113.92
24.00	60.0	Shear	KIPS	206.48	10.80	34.38	4.275	213.77
26.00	65.0	Flexure	KIP-FT	812.52	51.46	221.14	2.576	128.80
26.00	65.0	Shear	KIPS	206.48	13.07	37.71	3.839	191.97
28.00	70.0	Flexure	KIP-FT	817.88	23.05	193.25	3.113	155.67
28.00	70.0	Shear	KIPS	207.64	15.33	40.74	3.520	176.01
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-174.55	2.863	143.15
32.00	80.0	Shear	KIPS	207.64	19.85	46.12	3.013	150.66
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-193.64	2.193	109.64
35.50	88.8	Shear	KIPS	207.64	23.81	51.53	2.622	131.08
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-196.36	2.500	124.98
36.00	90.0	Shear	KIPS	207.64	24.38	52.68	2.554	127.69
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-216.99	2.072	103.58
37.50	93.8	Shear	KIPS	206.48	26.10	55.98	2.357	117.86
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-299.34	1.276	63.78
40.00	100.0	Shear	KIPS	206.48	28.74	65.78	1.967	98.33

Span 2

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-220.45	2.036	101.81
2.50	5.0	Shear	KIPS	206.48	25.85	60.80	2.174	108.72
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-158.99	3.155	157.73
4.50	9.0	Shear	KIPS	207.64	23.55	56.78	2.384	119.19
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-144.66	3.546	177.31
5.00	10.0	Shear	KIPS	207.64	22.99	55.77	2.437	121.85
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	136.74	4.655	232.77
10.00	20.0	Shear	KIPS	207.64	17.34	45.55	3.106	155.28
15.00	30.0	Flexure	KIP-FT	817.88	60.12	220.33	2.565	128.27
15.00	30.0	Shear	KIPS	207.64	11.69	37.01	3.972	198.62
19.00	38.0	Flexure	KIP-FT	812.52	96.48	255.81	2.054	102.69
19.00	38.0	Shear	KIPS	206.48	6.83	30.71	4.913	245.67
20.00	40.0	Flexure	KIP-FT	812.52	102.75	259.89	1.998	99.90
20.00	40.0	Shear	KIPS	206.48	5.69	29.06	5.232	261.58
25.00	50.0	Flexure	KIP-FT	812.52	116.98	253.88	1.990	99.50
25.00	50.0	Shear	KIPS	206.48	0.00	20.08	7.851	392.57
30.00	60.0	Flexure	KIP-FT	812.52	102.75	259.89	1.998	99.90
30.00	60.0	Shear	KIPS	206.48	5.69	29.06	5.232	261.58
31.00	62.0	Flexure	KIP-FT	812.52	96.48	255.81	2.054	102.69
31.00	62.0	Shear	KIPS	206.48	6.83	30.71	4.913	245.67
35.00	70.0	Flexure	KIP-FT	817.88	60.12	220.33	2.565	128.27
35.00	70.0	Shear	KIPS	207.64	11.69	37.01	3.972	198.62
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	136.74	4.655	232.77
40.00	80.0	Shear	KIPS	207.64	17.34	45.55	3.106	155.28
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-144.66	3.546	177.31
45.00	90.0	Shear	KIPS	207.64	22.99	55.77	2.437	121.85
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-158.99	3.155	157.73
45.50	91.0	Shear	KIPS	207.64	23.55	56.78	2.384	119.19
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-220.45	2.036	101.81
47.50	95.0	Shear	KIPS	206.48	25.85	60.80	2.174	108.72

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-299.34	1.276	63.78
0.00	0.0	Shear	KIPS	206.48	28.74	65.78	1.967	98.33
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-216.99	2.072	103.58
2.50	6.3	Shear	KIPS	206.48	26.10	55.98	2.357	117.86

4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-196.36	2.500	124.98
4.00	10.0	Shear	KIPS	207.64	24.38	52.68	2.554	127.69
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-193.64	2.193	109.64
4.50	11.3	Shear	KIPS	207.64	23.81	51.53	2.622	131.08
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-174.55	2.863	143.15
8.00	20.0	Shear	KIPS	207.64	19.85	46.12	3.013	150.66
12.00	30.0	Flexure	KIP-FT	817.88	23.05	193.25	3.113	155.67
12.00	30.0	Shear	KIPS	207.64	15.33	40.74	3.520	176.01
14.00	35.0	Flexure	KIP-FT	812.52	51.46	221.14	2.576	128.80
14.00	35.0	Shear	KIPS	206.48	13.07	37.71	3.839	191.97
16.00	40.0	Flexure	KIP-FT	812.52	75.33	239.72	2.278	113.92
16.00	40.0	Shear	KIPS	206.48	10.80	34.38	4.275	213.77
20.00	50.0	Flexure	KIP-FT	812.52	108.74	271.79	1.889	94.44
20.00	50.0	Shear	KIPS	206.48	6.04	27.02	5.614	280.72
24.00	60.0	Flexure	KIP-FT	812.52	123.25	276.07	1.808	90.38
24.00	60.0	Shear	KIPS	206.48	1.49	21.22	7.359	367.94
26.00	65.0	Flexure	KIP-FT	812.52	123.68	266.69	1.870	93.48
26.00	65.0	Shear	KIPS	206.48	0.93	24.02	6.524	326.22
28.00	70.0	Flexure	KIP-FT	817.88	119.57	250.83	2.020	101.01
28.00	70.0	Shear	KIPS	207.64	3.18	26.88	5.781	289.07
32.00	80.0	Flexure	KIP-FT	817.88	97.79	205.59	2.569	128.45
32.00	80.0	Shear	KIPS	207.64	7.70	33.05	4.567	228.33
36.00	90.0	Flexure	KIP-FT	817.88	57.93	129.12	4.394	219.70
36.00	90.0	Shear	KIPS	207.64	12.22	49.74	2.945	147.23
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4950.00
40.00	100.0	Shear	KIPS	207.64	16.74	61.47	2.311	115.54

Detailed Rating Results
Maine DOT Config. 1 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9900.00
0.00	0.0	Shear	KIPS	207.64	16.74	61.47	2.311	231.08
4.00	10.0	Flexure	KIP-FT	817.88	57.93	129.12	4.394	439.40
4.00	10.0	Shear	KIPS	207.64	12.22	49.74	2.945	294.47
8.00	20.0	Flexure	KIP-FT	817.88	97.79	205.59	2.569	256.89
8.00	20.0	Shear	KIPS	207.64	7.70	33.05	4.567	456.66

12.00	30.0	Flexure	KIP-FT	817.88	119.57	250.83	2.020	202.03
12.00	30.0	Shear	KIPS	207.64	3.18	26.88	5.781	578.13
14.00	35.0	Flexure	KIP-FT	812.52	123.68	266.69	1.870	186.97
14.00	35.0	Shear	KIPS	206.48	0.93	24.02	6.524	652.44
16.00	40.0	Flexure	KIP-FT	812.52	123.25	276.07	1.808	180.77
16.00	40.0	Shear	KIPS	206.48	1.49	25.57	6.106	610.61
20.00	50.0	Flexure	KIP-FT	812.52	108.74	271.79	1.889	188.87
20.00	50.0	Shear	KIPS	206.48	6.04	30.87	4.913	491.28
24.00	60.0	Flexure	KIP-FT	812.52	75.33	239.72	2.278	227.84
24.00	60.0	Shear	KIPS	206.48	10.80	35.59	4.130	413.00
26.00	65.0	Flexure	KIP-FT	812.52	51.46	221.14	2.576	257.60
26.00	65.0	Shear	KIPS	206.48	13.07	37.78	3.832	383.18
28.00	70.0	Flexure	KIP-FT	817.88	23.05	193.25	3.113	311.34
28.00	70.0	Shear	KIPS	207.64	15.33	40.74	3.520	352.03
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-162.67	3.072	307.22
32.00	80.0	Shear	KIPS	207.64	19.85	46.20	3.009	300.86
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-222.84	1.905	190.54
35.50	88.8	Shear	KIPS	207.64	23.81	53.54	2.523	252.34
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-231.88	2.117	211.68
36.00	90.0	Shear	KIPS	207.64	24.38	54.55	2.466	246.60
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-260.12	1.728	172.81
37.50	93.8	Shear	KIPS	206.48	26.10	57.48	2.296	229.57
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-311.58	1.225	122.54
40.00	100.0	Shear	KIPS	206.48	28.74	66.41	1.948	194.81

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-238.24	1.884	188.42
2.50	5.0	Shear	KIPS	206.48	25.85	61.88	2.136	213.64
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-186.71	2.686	268.63
4.50	9.0	Shear	KIPS	207.64	23.55	58.27	2.323	232.28
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-175.48	2.923	292.33
5.00	10.0	Shear	KIPS	207.64	22.99	57.41	2.367	236.74
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	139.03	4.579	457.87
10.00	20.0	Shear	KIPS	207.64	17.34	48.57	2.913	291.27
15.00	30.0	Flexure	KIP-FT	817.88	60.12	217.36	2.601	260.05
15.00	30.0	Shear	KIPS	207.64	11.69	39.65	3.708	370.77
19.00	38.0	Flexure	KIP-FT	812.52	96.48	253.94	2.069	206.89
19.00	38.0	Shear	KIPS	206.48	6.83	32.62	4.626	462.59
20.00	40.0	Flexure	KIP-FT	812.52	102.75	258.48	2.009	200.88

20.00	40.0	Shear	KIPS	206.48	5.69	30.90	4.920	491.98
25.00	50.0	Flexure	KIP-FT	812.52	116.98	252.78	1.999	199.87
25.00	50.0	Shear	KIPS	206.48	0.00	22.55	6.989	698.87
30.00	60.0	Flexure	KIP-FT	812.52	102.75	258.48	2.009	200.88
30.00	60.0	Shear	KIPS	206.48	5.69	30.90	4.920	491.98
31.00	62.0	Flexure	KIP-FT	812.52	96.48	253.94	2.069	206.89
31.00	62.0	Shear	KIPS	206.48	6.83	32.62	4.626	462.59
35.00	70.0	Flexure	KIP-FT	817.88	60.12	217.36	2.601	260.05
35.00	70.0	Shear	KIPS	207.64	11.69	39.65	3.708	370.77
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	139.03	4.579	457.87
40.00	80.0	Shear	KIPS	207.64	17.34	48.57	2.913	291.27
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-175.48	2.923	292.33
45.00	90.0	Shear	KIPS	207.64	22.99	57.41	2.367	236.74
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-186.71	2.686	268.63
45.50	91.0	Shear	KIPS	207.64	23.55	58.27	2.323	232.28
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-238.24	1.884	188.42
47.50	95.0	Shear	KIPS	206.48	25.85	61.88	2.136	213.64

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-311.58	1.225	122.54
0.00	0.0	Shear	KIPS	206.48	28.74	66.41	1.948	194.81
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-260.12	1.728	172.81
2.50	6.3	Shear	KIPS	206.48	26.10	57.48	2.296	229.57
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-231.88	2.117	211.68
4.00	10.0	Shear	KIPS	207.64	24.38	54.55	2.466	246.60
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-222.84	1.905	190.54
4.50	11.3	Shear	KIPS	207.64	23.81	53.54	2.523	252.34
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-162.67	3.072	307.22
8.00	20.0	Shear	KIPS	207.64	19.85	46.20	3.009	300.86
12.00	30.0	Flexure	KIP-FT	817.88	23.05	193.25	3.113	311.34
12.00	30.0	Shear	KIPS	207.64	15.33	40.74	3.520	352.03
14.00	35.0	Flexure	KIP-FT	812.52	51.46	221.14	2.576	257.60
14.00	35.0	Shear	KIPS	206.48	13.07	37.78	3.832	383.18
16.00	40.0	Flexure	KIP-FT	812.52	75.33	239.72	2.278	227.84
16.00	40.0	Shear	KIPS	206.48	10.80	35.59	4.130	413.00
20.00	50.0	Flexure	KIP-FT	812.52	108.74	271.79	1.889	188.87
20.00	50.0	Shear	KIPS	206.48	6.04	30.87	4.913	491.28
24.00	60.0	Flexure	KIP-FT	812.52	123.25	276.07	1.808	180.77
24.00	60.0	Shear	KIPS	206.48	1.49	25.57	6.106	610.61

26.00	65.0	Flexure	KIP-FT	812.52	123.68	266.69	1.870	186.97
26.00	65.0	Shear	KIPS	206.48	0.93	24.02	6.524	652.44
28.00	70.0	Flexure	KIP-FT	817.88	119.57	250.83	2.020	202.03
28.00	70.0	Shear	KIPS	207.64	3.18	26.88	5.781	578.13
32.00	80.0	Flexure	KIP-FT	817.88	97.79	205.59	2.569	256.89
32.00	80.0	Shear	KIPS	207.64	7.70	33.05	4.567	456.66
36.00	90.0	Flexure	KIP-FT	817.88	57.93	129.12	4.394	439.40
36.00	90.0	Shear	KIPS	207.64	12.22	49.74	2.945	294.47
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9900.00
40.00	100.0	Shear	KIPS	207.64	16.74	61.47	2.311	231.08

Detailed Rating Results
Maine DOT Config. 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4653.00
0.00	0.0	Shear	KIPS	207.64	16.74	63.56	2.235	105.03
4.00	10.0	Flexure	KIP-FT	817.88	57.93	136.98	4.142	194.66
4.00	10.0	Shear	KIPS	207.64	12.22	52.77	2.776	130.46
8.00	20.0	Flexure	KIP-FT	817.88	97.79	221.32	2.386	112.16
8.00	20.0	Shear	KIPS	207.64	7.70	36.15	4.176	196.25
12.00	30.0	Flexure	KIP-FT	817.88	119.57	279.68	1.812	85.16
12.00	30.0	Shear	KIPS	207.64	3.18	27.53	5.644	265.28
14.00	35.0	Flexure	KIP-FT	812.52	123.68	301.88	1.652	77.63
14.00	35.0	Shear	KIPS	206.48	0.93	23.18	6.760	317.70
16.00	40.0	Flexure	KIP-FT	812.52	123.25	312.20	1.598	75.13
16.00	40.0	Shear	KIPS	206.48	1.49	18.99	8.221	386.38
20.00	50.0	Flexure	KIP-FT	812.52	108.74	317.07	1.619	76.09
20.00	50.0	Shear	KIPS	206.48	6.04	24.29	6.245	293.53
24.00	60.0	Flexure	KIP-FT	812.52	75.33	280.08	1.950	91.66
24.00	60.0	Shear	KIPS	206.48	10.80	32.91	4.466	209.92
26.00	65.0	Flexure	KIP-FT	812.52	51.46	247.91	2.298	108.00
26.00	65.0	Shear	KIPS	206.48	13.07	37.04	3.909	183.70
28.00	70.0	Flexure	KIP-FT	817.88	23.05	207.64	2.898	136.19
28.00	70.0	Shear	KIPS	207.64	15.33	41.01	3.497	164.36
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-180.24	2.773	130.31
32.00	80.0	Shear	KIPS	207.64	19.85	48.45	2.868	134.81

35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-209.03	2.031	95.47
35.50	88.8	Shear	KIPS	207.64	23.81	54.31	2.487	116.91
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-216.78	2.264	106.42
36.00	90.0	Shear	KIPS	207.64	24.38	55.10	2.442	114.75
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-240.08	1.872	88.00
37.50	93.8	Shear	KIPS	206.48	26.10	57.36	2.301	108.13
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-279.56	1.366	64.19
40.00	100.0	Shear	KIPS	206.48	28.74	64.77	1.997	93.87

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-206.24	2.177	102.30
2.50	5.0	Shear	KIPS	206.48	25.85	60.60	2.182	102.53
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-177.97	2.818	132.46
4.50	9.0	Shear	KIPS	207.64	23.55	57.09	2.371	111.42
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-170.94	3.001	141.05
5.00	10.0	Shear	KIPS	207.64	22.99	56.21	2.418	113.63
10.00	20.0	Flexure	KIP-FT	-817.88	-12.44	-136.00	4.501	211.53
10.00	20.0	Shear	KIPS	207.64	17.34	46.98	3.011	141.52
15.00	30.0	Flexure	KIP-FT	817.88	60.12	236.08	2.394	112.53
15.00	30.0	Shear	KIPS	207.64	11.69	37.35	3.937	185.02
19.00	38.0	Flexure	KIP-FT	812.52	96.48	286.02	1.837	86.33
19.00	38.0	Shear	KIPS	206.48	6.83	29.78	5.067	238.13
20.00	40.0	Flexure	KIP-FT	812.52	102.75	293.95	1.766	83.02
20.00	40.0	Shear	KIPS	206.48	5.69	27.93	5.443	255.82
25.00	50.0	Flexure	KIP-FT	812.52	116.98	304.71	1.658	77.93
25.00	50.0	Shear	KIPS	206.48	0.00	18.40	8.566	402.60
30.00	60.0	Flexure	KIP-FT	812.52	102.75	293.95	1.766	83.02
30.00	60.0	Shear	KIPS	206.48	5.69	27.93	5.443	255.82
31.00	62.0	Flexure	KIP-FT	812.52	96.48	286.02	1.837	86.33
31.00	62.0	Shear	KIPS	206.48	6.83	29.78	5.067	238.13
35.00	70.0	Flexure	KIP-FT	817.88	60.12	236.08	2.394	112.53
35.00	70.0	Shear	KIPS	207.64	11.69	37.35	3.937	185.02
40.00	80.0	Flexure	KIP-FT	-817.88	-12.44	-136.00	4.501	211.53
40.00	80.0	Shear	KIPS	207.64	17.34	46.98	3.011	141.52
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-170.94	3.001	141.05
45.00	90.0	Shear	KIPS	207.64	22.99	56.21	2.418	113.63
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-177.97	2.818	132.46
45.50	91.0	Shear	KIPS	207.64	23.55	57.09	2.371	111.42
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-206.24	2.177	102.30

47.50	95.0	Shear	KIPS	206.48	25.85	60.60	2.182	102.53
Span 3								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-279.56	1.366	64.19
0.00	0.0	Shear	KIPS	206.48	28.74	64.77	1.997	93.87
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-240.08	1.872	88.00
2.50	6.3	Shear	KIPS	206.48	26.10	57.36	2.301	108.13
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-216.78	2.264	106.42
4.00	10.0	Shear	KIPS	207.64	24.38	55.10	2.442	114.75
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-209.03	2.031	95.47
4.50	11.3	Shear	KIPS	207.64	23.81	54.31	2.487	116.91
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-180.24	2.773	130.31
8.00	20.0	Shear	KIPS	207.64	19.85	48.45	2.868	134.81
12.00	30.0	Flexure	KIP-FT	817.88	23.05	207.64	2.898	136.19
12.00	30.0	Shear	KIPS	207.64	15.33	41.01	3.497	164.36
14.00	35.0	Flexure	KIP-FT	812.52	51.46	247.91	2.298	108.00
14.00	35.0	Shear	KIPS	206.48	13.07	37.04	3.909	183.70
16.00	40.0	Flexure	KIP-FT	812.52	75.33	280.08	1.950	91.66
16.00	40.0	Shear	KIPS	206.48	10.80	32.91	4.466	209.92
20.00	50.0	Flexure	KIP-FT	812.52	108.74	317.07	1.619	76.09
20.00	50.0	Shear	KIPS	206.48	6.04	24.29	6.245	293.53
24.00	60.0	Flexure	KIP-FT	812.52	123.25	312.20	1.598	75.13
24.00	60.0	Shear	KIPS	206.48	1.49	18.99	8.221	386.38
26.00	65.0	Flexure	KIP-FT	812.52	123.68	301.88	1.652	77.63
26.00	65.0	Shear	KIPS	206.48	0.93	23.18	6.760	317.70
28.00	70.0	Flexure	KIP-FT	817.88	119.57	279.68	1.812	85.16
28.00	70.0	Shear	KIPS	207.64	3.18	27.53	5.644	265.28
32.00	80.0	Flexure	KIP-FT	817.88	97.79	221.32	2.386	112.16
32.00	80.0	Shear	KIPS	207.64	7.70	36.15	4.176	196.25
36.00	90.0	Flexure	KIP-FT	817.88	57.93	136.98	4.142	194.66
36.00	90.0	Shear	KIPS	207.64	12.22	52.77	2.776	130.46
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4653.00
40.00	100.0	Shear	KIPS	207.64	16.74	63.56	2.235	105.03

Detailed Rating Results
Maine DOT Config. 2 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9306.00
0.00	0.0	Shear	KIPS	207.64	16.74	63.56	2.235	210.06
4.00	10.0	Flexure	KIP-FT	817.88	57.93	136.98	4.142	389.33
4.00	10.0	Shear	KIPS	207.64	12.22	52.77	2.776	260.91
8.00	20.0	Flexure	KIP-FT	817.88	97.79	221.39	2.386	224.25
8.00	20.0	Shear	KIPS	207.64	7.70	36.17	4.173	392.28
12.00	30.0	Flexure	KIP-FT	817.88	119.57	279.68	1.812	170.32
12.00	30.0	Shear	KIPS	207.64	3.18	28.24	5.502	517.20
14.00	35.0	Flexure	KIP-FT	812.52	123.68	301.88	1.652	155.26
14.00	35.0	Shear	KIPS	206.48	0.93	24.17	6.485	609.57
16.00	40.0	Flexure	KIP-FT	812.52	123.25	312.20	1.598	150.26
16.00	40.0	Shear	KIPS	206.48	1.49	20.25	7.712	724.91
20.00	50.0	Flexure	KIP-FT	812.52	108.74	317.07	1.619	152.18
20.00	50.0	Shear	KIPS	206.48	6.04	26.11	5.809	546.08
24.00	60.0	Flexure	KIP-FT	812.52	75.33	280.08	1.950	183.31
24.00	60.0	Shear	KIPS	206.48	10.80	33.88	4.339	407.84
26.00	65.0	Flexure	KIP-FT	812.52	51.46	248.26	2.295	215.69
26.00	65.0	Shear	KIPS	206.48	13.07	37.65	3.846	361.48
28.00	70.0	Flexure	KIP-FT	817.88	23.05	213.61	2.817	264.76
28.00	70.0	Shear	KIPS	207.64	15.33	41.27	3.475	326.65
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-177.33	2.818	264.91
32.00	80.0	Shear	KIPS	207.64	19.85	48.45	2.868	269.63
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-215.24	1.973	185.44
35.50	88.8	Shear	KIPS	207.64	23.81	54.31	2.487	233.82
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-221.08	2.220	208.70
36.00	90.0	Shear	KIPS	207.64	24.38	55.10	2.442	229.50
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-240.08	1.872	176.00
37.50	93.8	Shear	KIPS	206.48	26.10	57.36	2.301	216.25
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-279.56	1.366	128.38
40.00	100.0	Shear	KIPS	206.48	28.74	64.77	1.997	187.75

Span 2								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)

2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-206.24	2.177	204.60
2.50	5.0	Shear	KIPS	206.48	25.85	60.88	2.172	204.12
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-177.97	2.818	264.91
4.50	9.0	Shear	KIPS	207.64	23.55	57.60	2.350	220.90
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-170.94	3.001	282.10
5.00	10.0	Shear	KIPS	207.64	22.99	56.77	2.394	225.04
10.00	20.0	Flexure	KIP-FT	-817.88	-12.44	-136.00	4.501	423.07
10.00	20.0	Shear	KIPS	207.64	17.34	48.04	2.945	276.80
15.00	30.0	Flexure	KIP-FT	817.88	60.12	234.07	2.415	227.00
15.00	30.0	Shear	KIPS	207.64	11.69	38.80	3.789	356.20
19.00	38.0	Flexure	KIP-FT	812.52	96.48	283.59	1.853	174.15
19.00	38.0	Shear	KIPS	206.48	6.83	31.26	4.827	453.75
20.00	40.0	Flexure	KIP-FT	812.52	102.75	291.60	1.781	167.38
20.00	40.0	Shear	KIPS	206.48	5.69	29.39	5.173	486.29
25.00	50.0	Flexure	KIP-FT	812.52	116.98	304.27	1.660	156.08
25.00	50.0	Shear	KIPS	206.48	0.00	20.64	7.637	717.89
30.00	60.0	Flexure	KIP-FT	812.52	102.75	291.60	1.781	167.38
30.00	60.0	Shear	KIPS	206.48	5.69	29.39	5.173	486.29
31.00	62.0	Flexure	KIP-FT	812.52	96.48	283.59	1.853	174.15
31.00	62.0	Shear	KIPS	206.48	6.83	31.26	4.827	453.75
35.00	70.0	Flexure	KIP-FT	817.88	60.12	234.07	2.415	227.00
35.00	70.0	Shear	KIPS	207.64	11.69	38.80	3.789	356.20
40.00	80.0	Flexure	KIP-FT	-817.88	-12.44	-136.00	4.501	423.07
40.00	80.0	Shear	KIPS	207.64	17.34	48.04	2.945	276.80
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-170.94	3.001	282.10
45.00	90.0	Shear	KIPS	207.64	22.99	56.77	2.394	225.04
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-177.97	2.818	264.91
45.50	91.0	Shear	KIPS	207.64	23.55	57.60	2.350	220.90
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-206.24	2.177	204.60
47.50	95.0	Shear	KIPS	206.48	25.85	60.88	2.172	204.12

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-279.56	1.366	128.38
0.00	0.0	Shear	KIPS	206.48	28.74	64.77	1.997	187.75
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-240.08	1.872	176.00
2.50	6.3	Shear	KIPS	206.48	26.10	57.36	2.301	216.25
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-221.08	2.220	208.70
4.00	10.0	Shear	KIPS	207.64	24.38	55.10	2.442	229.50
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-215.24	1.973	185.44

4.50	11.3	Shear	KIPS	207.64	23.81	54.31	2.487	233.82
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-177.33	2.818	264.91
8.00	20.0	Shear	KIPS	207.64	19.85	48.45	2.868	269.63
12.00	30.0	Flexure	KIP-FT	817.88	23.05	213.61	2.817	264.76
12.00	30.0	Shear	KIPS	207.64	15.33	41.27	3.475	326.65
14.00	35.0	Flexure	KIP-FT	812.52	51.46	248.26	2.295	215.69
14.00	35.0	Shear	KIPS	206.48	13.07	37.65	3.846	361.48
16.00	40.0	Flexure	KIP-FT	812.52	75.33	280.08	1.950	183.31
16.00	40.0	Shear	KIPS	206.48	10.80	33.88	4.339	407.84
20.00	50.0	Flexure	KIP-FT	812.52	108.74	317.07	1.619	152.18
20.00	50.0	Shear	KIPS	206.48	6.04	26.11	5.809	546.08
24.00	60.0	Flexure	KIP-FT	812.52	123.25	312.20	1.598	150.26
24.00	60.0	Shear	KIPS	206.48	1.49	20.25	7.712	724.91
26.00	65.0	Flexure	KIP-FT	812.52	123.68	301.88	1.652	155.26
26.00	65.0	Shear	KIPS	206.48	0.93	24.17	6.485	609.57
28.00	70.0	Flexure	KIP-FT	817.88	119.57	279.68	1.812	170.32
28.00	70.0	Shear	KIPS	207.64	3.18	28.24	5.502	517.20
32.00	80.0	Flexure	KIP-FT	817.88	97.79	221.39	2.386	224.25
32.00	80.0	Shear	KIPS	207.64	7.70	36.17	4.173	392.28
36.00	90.0	Flexure	KIP-FT	817.88	57.93	136.98	4.142	389.33
36.00	90.0	Shear	KIPS	207.64	12.22	52.77	2.776	260.91
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9306.00
40.00	100.0	Shear	KIPS	207.64	16.74	63.56	2.235	210.06

Detailed Rating Results
Maine DOT Config. 3
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal	Legal
							Rating	Load
Location								Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	16.74	65.66	2.163	95.19
4.00	10.0	Flexure	KIP-FT	817.88	57.93	142.26	3.988	175.48
4.00	10.0	Shear	KIPS	207.64	12.22	54.81	2.673	117.60
8.00	20.0	Flexure	KIP-FT	817.88	97.79	231.86	2.278	100.23
8.00	20.0	Shear	KIPS	207.64	7.70	37.72	4.001	176.05
12.00	30.0	Flexure	KIP-FT	817.88	119.57	293.73	1.725	75.91
12.00	30.0	Shear	KIPS	207.64	3.18	28.90	5.376	236.56
14.00	35.0	Flexure	KIP-FT	812.52	123.68	307.32	1.622	71.39

14.00	35.0	Shear	KIPS	206.48	0.93	24.45	6.410	282.04
16.00	40.0	Flexure	KIP-FT	812.52	123.25	317.03	1.574	69.26
16.00	40.0	Shear	KIPS	206.48	1.49	20.37	7.667	337.34
20.00	50.0	Flexure	KIP-FT	812.52	108.74	303.14	1.693	74.51
20.00	50.0	Shear	KIPS	206.48	6.04	23.19	6.541	287.82
24.00	60.0	Flexure	KIP-FT	812.52	75.33	278.90	1.958	86.17
24.00	60.0	Shear	KIPS	206.48	10.80	31.70	4.637	204.02
26.00	65.0	Flexure	KIP-FT	812.52	51.46	249.98	2.279	100.26
26.00	65.0	Shear	KIPS	206.48	13.07	36.28	3.990	175.58
28.00	70.0	Flexure	KIP-FT	817.88	23.05	210.38	2.860	125.83
28.00	70.0	Shear	KIPS	207.64	15.33	40.99	3.499	153.96
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-192.58	2.595	114.18
32.00	80.0	Shear	KIPS	207.64	19.85	49.88	2.786	122.60
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-213.64	1.988	87.45
35.50	88.8	Shear	KIPS	207.64	23.81	57.00	2.370	104.28
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-216.65	2.266	99.69
36.00	90.0	Shear	KIPS	207.64	24.38	57.97	2.321	102.11
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-225.67	1.992	87.64
37.50	93.8	Shear	KIPS	206.48	26.10	60.73	2.173	95.59
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-240.72	1.586	69.79
40.00	100.0	Shear	KIPS	206.48	28.74	66.18	1.955	86.00

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-171.88	2.612	114.91
2.50	5.0	Shear	KIPS	206.48	25.85	62.20	2.126	93.53
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-162.41	3.088	135.88
4.50	9.0	Shear	KIPS	207.64	23.55	58.79	2.302	101.29
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-160.04	3.205	141.04
5.00	10.0	Shear	KIPS	207.64	22.99	57.93	2.346	103.23
10.00	20.0	Flexure	KIP-FT	-817.88	-12.44	-136.36	4.489	197.52
10.00	20.0	Shear	KIPS	207.64	17.34	48.74	2.902	127.70
15.00	30.0	Flexure	KIP-FT	817.88	60.12	239.54	2.360	103.83
15.00	30.0	Shear	KIPS	207.64	11.69	39.00	3.770	165.88
19.00	38.0	Flexure	KIP-FT	812.52	96.48	293.97	1.787	78.64
19.00	38.0	Shear	KIPS	206.48	6.83	31.06	4.859	213.79
20.00	40.0	Flexure	KIP-FT	812.52	102.75	302.99	1.714	75.40
20.00	40.0	Shear	KIPS	206.48	5.69	29.08	5.228	230.04
25.00	50.0	Flexure	KIP-FT	812.52	116.98	317.05	1.594	70.12
25.00	50.0	Shear	KIPS	206.48	0.00	19.45	8.105	356.61

30.00	60.0	Flexure	KIP-FT	812.52	102.75	302.99	1.714	75.40
30.00	60.0	Shear	KIPS	206.48	5.69	29.08	5.228	230.04
31.00	62.0	Flexure	KIP-FT	812.52	96.48	293.97	1.787	78.64
31.00	62.0	Shear	KIPS	206.48	6.83	31.06	4.859	213.79
35.00	70.0	Flexure	KIP-FT	817.88	60.12	239.54	2.360	103.83
35.00	70.0	Shear	KIPS	207.64	11.69	39.00	3.770	165.88
40.00	80.0	Flexure	KIP-FT	-817.88	-12.44	-136.36	4.489	197.52
40.00	80.0	Shear	KIPS	207.64	17.34	48.74	2.902	127.70
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-160.04	3.205	141.04
45.00	90.0	Shear	KIPS	207.64	22.99	57.93	2.346	103.23
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-162.41	3.088	135.88
45.50	91.0	Shear	KIPS	207.64	23.55	58.79	2.302	101.29
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-171.88	2.612	114.91
47.50	95.0	Shear	KIPS	206.48	25.85	62.20	2.126	93.53

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-240.72	1.586	69.79
0.00	0.0	Shear	KIPS	206.48	28.74	66.18	1.955	86.00
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-225.67	1.992	87.64
2.50	6.3	Shear	KIPS	206.48	26.10	60.73	2.173	95.59
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-216.65	2.266	99.69
4.00	10.0	Shear	KIPS	207.64	24.38	57.97	2.321	102.11
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-213.64	1.988	87.45
4.50	11.3	Shear	KIPS	207.64	23.81	57.00	2.370	104.28
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-192.58	2.595	114.18
8.00	20.0	Shear	KIPS	207.64	19.85	49.88	2.786	122.60
12.00	30.0	Flexure	KIP-FT	817.88	23.05	210.38	2.860	125.83
12.00	30.0	Shear	KIPS	207.64	15.33	40.99	3.499	153.96
14.00	35.0	Flexure	KIP-FT	812.52	51.46	249.98	2.279	100.26
14.00	35.0	Shear	KIPS	206.48	13.07	36.28	3.990	175.58
16.00	40.0	Flexure	KIP-FT	812.52	75.33	278.90	1.958	86.17
16.00	40.0	Shear	KIPS	206.48	10.80	31.70	4.637	204.02
20.00	50.0	Flexure	KIP-FT	812.52	108.74	303.14	1.693	74.51
20.00	50.0	Shear	KIPS	206.48	6.04	23.19	6.541	287.82
24.00	60.0	Flexure	KIP-FT	812.52	123.25	317.03	1.574	69.26
24.00	60.0	Shear	KIPS	206.48	1.49	20.37	7.667	337.34
26.00	65.0	Flexure	KIP-FT	812.52	123.68	307.32	1.622	71.39
26.00	65.0	Shear	KIPS	206.48	0.93	24.45	6.410	282.04
28.00	70.0	Flexure	KIP-FT	817.88	119.57	293.73	1.725	75.91

28.00	70.0	Shear	KIPS	207.64	3.18	28.90	5.376	236.56
32.00	80.0	Flexure	KIP-FT	817.88	97.79	231.86	2.278	100.23
32.00	80.0	Shear	KIPS	207.64	7.70	37.72	4.001	176.05
36.00	90.0	Flexure	KIP-FT	817.88	57.93	142.26	3.988	175.48
36.00	90.0	Shear	KIPS	207.64	12.22	54.81	2.673	117.60
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	16.74	65.66	2.163	95.19

Detailed Rating Results
Maine DOT Config. 3 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
0.00	0.0	Shear	KIPS	207.64	16.74	65.66	2.163	190.37
4.00	10.0	Flexure	KIP-FT	817.88	57.93	142.26	3.988	350.97
4.00	10.0	Shear	KIPS	207.64	12.22	54.81	2.673	235.20
8.00	20.0	Flexure	KIP-FT	817.88	97.79	231.86	2.278	200.45
8.00	20.0	Shear	KIPS	207.64	7.70	37.72	4.001	352.09
12.00	30.0	Flexure	KIP-FT	817.88	119.57	293.73	1.725	151.82
12.00	30.0	Shear	KIPS	207.64	3.18	28.90	5.376	473.12
14.00	35.0	Flexure	KIP-FT	812.52	123.68	307.32	1.622	142.78
14.00	35.0	Shear	KIPS	206.48	0.93	24.45	6.410	564.07
16.00	40.0	Flexure	KIP-FT	812.52	123.25	317.03	1.574	138.52
16.00	40.0	Shear	KIPS	206.48	1.49	22.76	6.860	603.70
20.00	50.0	Flexure	KIP-FT	812.52	108.74	303.14	1.693	149.02
20.00	50.0	Shear	KIPS	206.48	6.04	28.47	5.327	468.79
24.00	60.0	Flexure	KIP-FT	812.52	75.33	278.90	1.958	172.33
24.00	60.0	Shear	KIPS	206.48	10.80	35.43	4.149	365.12
26.00	65.0	Flexure	KIP-FT	812.52	51.46	249.98	2.279	200.53
26.00	65.0	Shear	KIPS	206.48	13.07	39.63	3.653	321.46
28.00	70.0	Flexure	KIP-FT	817.88	23.05	210.38	2.860	251.66
28.00	70.0	Shear	KIPS	207.64	15.33	43.70	3.282	288.86
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-187.75	2.662	234.23
32.00	80.0	Shear	KIPS	207.64	19.85	51.38	2.705	238.02
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-237.33	1.789	157.44
35.50	88.8	Shear	KIPS	207.64	23.81	57.56	2.347	206.52
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-244.69	2.006	176.53

36.00	90.0	Shear	KIPS	207.64	24.38	58.41	2.303	202.68
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-273.29	1.645	144.75
37.50	93.8	Shear	KIPS	206.48	26.10	60.82	2.170	190.93
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-329.24	1.160	102.05
40.00	100.0	Shear	KIPS	206.48	28.74	66.18	1.955	172.01

Span 2

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-258.77	1.735	152.66
2.50	5.0	Shear	KIPS	206.48	25.85	62.43	2.118	186.36
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-216.73	2.314	203.65
4.50	9.0	Shear	KIPS	207.64	23.55	59.25	2.284	201.01
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-202.36	2.535	223.08
5.00	10.0	Shear	KIPS	207.64	22.99	58.48	2.324	204.51
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	143.24	4.444	391.08
10.00	20.0	Shear	KIPS	207.64	17.34	50.16	2.820	248.18
15.00	30.0	Flexure	KIP-FT	817.88	60.12	227.69	2.483	218.47
15.00	30.0	Shear	KIPS	207.64	11.69	41.14	3.574	314.47
19.00	38.0	Flexure	KIP-FT	812.52	96.48	275.79	1.905	167.64
19.00	38.0	Shear	KIPS	206.48	6.83	33.94	4.446	391.27
20.00	40.0	Flexure	KIP-FT	812.52	102.75	284.50	1.825	160.61
20.00	40.0	Shear	KIPS	206.48	5.69	32.16	4.727	416.00
25.00	50.0	Flexure	KIP-FT	812.52	116.98	301.97	1.673	147.23
25.00	50.0	Shear	KIPS	206.48	0.00	23.87	6.602	580.98
30.00	60.0	Flexure	KIP-FT	812.52	102.75	284.50	1.825	160.61
30.00	60.0	Shear	KIPS	206.48	5.69	32.16	4.727	416.00
31.00	62.0	Flexure	KIP-FT	812.52	96.48	275.79	1.905	167.64
31.00	62.0	Shear	KIPS	206.48	6.83	33.94	4.446	391.27
35.00	70.0	Flexure	KIP-FT	817.88	60.12	227.69	2.483	218.47
35.00	70.0	Shear	KIPS	207.64	11.69	41.14	3.574	314.47
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	143.24	4.444	391.08
40.00	80.0	Shear	KIPS	207.64	17.34	50.16	2.820	248.18
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-202.36	2.535	223.08
45.00	90.0	Shear	KIPS	207.64	22.99	58.48	2.324	204.51
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-216.73	2.314	203.65
45.50	91.0	Shear	KIPS	207.64	23.55	59.25	2.284	201.01
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-258.77	1.735	152.66
47.50	95.0	Shear	KIPS	206.48	25.85	62.43	2.118	186.36

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-329.24	1.160	102.05
0.00	0.0	Shear	KIPS	206.48	28.74	66.18	1.955	172.01
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-273.29	1.645	144.75
2.50	6.3	Shear	KIPS	206.48	26.10	60.82	2.170	190.93
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-244.69	2.006	176.53
4.00	10.0	Shear	KIPS	207.64	24.38	58.41	2.303	202.68
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-237.33	1.789	157.44
4.50	11.3	Shear	KIPS	207.64	23.81	57.56	2.347	206.52
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-187.75	2.662	234.23
8.00	20.0	Shear	KIPS	207.64	19.85	51.38	2.705	238.02
12.00	30.0	Flexure	KIP-FT	817.88	23.05	210.38	2.860	251.66
12.00	30.0	Shear	KIPS	207.64	15.33	43.70	3.282	288.86
14.00	35.0	Flexure	KIP-FT	812.52	51.46	249.98	2.279	200.53
14.00	35.0	Shear	KIPS	206.48	13.07	39.63	3.653	321.46
16.00	40.0	Flexure	KIP-FT	812.52	75.33	278.90	1.958	172.33
16.00	40.0	Shear	KIPS	206.48	10.80	35.43	4.149	365.12
20.00	50.0	Flexure	KIP-FT	812.52	108.74	303.14	1.693	149.02
20.00	50.0	Shear	KIPS	206.48	6.04	28.47	5.327	468.79
24.00	60.0	Flexure	KIP-FT	812.52	123.25	317.03	1.574	138.52
24.00	60.0	Shear	KIPS	206.48	1.49	22.76	6.860	603.70
26.00	65.0	Flexure	KIP-FT	812.52	123.68	307.32	1.622	142.78
26.00	65.0	Shear	KIPS	206.48	0.93	24.45	6.410	564.07
28.00	70.0	Flexure	KIP-FT	817.88	119.57	293.73	1.725	151.82
28.00	70.0	Shear	KIPS	207.64	3.18	28.90	5.376	473.12
32.00	80.0	Flexure	KIP-FT	817.88	97.79	231.86	2.278	200.45
32.00	80.0	Shear	KIPS	207.64	7.70	37.72	4.001	352.09
36.00	90.0	Flexure	KIP-FT	817.88	57.93	142.26	3.988	350.97
36.00	90.0	Shear	KIPS	207.64	12.22	54.81	2.673	235.20
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	16.74	65.66	2.163	190.37

Detailed Rating Results
Maine DOT Config. 4
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location	Legal Rating	Legal Load
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								Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	16.74	67.26	2.112	92.91
4.00	10.0	Flexure	KIP-FT	817.88	57.93	144.35	3.931	172.94
4.00	10.0	Shear	KIPS	207.64	12.22	55.61	2.634	115.90
8.00	20.0	Flexure	KIP-FT	817.88	97.79	231.43	2.282	100.42
8.00	20.0	Shear	KIPS	207.64	7.70	37.80	3.992	175.66
12.00	30.0	Flexure	KIP-FT	817.88	119.57	287.51	1.763	77.55
12.00	30.0	Shear	KIPS	207.64	3.18	29.16	5.329	234.48
14.00	35.0	Flexure	KIP-FT	812.52	123.68	298.29	1.672	73.55
14.00	35.0	Shear	KIPS	206.48	0.93	25.14	6.234	274.28
16.00	40.0	Flexure	KIP-FT	812.52	123.25	298.80	1.670	73.49
16.00	40.0	Shear	KIPS	206.48	1.49	21.30	7.330	322.50
20.00	50.0	Flexure	KIP-FT	812.52	108.74	290.55	1.767	77.74
20.00	50.0	Shear	KIPS	206.48	6.04	25.69	5.903	259.75
24.00	60.0	Flexure	KIP-FT	812.52	75.33	270.02	2.023	89.00
24.00	60.0	Shear	KIPS	206.48	10.80	32.89	4.469	196.65
26.00	65.0	Flexure	KIP-FT	812.52	51.46	245.81	2.317	101.97
26.00	65.0	Shear	KIPS	206.48	13.07	37.39	3.872	170.35
28.00	70.0	Flexure	KIP-FT	817.88	23.05	211.53	2.844	125.15
28.00	70.0	Shear	KIPS	207.64	15.33	41.77	3.434	151.09
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-193.07	2.588	113.89
32.00	80.0	Shear	KIPS	207.64	19.85	50.08	2.775	122.12
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-214.19	1.982	87.23
35.50	88.8	Shear	KIPS	207.64	23.81	57.31	2.357	103.71
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-217.21	2.260	99.43
36.00	90.0	Shear	KIPS	207.64	24.38	58.40	2.304	101.36
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-226.26	1.987	87.42
37.50	93.8	Shear	KIPS	206.48	26.10	61.53	2.145	94.36
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-241.34	1.582	69.61
40.00	100.0	Shear	KIPS	206.48	28.74	68.65	1.884	82.91

Span 2

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-172.75	2.599	114.34
2.50	5.0	Shear	KIPS	206.48	25.85	64.26	2.057	90.53
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-164.59	3.047	134.08
4.50	9.0	Shear	KIPS	207.64	23.55	60.60	2.234	98.28

5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-162.19	3.163	139.17
5.00	10.0	Shear	KIPS	207.64	22.99	59.66	2.278	100.23
10.00	20.0	Flexure	KIP-FT	-817.88	-12.44	-138.19	4.429	194.89
10.00	20.0	Shear	KIPS	207.64	17.34	50.01	2.829	124.46
15.00	30.0	Flexure	KIP-FT	817.88	60.12	234.96	2.406	105.85
15.00	30.0	Shear	KIPS	207.64	11.69	40.21	3.656	160.87
19.00	38.0	Flexure	KIP-FT	812.52	96.48	280.12	1.876	82.52
19.00	38.0	Shear	KIPS	206.48	6.83	32.46	4.648	204.53
20.00	40.0	Flexure	KIP-FT	812.52	102.75	285.98	1.816	79.89
20.00	40.0	Shear	KIPS	206.48	5.69	30.57	4.972	218.77
25.00	50.0	Flexure	KIP-FT	812.52	116.98	300.05	1.684	74.09
25.00	50.0	Shear	KIPS	206.48	0.00	21.60	7.298	321.13
30.00	60.0	Flexure	KIP-FT	812.52	102.75	285.98	1.816	79.89
30.00	60.0	Shear	KIPS	206.48	5.69	30.57	4.972	218.77
31.00	62.0	Flexure	KIP-FT	812.52	96.48	280.12	1.876	82.52
31.00	62.0	Shear	KIPS	206.48	6.83	32.46	4.648	204.53
35.00	70.0	Flexure	KIP-FT	817.88	60.12	234.96	2.406	105.85
35.00	70.0	Shear	KIPS	207.64	11.69	40.21	3.656	160.87
40.00	80.0	Flexure	KIP-FT	-817.88	-12.44	-138.19	4.429	194.89
40.00	80.0	Shear	KIPS	207.64	17.34	50.01	2.829	124.46
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-162.19	3.163	139.17
45.00	90.0	Shear	KIPS	207.64	22.99	59.66	2.278	100.23
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-164.59	3.047	134.08
45.50	91.0	Shear	KIPS	207.64	23.55	60.60	2.234	98.28
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-172.75	2.599	114.34
47.50	95.0	Shear	KIPS	206.48	25.85	64.26	2.057	90.53

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-241.34	1.582	69.61
0.00	0.0	Shear	KIPS	206.48	28.74	68.65	1.884	82.91
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-226.26	1.987	87.42
2.50	6.3	Shear	KIPS	206.48	26.10	61.53	2.145	94.36
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-217.21	2.260	99.43
4.00	10.0	Shear	KIPS	207.64	24.38	58.40	2.304	101.36
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-214.19	1.982	87.23
4.50	11.3	Shear	KIPS	207.64	23.81	57.31	2.357	103.71
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-193.07	2.588	113.89
8.00	20.0	Shear	KIPS	207.64	19.85	50.08	2.775	122.12
12.00	30.0	Flexure	KIP-FT	817.88	23.05	211.53	2.844	125.15

12.00	30.0	Shear	KIPS	207.64	15.33	41.77	3.434	151.09
14.00	35.0	Flexure	KIP-FT	812.52	51.46	245.81	2.317	101.97
14.00	35.0	Shear	KIPS	206.48	13.07	37.39	3.872	170.35
16.00	40.0	Flexure	KIP-FT	812.52	75.33	270.02	2.023	89.00
16.00	40.0	Shear	KIPS	206.48	10.80	32.89	4.469	196.65
20.00	50.0	Flexure	KIP-FT	812.52	108.74	290.55	1.767	77.74
20.00	50.0	Shear	KIPS	206.48	6.04	25.69	5.903	259.75
24.00	60.0	Flexure	KIP-FT	812.52	123.25	298.80	1.670	73.49
24.00	60.0	Shear	KIPS	206.48	1.49	21.30	7.330	322.50
26.00	65.0	Flexure	KIP-FT	812.52	123.68	298.29	1.672	73.55
26.00	65.0	Shear	KIPS	206.48	0.93	25.14	6.234	274.28
28.00	70.0	Flexure	KIP-FT	817.88	119.57	287.51	1.763	77.55
28.00	70.0	Shear	KIPS	207.64	3.18	29.16	5.329	234.48
32.00	80.0	Flexure	KIP-FT	817.88	97.79	231.43	2.282	100.42
32.00	80.0	Shear	KIPS	207.64	7.70	37.80	3.992	175.66
36.00	90.0	Flexure	KIP-FT	817.88	57.93	144.35	3.931	172.94
36.00	90.0	Shear	KIPS	207.64	12.22	55.61	2.634	115.90
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	16.74	67.26	2.112	92.91

Detailed Rating Results
Maine DOT Config. 4 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
0.00	0.0	Shear	KIPS	207.64	16.74	67.26	2.112	185.82
4.00	10.0	Flexure	KIP-FT	817.88	57.93	144.35	3.931	345.89
4.00	10.0	Shear	KIPS	207.64	12.22	55.61	2.634	231.80
8.00	20.0	Flexure	KIP-FT	817.88	97.79	231.43	2.282	200.83
8.00	20.0	Shear	KIPS	207.64	7.70	37.80	3.992	351.32
12.00	30.0	Flexure	KIP-FT	817.88	119.57	287.51	1.763	155.10
12.00	30.0	Shear	KIPS	207.64	3.18	29.16	5.329	468.96
14.00	35.0	Flexure	KIP-FT	812.52	123.68	298.29	1.672	147.10
14.00	35.0	Shear	KIPS	206.48	0.93	25.14	6.234	548.56
16.00	40.0	Flexure	KIP-FT	812.52	123.25	298.80	1.670	146.97
16.00	40.0	Shear	KIPS	206.48	1.49	25.30	6.173	543.19
20.00	50.0	Flexure	KIP-FT	812.52	108.74	290.55	1.767	155.47

20.00	50.0	Shear	KIPS	206.48	6.04	32.06	4.731	416.34
24.00	60.0	Flexure	KIP-FT	812.52	75.33	270.02	2.023	178.00
24.00	60.0	Shear	KIPS	206.48	10.80	38.17	3.851	338.89
26.00	65.0	Flexure	KIP-FT	812.52	51.46	245.81	2.317	203.93
26.00	65.0	Shear	KIPS	206.48	13.07	42.09	3.439	302.67
28.00	70.0	Flexure	KIP-FT	817.88	23.05	211.53	2.844	250.30
28.00	70.0	Shear	KIPS	207.64	15.33	45.85	3.128	275.27
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-185.02	2.701	237.69
32.00	80.0	Shear	KIPS	207.64	19.85	52.93	2.626	231.05
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-236.09	1.799	158.27
35.50	88.8	Shear	KIPS	207.64	23.81	59.14	2.284	201.01
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-243.95	2.012	177.07
36.00	90.0	Shear	KIPS	207.64	24.38	60.09	2.239	197.03
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-269.84	1.666	146.60
37.50	93.8	Shear	KIPS	206.48	26.10	62.80	2.101	184.91
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-323.91	1.179	103.73
40.00	100.0	Shear	KIPS	206.48	28.74	69.28	1.867	164.33

Span 2

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-257.80	1.741	153.23
2.50	5.0	Shear	KIPS	206.48	25.85	65.27	2.025	178.23
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-216.68	2.315	203.69
4.50	9.0	Shear	KIPS	207.64	23.55	61.91	2.186	192.39
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-207.12	2.477	217.95
5.00	10.0	Shear	KIPS	207.64	22.99	61.04	2.226	195.92
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	145.46	4.376	385.11
10.00	20.0	Shear	KIPS	207.64	17.34	52.01	2.720	239.36
15.00	30.0	Flexure	KIP-FT	817.88	60.12	226.59	2.495	219.53
15.00	30.0	Shear	KIPS	207.64	11.69	43.39	3.388	298.19
19.00	38.0	Flexure	KIP-FT	812.52	96.48	268.11	1.960	172.45
19.00	38.0	Shear	KIPS	206.48	6.83	36.31	4.156	365.74
20.00	40.0	Flexure	KIP-FT	812.52	102.75	273.82	1.896	166.87
20.00	40.0	Shear	KIPS	206.48	5.69	34.55	4.400	387.18
25.00	50.0	Flexure	KIP-FT	812.52	116.98	280.39	1.802	158.56
25.00	50.0	Shear	KIPS	206.48	0.00	26.57	5.933	522.07
30.00	60.0	Flexure	KIP-FT	812.52	102.75	273.82	1.896	166.87
30.00	60.0	Shear	KIPS	206.48	5.69	34.55	4.400	387.18
31.00	62.0	Flexure	KIP-FT	812.52	96.48	268.11	1.960	172.45
31.00	62.0	Shear	KIPS	206.48	6.83	36.31	4.156	365.74

35.00	70.0	Flexure	KIP-FT	817.88	60.12	226.59	2.495	219.53
35.00	70.0	Shear	KIPS	207.64	11.69	43.39	3.388	298.19
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	145.46	4.376	385.11
40.00	80.0	Shear	KIPS	207.64	17.34	52.01	2.720	239.36
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-207.12	2.477	217.95
45.00	90.0	Shear	KIPS	207.64	22.99	61.04	2.226	195.92
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-216.68	2.315	203.69
45.50	91.0	Shear	KIPS	207.64	23.55	61.91	2.186	192.39
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-257.80	1.741	153.23
47.50	95.0	Shear	KIPS	206.48	25.85	65.27	2.025	178.23

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-323.91	1.179	103.73
0.00	0.0	Shear	KIPS	206.48	28.74	69.28	1.867	164.33
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-269.84	1.666	146.60
2.50	6.3	Shear	KIPS	206.48	26.10	62.80	2.101	184.91
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-243.95	2.012	177.07
4.00	10.0	Shear	KIPS	207.64	24.38	60.09	2.239	197.03
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-236.09	1.799	158.27
4.50	11.3	Shear	KIPS	207.64	23.81	59.14	2.284	201.01
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-185.02	2.701	237.69
8.00	20.0	Shear	KIPS	207.64	19.85	52.93	2.626	231.05
12.00	30.0	Flexure	KIP-FT	817.88	23.05	211.53	2.844	250.30
12.00	30.0	Shear	KIPS	207.64	15.33	45.85	3.128	275.27
14.00	35.0	Flexure	KIP-FT	812.52	51.46	245.81	2.317	203.93
14.00	35.0	Shear	KIPS	206.48	13.07	42.09	3.439	302.67
16.00	40.0	Flexure	KIP-FT	812.52	75.33	270.02	2.023	178.00
16.00	40.0	Shear	KIPS	206.48	10.80	38.17	3.851	338.89
20.00	50.0	Flexure	KIP-FT	812.52	108.74	290.55	1.767	155.47
20.00	50.0	Shear	KIPS	206.48	6.04	32.06	4.731	416.34
24.00	60.0	Flexure	KIP-FT	812.52	123.25	298.80	1.670	146.97
24.00	60.0	Shear	KIPS	206.48	1.49	25.30	6.173	543.19
26.00	65.0	Flexure	KIP-FT	812.52	123.68	298.29	1.672	147.10
26.00	65.0	Shear	KIPS	206.48	0.93	25.14	6.234	548.56
28.00	70.0	Flexure	KIP-FT	817.88	119.57	287.51	1.763	155.10
28.00	70.0	Shear	KIPS	207.64	3.18	29.16	5.329	468.96
32.00	80.0	Flexure	KIP-FT	817.88	97.79	231.43	2.282	200.83
32.00	80.0	Shear	KIPS	207.64	7.70	37.80	3.992	351.32
36.00	90.0	Flexure	KIP-FT	817.88	57.93	144.35	3.931	345.89

36.00	90.0	Shear	KIPS	207.64	12.22	55.61	2.634	231.80
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	16.74	67.26	2.112	185.82

**Detailed Rating Results
Maine DOT Config. 5
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	16.74	65.19	2.179	95.87
4.00	10.0	Flexure	KIP-FT	817.88	57.93	141.32	4.015	176.65
4.00	10.0	Shear	KIPS	207.64	12.22	54.44	2.691	118.38
8.00	20.0	Flexure	KIP-FT	817.88	97.79	229.65	2.300	101.20
8.00	20.0	Shear	KIPS	207.64	7.70	37.51	4.023	177.02
12.00	30.0	Flexure	KIP-FT	817.88	119.57	280.38	1.807	79.53
12.00	30.0	Shear	KIPS	207.64	3.18	28.84	5.388	237.06
14.00	35.0	Flexure	KIP-FT	812.52	123.68	293.41	1.699	74.77
14.00	35.0	Shear	KIPS	206.48	0.93	25.79	6.077	267.40
16.00	40.0	Flexure	KIP-FT	812.52	123.25	298.78	1.670	73.49
16.00	40.0	Shear	KIPS	206.48	1.49	22.80	6.849	301.34
20.00	50.0	Flexure	KIP-FT	812.52	108.74	286.03	1.795	78.97
20.00	50.0	Shear	KIPS	206.48	6.04	25.45	5.959	262.21
24.00	60.0	Flexure	KIP-FT	812.52	75.33	262.16	2.083	91.67
24.00	60.0	Shear	KIPS	206.48	10.80	33.38	4.405	193.80
26.00	65.0	Flexure	KIP-FT	812.52	51.46	239.98	2.374	104.45
26.00	65.0	Shear	KIPS	206.48	13.07	37.03	3.909	172.01
28.00	70.0	Flexure	KIP-FT	817.88	23.05	209.12	2.877	126.59
28.00	70.0	Shear	KIPS	207.64	15.33	40.48	3.543	155.91
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-185.98	2.687	118.23
32.00	80.0	Shear	KIPS	207.64	19.85	48.97	2.838	124.87
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-206.32	2.058	90.55
35.50	88.8	Shear	KIPS	207.64	23.81	56.06	2.410	106.03
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-209.23	2.346	103.22
36.00	90.0	Shear	KIPS	207.64	24.38	57.02	2.359	103.81
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-217.95	2.063	90.75
37.50	93.8	Shear	KIPS	206.48	26.10	59.78	2.207	97.12
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-232.48	1.642	72.26

40.00	100.0	Shear	KIPS	206.48	28.74	65.34	1.980	87.11
Span 2								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-161.72	2.776	122.13
2.50	5.0	Shear	KIPS	206.48	25.85	61.40	2.153	94.73
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-152.81	3.282	144.42
4.50	9.0	Shear	KIPS	207.64	23.55	58.07	2.331	102.56
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-150.58	3.407	149.89
5.00	10.0	Shear	KIPS	207.64	22.99	57.21	2.376	104.52
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	141.65	4.494	197.74
10.00	20.0	Shear	KIPS	207.64	17.34	48.14	2.939	129.30
15.00	30.0	Flexure	KIP-FT	817.88	60.12	233.74	2.418	106.40
15.00	30.0	Shear	KIPS	207.64	11.69	38.55	3.814	167.81
19.00	38.0	Flexure	KIP-FT	812.52	96.48	279.88	1.877	82.60
19.00	38.0	Shear	KIPS	206.48	6.83	30.73	4.910	216.04
20.00	40.0	Flexure	KIP-FT	812.52	102.75	288.51	1.800	79.19
20.00	40.0	Shear	KIPS	206.48	5.69	28.79	5.281	232.36
25.00	50.0	Flexure	KIP-FT	812.52	116.98	302.24	1.672	73.55
25.00	50.0	Shear	KIPS	206.48	0.00	19.35	8.147	358.47
30.00	60.0	Flexure	KIP-FT	812.52	102.75	288.51	1.800	79.19
30.00	60.0	Shear	KIPS	206.48	5.69	28.79	5.281	232.36
31.00	62.0	Flexure	KIP-FT	812.52	96.48	279.88	1.877	82.60
31.00	62.0	Shear	KIPS	206.48	6.83	30.73	4.910	216.04
35.00	70.0	Flexure	KIP-FT	817.88	60.12	233.74	2.418	106.40
35.00	70.0	Shear	KIPS	207.64	11.69	38.55	3.814	167.81
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	141.65	4.494	197.74
40.00	80.0	Shear	KIPS	207.64	17.34	48.14	2.939	129.30
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-150.58	3.407	149.89
45.00	90.0	Shear	KIPS	207.64	22.99	57.21	2.376	104.52
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-152.81	3.282	144.42
45.50	91.0	Shear	KIPS	207.64	23.55	58.07	2.331	102.56
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-161.72	2.776	122.13
47.50	95.0	Shear	KIPS	206.48	25.85	61.40	2.153	94.73

Span 3								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit	Units	Capacity	DL	LL	Factor	(Ton)

		State						
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-232.48	1.642	72.26
0.00	0.0	Shear	KIPS	206.48	28.74	65.34	1.980	87.11
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-217.95	2.063	90.75
2.50	6.3	Shear	KIPS	206.48	26.10	59.78	2.207	97.12
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-209.23	2.346	103.22
4.00	10.0	Shear	KIPS	207.64	24.38	57.02	2.359	103.81
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-206.32	2.058	90.55
4.50	11.3	Shear	KIPS	207.64	23.81	56.06	2.410	106.03
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-185.98	2.687	118.23
8.00	20.0	Shear	KIPS	207.64	19.85	48.97	2.838	124.87
12.00	30.0	Flexure	KIP-FT	817.88	23.05	209.12	2.877	126.59
12.00	30.0	Shear	KIPS	207.64	15.33	40.48	3.543	155.91
14.00	35.0	Flexure	KIP-FT	812.52	51.46	239.98	2.374	104.45
14.00	35.0	Shear	KIPS	206.48	13.07	37.03	3.909	172.01
16.00	40.0	Flexure	KIP-FT	812.52	75.33	262.16	2.083	91.67
16.00	40.0	Shear	KIPS	206.48	10.80	33.38	4.405	193.80
20.00	50.0	Flexure	KIP-FT	812.52	108.74	286.03	1.795	78.97
20.00	50.0	Shear	KIPS	206.48	6.04	25.45	5.959	262.21
24.00	60.0	Flexure	KIP-FT	812.52	123.25	298.78	1.670	73.49
24.00	60.0	Shear	KIPS	206.48	1.49	22.80	6.849	301.34
26.00	65.0	Flexure	KIP-FT	812.52	123.68	293.41	1.699	74.77
26.00	65.0	Shear	KIPS	206.48	0.93	25.79	6.077	267.40
28.00	70.0	Flexure	KIP-FT	817.88	119.57	280.38	1.807	79.53
28.00	70.0	Shear	KIPS	207.64	3.18	28.84	5.388	237.06
32.00	80.0	Flexure	KIP-FT	817.88	97.79	229.65	2.300	101.20
32.00	80.0	Shear	KIPS	207.64	7.70	37.51	4.023	177.02
36.00	90.0	Flexure	KIP-FT	817.88	57.93	141.32	4.015	176.65
36.00	90.0	Shear	KIPS	207.64	12.22	54.44	2.691	118.38
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	16.74	65.19	2.179	95.87

Detailed Rating Results
Maine DOT Config. 5 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1							Legal	Legal
							Rating	Load
Location								Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00

0.00	0.0	Shear	KIPS	207.64	16.74	65.19	2.179	191.74
4.00	10.0	Flexure	KIP-FT	817.88	57.93	141.32	4.015	353.30
4.00	10.0	Shear	KIPS	207.64	12.22	54.44	2.691	236.77
8.00	20.0	Flexure	KIP-FT	817.88	97.79	229.65	2.300	202.39
8.00	20.0	Shear	KIPS	207.64	7.70	37.51	4.023	354.04
12.00	30.0	Flexure	KIP-FT	817.88	119.57	280.38	1.807	159.05
12.00	30.0	Shear	KIPS	207.64	3.18	28.84	5.388	474.11
14.00	35.0	Flexure	KIP-FT	812.52	123.68	293.41	1.699	149.55
14.00	35.0	Shear	KIPS	206.48	0.93	25.79	6.077	534.79
16.00	40.0	Flexure	KIP-FT	812.52	123.25	298.78	1.670	146.99
16.00	40.0	Shear	KIPS	206.48	1.49	23.09	6.763	595.12
20.00	50.0	Flexure	KIP-FT	812.52	108.74	286.03	1.795	157.93
20.00	50.0	Shear	KIPS	206.48	6.04	28.06	5.406	475.74
24.00	60.0	Flexure	KIP-FT	812.52	75.33	262.16	2.083	183.34
24.00	60.0	Shear	KIPS	206.48	10.80	34.66	4.241	373.24
26.00	65.0	Flexure	KIP-FT	812.52	51.46	239.98	2.374	208.89
26.00	65.0	Shear	KIPS	206.48	13.07	38.89	3.722	327.56
28.00	70.0	Flexure	KIP-FT	817.88	23.05	209.12	2.877	253.19
28.00	70.0	Shear	KIPS	207.64	15.33	42.96	3.339	293.81
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-178.75	2.796	246.02
32.00	80.0	Shear	KIPS	207.64	19.85	50.66	2.743	241.41
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-235.10	1.806	158.94
35.50	88.8	Shear	KIPS	207.64	23.81	56.83	2.377	209.18
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-243.28	2.018	177.55
36.00	90.0	Shear	KIPS	207.64	24.38	57.67	2.333	205.27
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-272.30	1.651	145.28
37.50	93.8	Shear	KIPS	206.48	26.10	60.08	2.196	193.28
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-327.26	1.167	102.67
40.00	100.0	Shear	KIPS	206.48	28.74	65.34	1.980	174.22

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-254.69	1.763	155.10
2.50	5.0	Shear	KIPS	206.48	25.85	61.69	2.143	188.60
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-207.82	2.413	212.38
4.50	9.0	Shear	KIPS	207.64	23.55	58.62	2.309	203.17
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-198.46	2.585	227.46
5.00	10.0	Shear	KIPS	207.64	22.99	57.88	2.348	206.63
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	145.82	4.366	384.17
10.00	20.0	Shear	KIPS	207.64	17.34	49.86	2.837	249.68

15.00	30.0	Flexure	KIP-FT	817.88	60.12	224.15	2.522	221.91
15.00	30.0	Shear	KIPS	207.64	11.69	41.15	3.573	314.39
19.00	38.0	Flexure	KIP-FT	812.52	96.48	266.62	1.971	173.41
19.00	38.0	Shear	KIPS	206.48	6.83	33.83	4.461	392.53
20.00	40.0	Flexure	KIP-FT	812.52	102.75	272.75	1.904	167.52
20.00	40.0	Shear	KIPS	206.48	5.69	31.99	4.752	418.17
25.00	50.0	Flexure	KIP-FT	812.52	116.98	285.04	1.772	155.98
25.00	50.0	Shear	KIPS	206.48	0.00	23.64	6.668	586.77
30.00	60.0	Flexure	KIP-FT	812.52	102.75	272.75	1.904	167.52
30.00	60.0	Shear	KIPS	206.48	5.69	31.99	4.752	418.17
31.00	62.0	Flexure	KIP-FT	812.52	96.48	266.62	1.971	173.41
31.00	62.0	Shear	KIPS	206.48	6.83	33.83	4.461	392.53
35.00	70.0	Flexure	KIP-FT	817.88	60.12	224.15	2.522	221.91
35.00	70.0	Shear	KIPS	207.64	11.69	41.15	3.573	314.39
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	145.82	4.366	384.17
40.00	80.0	Shear	KIPS	207.64	17.34	49.86	2.837	249.68
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-198.46	2.585	227.46
45.00	90.0	Shear	KIPS	207.64	22.99	57.88	2.348	206.63
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-207.82	2.413	212.38
45.50	91.0	Shear	KIPS	207.64	23.55	58.62	2.309	203.17
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-254.69	1.763	155.10
47.50	95.0	Shear	KIPS	206.48	25.85	61.69	2.143	188.60

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-327.26	1.167	102.67
0.00	0.0	Shear	KIPS	206.48	28.74	65.34	1.980	174.22
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-272.30	1.651	145.28
2.50	6.3	Shear	KIPS	206.48	26.10	60.08	2.196	193.28
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-243.28	2.018	177.55
4.00	10.0	Shear	KIPS	207.64	24.38	57.67	2.333	205.27
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-235.10	1.806	158.94
4.50	11.3	Shear	KIPS	207.64	23.81	56.83	2.377	209.18
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-178.75	2.796	246.02
8.00	20.0	Shear	KIPS	207.64	19.85	50.66	2.743	241.41
12.00	30.0	Flexure	KIP-FT	817.88	23.05	209.12	2.877	253.19
12.00	30.0	Shear	KIPS	207.64	15.33	42.96	3.339	293.81
14.00	35.0	Flexure	KIP-FT	812.52	51.46	239.98	2.374	208.89
14.00	35.0	Shear	KIPS	206.48	13.07	38.89	3.722	327.56
16.00	40.0	Flexure	KIP-FT	812.52	75.33	262.16	2.083	183.34

16.00	40.0	Shear	KIPS	206.48	10.80	34.66	4.241	373.24
20.00	50.0	Flexure	KIP-FT	812.52	108.74	286.03	1.795	157.93
20.00	50.0	Shear	KIPS	206.48	6.04	28.06	5.406	475.74
24.00	60.0	Flexure	KIP-FT	812.52	123.25	298.78	1.670	146.99
24.00	60.0	Shear	KIPS	206.48	1.49	23.09	6.763	595.12
26.00	65.0	Flexure	KIP-FT	812.52	123.68	293.41	1.699	149.55
26.00	65.0	Shear	KIPS	206.48	0.93	25.79	6.077	534.79
28.00	70.0	Flexure	KIP-FT	817.88	119.57	280.38	1.807	159.05
28.00	70.0	Shear	KIPS	207.64	3.18	28.84	5.388	474.11
32.00	80.0	Flexure	KIP-FT	817.88	97.79	229.65	2.300	202.39
32.00	80.0	Shear	KIPS	207.64	7.70	37.51	4.023	354.04
36.00	90.0	Flexure	KIP-FT	817.88	57.93	141.32	4.015	353.30
36.00	90.0	Shear	KIPS	207.64	12.22	54.44	2.691	236.77
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	16.74	65.19	2.179	191.74

**Detailed Rating Results
Maine DOT Config. 6
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3757.05
0.00	0.0	Shear	KIPS	207.64	16.74	75.59	1.879	71.31
4.00	10.0	Flexure	KIP-FT	817.88	57.93	167.23	3.393	128.75
4.00	10.0	Shear	KIPS	207.64	12.22	64.43	2.274	86.29
8.00	20.0	Flexure	KIP-FT	817.88	97.79	278.35	1.897	72.01
8.00	20.0	Shear	KIPS	207.64	7.70	45.47	3.319	125.97
12.00	30.0	Flexure	KIP-FT	817.88	119.57	349.97	1.448	54.95
12.00	30.0	Shear	KIPS	207.64	3.18	36.72	4.231	160.56
14.00	35.0	Flexure	KIP-FT	812.52	123.68	372.29	1.339	50.83
14.00	35.0	Shear	KIPS	206.48	0.93	32.55	4.815	182.71
16.00	40.0	Flexure	KIP-FT	812.52	123.25	382.06	1.306	49.57
16.00	40.0	Shear	KIPS	206.48	1.49	28.51	5.478	207.89
20.00	50.0	Flexure	KIP-FT	812.52	108.74	372.97	1.376	52.23
20.00	50.0	Shear	KIPS	206.48	6.04	33.08	4.584	173.98
24.00	60.0	Flexure	KIP-FT	812.52	75.33	334.00	1.635	62.06
24.00	60.0	Shear	KIPS	206.48	10.80	41.85	3.513	133.32
26.00	65.0	Flexure	KIP-FT	812.52	51.46	300.60	1.895	71.92

26.00	65.0	Shear	KIPS	206.48	13.07	46.03	3.145	119.36
28.00	70.0	Flexure	KIP-FT	817.88	23.05	258.43	2.328	88.35
28.00	70.0	Shear	KIPS	207.64	15.33	50.10	2.863	108.64
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-201.07	2.485	94.32
32.00	80.0	Shear	KIPS	207.64	19.85	57.71	2.408	91.40
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-223.06	1.904	72.24
35.50	88.8	Shear	KIPS	207.64	23.81	63.71	2.120	80.47
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-226.20	2.170	82.35
36.00	90.0	Shear	KIPS	207.64	24.38	64.53	2.085	79.12
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-235.63	1.908	72.40
37.50	93.8	Shear	KIPS	206.48	26.10	66.82	1.975	74.94
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-251.34	1.519	57.65
40.00	100.0	Shear	KIPS	206.48	28.74	70.87	1.825	69.27

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-195.58	2.295	87.10
2.50	5.0	Shear	KIPS	206.48	25.85	67.46	1.960	74.37
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-184.80	2.714	102.99
4.50	9.0	Shear	KIPS	207.64	23.55	64.50	2.099	79.64
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-182.11	2.817	106.90
5.00	10.0	Shear	KIPS	207.64	22.99	63.73	2.132	80.92
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	186.89	3.406	129.26
10.00	20.0	Shear	KIPS	207.64	17.34	55.57	2.546	96.61
15.00	30.0	Flexure	KIP-FT	817.88	60.12	282.84	1.998	75.84
15.00	30.0	Shear	KIPS	207.64	11.69	46.69	3.149	119.49
19.00	38.0	Flexure	KIP-FT	812.52	96.48	338.14	1.554	58.97
19.00	38.0	Shear	KIPS	206.48	6.83	39.34	3.836	145.57
20.00	40.0	Flexure	KIP-FT	812.52	102.75	347.79	1.493	56.66
20.00	40.0	Shear	KIPS	206.48	5.69	37.50	4.054	153.84
25.00	50.0	Flexure	KIP-FT	812.52	116.98	366.57	1.378	52.31
25.00	50.0	Shear	KIPS	206.48	0.00	28.37	5.555	210.82
30.00	60.0	Flexure	KIP-FT	812.52	102.75	347.79	1.493	56.66
30.00	60.0	Shear	KIPS	206.48	5.69	37.50	4.054	153.84
31.00	62.0	Flexure	KIP-FT	812.52	96.48	338.14	1.554	58.97
31.00	62.0	Shear	KIPS	206.48	6.83	39.34	3.836	145.57
35.00	70.0	Flexure	KIP-FT	817.88	60.12	282.84	1.998	75.84
35.00	70.0	Shear	KIPS	207.64	11.69	46.69	3.149	119.49
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	186.89	3.406	129.26
40.00	80.0	Shear	KIPS	207.64	17.34	55.57	2.546	96.61

45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-182.11	2.817	106.90
45.00	90.0	Shear	KIPS	207.64	22.99	63.73	2.132	80.92
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-184.80	2.714	102.99
45.50	91.0	Shear	KIPS	207.64	23.55	64.50	2.099	79.64
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-195.58	2.295	87.10
47.50	95.0	Shear	KIPS	206.48	25.85	67.46	1.960	74.37

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-251.34	1.519	57.65
0.00	0.0	Shear	KIPS	206.48	28.74	70.87	1.825	69.27
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-235.63	1.908	72.40
2.50	6.3	Shear	KIPS	206.48	26.10	66.82	1.975	74.94
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-226.20	2.170	82.35
4.00	10.0	Shear	KIPS	207.64	24.38	64.53	2.085	79.12
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-223.06	1.904	72.24
4.50	11.3	Shear	KIPS	207.64	23.81	63.71	2.120	80.47
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-201.07	2.485	94.32
8.00	20.0	Shear	KIPS	207.64	19.85	57.71	2.408	91.40
12.00	30.0	Flexure	KIP-FT	817.88	23.05	258.43	2.328	88.35
12.00	30.0	Shear	KIPS	207.64	15.33	50.10	2.863	108.64
14.00	35.0	Flexure	KIP-FT	812.52	51.46	300.60	1.895	71.92
14.00	35.0	Shear	KIPS	206.48	13.07	46.03	3.145	119.36
16.00	40.0	Flexure	KIP-FT	812.52	75.33	334.00	1.635	62.06
16.00	40.0	Shear	KIPS	206.48	10.80	41.85	3.513	133.32
20.00	50.0	Flexure	KIP-FT	812.52	108.74	372.97	1.376	52.23
20.00	50.0	Shear	KIPS	206.48	6.04	33.08	4.584	173.98
24.00	60.0	Flexure	KIP-FT	812.52	123.25	382.06	1.306	49.57
24.00	60.0	Shear	KIPS	206.48	1.49	28.51	5.478	207.89
26.00	65.0	Flexure	KIP-FT	812.52	123.68	372.29	1.339	50.83
26.00	65.0	Shear	KIPS	206.48	0.93	32.55	4.815	182.71
28.00	70.0	Flexure	KIP-FT	817.88	119.57	349.97	1.448	54.95
28.00	70.0	Shear	KIPS	207.64	3.18	36.72	4.231	160.56
32.00	80.0	Flexure	KIP-FT	817.88	97.79	278.35	1.897	72.01
32.00	80.0	Shear	KIPS	207.64	7.70	45.47	3.319	125.97
36.00	90.0	Flexure	KIP-FT	817.88	57.93	167.23	3.393	128.75
36.00	90.0	Shear	KIPS	207.64	12.22	64.43	2.274	86.29
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3757.05
40.00	100.0	Shear	KIPS	207.64	16.74	75.59	1.879	71.31

**Detailed Rating Results
Maine DOT Config. 6 x2
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	7514.10
0.00	0.0	Shear	KIPS	207.64	16.74	75.59	1.879	142.61
4.00	10.0	Flexure	KIP-FT	817.88	57.93	167.23	3.393	257.51
4.00	10.0	Shear	KIPS	207.64	12.22	64.43	2.274	172.57
8.00	20.0	Flexure	KIP-FT	817.88	97.79	278.35	1.897	144.02
8.00	20.0	Shear	KIPS	207.64	7.70	45.47	3.319	251.94
12.00	30.0	Flexure	KIP-FT	817.88	119.57	349.97	1.448	109.90
12.00	30.0	Shear	KIPS	207.64	3.18	36.72	4.231	321.12
14.00	35.0	Flexure	KIP-FT	812.52	123.68	372.29	1.339	101.65
14.00	35.0	Shear	KIPS	206.48	0.93	32.55	4.815	365.43
16.00	40.0	Flexure	KIP-FT	812.52	123.25	382.06	1.306	99.14
16.00	40.0	Shear	KIPS	206.48	1.49	32.43	4.815	365.44
20.00	50.0	Flexure	KIP-FT	812.52	108.74	372.97	1.376	104.46
20.00	50.0	Shear	KIPS	206.48	6.04	41.29	3.673	278.82
24.00	60.0	Flexure	KIP-FT	812.52	75.33	334.00	1.635	124.12
24.00	60.0	Shear	KIPS	206.48	10.80	49.58	2.965	225.04
26.00	65.0	Flexure	KIP-FT	812.52	51.46	300.60	1.895	143.83
26.00	65.0	Shear	KIPS	206.48	13.07	53.40	2.711	205.75
28.00	70.0	Flexure	KIP-FT	817.88	23.05	258.43	2.328	176.71
28.00	70.0	Shear	KIPS	207.64	15.33	57.00	2.516	190.99
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-183.10	2.729	207.15
32.00	80.0	Shear	KIPS	207.64	19.85	63.45	2.190	166.25
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-278.72	1.523	115.63
35.50	88.8	Shear	KIPS	207.64	23.81	68.29	1.978	150.14
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-294.39	1.667	126.55
36.00	90.0	Shear	KIPS	207.64	24.38	68.94	1.951	148.12
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-342.30	1.313	99.68
37.50	93.8	Shear	KIPS	206.48	26.10	70.71	1.866	141.64
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-431.52	0.885	67.16
40.00	100.0	Shear	KIPS	206.48	28.99	73.50	1.757	133.32

Span 2

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-346.86	1.294	98.22
2.50	5.0	Shear	KIPS	206.48	25.85	68.85	1.920	145.75
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-284.58	1.762	133.77
4.50	9.0	Shear	KIPS	207.64	23.55	66.46	2.036	154.56
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-269.82	1.901	144.30
5.00	10.0	Shear	KIPS	207.64	22.99	65.86	2.063	156.62
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	191.78	3.319	251.94
10.00	20.0	Shear	KIPS	207.64	17.34	59.58	2.374	180.20
15.00	30.0	Flexure	KIP-FT	817.88	60.12	263.95	2.141	162.54
15.00	30.0	Shear	KIPS	207.64	11.69	52.44	2.803	212.78
19.00	38.0	Flexure	KIP-FT	812.52	96.48	297.80	1.764	133.91
19.00	38.0	Shear	KIPS	206.48	6.83	46.00	3.281	249.00
20.00	40.0	Flexure	KIP-FT	812.52	102.75	302.74	1.715	130.18
20.00	40.0	Shear	KIPS	206.48	5.69	44.28	3.433	260.56
25.00	50.0	Flexure	KIP-FT	812.52	116.98	303.42	1.665	126.38
25.00	50.0	Shear	KIPS	206.48	0.00	35.33	4.462	338.64
30.00	60.0	Flexure	KIP-FT	812.52	102.75	302.74	1.715	130.18
30.00	60.0	Shear	KIPS	206.48	5.69	44.28	3.433	260.56
31.00	62.0	Flexure	KIP-FT	812.52	96.48	297.80	1.764	133.91
31.00	62.0	Shear	KIPS	206.48	6.83	46.00	3.281	249.00
35.00	70.0	Flexure	KIP-FT	817.88	60.12	263.95	2.141	162.54
35.00	70.0	Shear	KIPS	207.64	11.69	52.44	2.803	212.78
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	191.78	3.319	251.94
40.00	80.0	Shear	KIPS	207.64	17.34	59.58	2.374	180.20
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-269.82	1.901	144.30
45.00	90.0	Shear	KIPS	207.64	22.99	65.86	2.063	156.62
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-284.58	1.762	133.77
45.50	91.0	Shear	KIPS	207.64	23.55	66.46	2.036	154.56
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-346.86	1.294	98.22
47.50	95.0	Shear	KIPS	206.48	25.85	68.85	1.920	145.75

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-431.52	0.885	67.16
0.00	0.0	Shear	KIPS	206.48	28.99	73.50	1.757	133.32
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-342.30	1.313	99.68
2.50	6.3	Shear	KIPS	206.48	26.10	70.71	1.866	141.64

4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-294.39	1.667	126.55
4.00	10.0	Shear	KIPS	207.64	24.38	68.94	1.951	148.12
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-278.72	1.523	115.63
4.50	11.3	Shear	KIPS	207.64	23.81	68.29	1.978	150.14
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-183.10	2.729	207.15
8.00	20.0	Shear	KIPS	207.64	19.85	63.45	2.190	166.25
12.00	30.0	Flexure	KIP-FT	817.88	23.05	258.43	2.328	176.71
12.00	30.0	Shear	KIPS	207.64	15.33	57.00	2.516	190.99
14.00	35.0	Flexure	KIP-FT	812.52	51.46	300.60	1.895	143.83
14.00	35.0	Shear	KIPS	206.48	13.07	53.40	2.711	205.75
16.00	40.0	Flexure	KIP-FT	812.52	75.33	334.00	1.635	124.12
16.00	40.0	Shear	KIPS	206.48	10.80	49.58	2.965	225.04
20.00	50.0	Flexure	KIP-FT	812.52	108.74	372.97	1.376	104.46
20.00	50.0	Shear	KIPS	206.48	6.04	41.29	3.673	278.82
24.00	60.0	Flexure	KIP-FT	812.52	123.25	382.06	1.306	99.14
24.00	60.0	Shear	KIPS	206.48	1.49	32.43	4.815	365.44
26.00	65.0	Flexure	KIP-FT	812.52	123.68	372.29	1.339	101.65
26.00	65.0	Shear	KIPS	206.48	0.93	32.55	4.815	365.43
28.00	70.0	Flexure	KIP-FT	817.88	119.57	349.97	1.448	109.90
28.00	70.0	Shear	KIPS	207.64	3.18	36.72	4.231	321.12
32.00	80.0	Flexure	KIP-FT	817.88	97.79	278.35	1.897	144.02
32.00	80.0	Shear	KIPS	207.64	7.70	45.47	3.319	251.94
36.00	90.0	Flexure	KIP-FT	817.88	57.93	167.23	3.393	257.51
36.00	90.0	Shear	KIPS	207.64	12.22	64.43	2.274	172.57
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	7514.10
40.00	100.0	Shear	KIPS	207.64	16.74	75.59	1.879	142.61

Detailed Rating Results
Maine DOT Config. 7
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	2940.30
0.00	0.0	Shear	KIPS	207.64	16.74	62.09	2.288	67.94
4.00	10.0	Flexure	KIP-FT	817.88	57.93	138.32	4.102	121.82
4.00	10.0	Shear	KIPS	207.64	12.22	53.29	2.749	81.64
8.00	20.0	Flexure	KIP-FT	817.88	97.79	232.06	2.276	67.60
8.00	20.0	Shear	KIPS	207.64	7.70	37.91	3.981	118.25

12.00	30.0	Flexure	KIP-FT	817.88	119.57	284.03	1.784	52.99
12.00	30.0	Shear	KIPS	207.64	3.18	30.93	5.023	149.18
14.00	35.0	Flexure	KIP-FT	812.52	123.68	295.70	1.686	50.08
14.00	35.0	Shear	KIPS	206.48	0.93	27.60	5.678	168.62
16.00	40.0	Flexure	KIP-FT	812.52	123.25	305.76	1.632	48.47
16.00	40.0	Shear	KIPS	206.48	1.49	24.35	6.412	190.45
20.00	50.0	Flexure	KIP-FT	812.52	108.74	300.25	1.710	50.78
20.00	50.0	Shear	KIPS	206.48	6.04	28.24	5.371	159.51
24.00	60.0	Flexure	KIP-FT	812.52	75.33	266.11	2.052	60.96
24.00	60.0	Shear	KIPS	206.48	10.80	34.99	4.202	124.79
26.00	65.0	Flexure	KIP-FT	812.52	51.46	242.68	2.347	69.72
26.00	65.0	Shear	KIPS	206.48	13.07	38.21	3.789	112.53
28.00	70.0	Flexure	KIP-FT	817.88	23.05	212.06	2.837	84.26
28.00	70.0	Shear	KIPS	207.64	15.33	41.30	3.473	103.13
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-159.61	3.131	92.99
32.00	80.0	Shear	KIPS	207.64	19.85	47.07	2.953	87.70
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-177.07	2.398	71.22
35.50	88.8	Shear	KIPS	207.64	23.81	51.59	2.619	77.77
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-179.56	2.734	81.19
36.00	90.0	Shear	KIPS	207.64	24.38	52.20	2.577	76.55
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-187.05	2.403	71.38
37.50	93.8	Shear	KIPS	206.48	26.10	53.90	2.448	72.70
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-199.52	1.914	56.84
40.00	100.0	Shear	KIPS	206.48	28.74	56.83	2.276	67.60

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-154.37	2.908	86.37
2.50	5.0	Shear	KIPS	206.48	25.85	54.30	2.435	72.31
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-145.86	3.439	102.13
4.50	9.0	Shear	KIPS	207.64	23.55	52.10	2.598	77.15
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-143.73	3.569	106.00
5.00	10.0	Shear	KIPS	207.64	22.99	51.53	2.637	78.33
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	154.20	4.128	122.61
10.00	20.0	Shear	KIPS	207.64	17.34	45.30	3.123	92.75
15.00	30.0	Flexure	KIP-FT	817.88	60.12	226.83	2.492	74.01
15.00	30.0	Shear	KIPS	207.64	11.69	38.46	3.823	113.54
19.00	38.0	Flexure	KIP-FT	812.52	96.48	269.28	1.951	57.95
19.00	38.0	Shear	KIPS	206.48	6.83	32.71	4.613	137.02
20.00	40.0	Flexure	KIP-FT	812.52	102.75	277.39	1.872	55.59

20.00	40.0	Shear	KIPS	206.48	5.69	31.26	4.863	144.44
25.00	50.0	Flexure	KIP-FT	812.52	116.98	295.04	1.712	50.86
25.00	50.0	Shear	KIPS	206.48	0.00	24.07	6.550	194.52
30.00	60.0	Flexure	KIP-FT	812.52	102.75	277.39	1.872	55.59
30.00	60.0	Shear	KIPS	206.48	5.69	31.26	4.863	144.44
31.00	62.0	Flexure	KIP-FT	812.52	96.48	269.28	1.951	57.95
31.00	62.0	Shear	KIPS	206.48	6.83	32.71	4.613	137.02
35.00	70.0	Flexure	KIP-FT	817.88	60.12	226.83	2.492	74.01
35.00	70.0	Shear	KIPS	207.64	11.69	38.46	3.823	113.54
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	154.20	4.128	122.61
40.00	80.0	Shear	KIPS	207.64	17.34	45.30	3.123	92.75
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-143.73	3.569	106.00
45.00	90.0	Shear	KIPS	207.64	22.99	51.53	2.637	78.33
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-145.86	3.439	102.13
45.50	91.0	Shear	KIPS	207.64	23.55	52.10	2.598	77.15
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-154.37	2.908	86.37
47.50	95.0	Shear	KIPS	206.48	25.85	54.30	2.435	72.31

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-199.52	1.914	56.84
0.00	0.0	Shear	KIPS	206.48	28.74	56.83	2.276	67.60
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-187.05	2.403	71.38
2.50	6.3	Shear	KIPS	206.48	26.10	53.90	2.448	72.70
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-179.56	2.734	81.19
4.00	10.0	Shear	KIPS	207.64	24.38	52.20	2.577	76.55
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-177.07	2.398	71.22
4.50	11.3	Shear	KIPS	207.64	23.81	51.59	2.619	77.77
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-159.61	3.131	92.99
8.00	20.0	Shear	KIPS	207.64	19.85	47.07	2.953	87.70
12.00	30.0	Flexure	KIP-FT	817.88	23.05	212.06	2.837	84.26
12.00	30.0	Shear	KIPS	207.64	15.33	41.30	3.473	103.13
14.00	35.0	Flexure	KIP-FT	812.52	51.46	242.68	2.347	69.72
14.00	35.0	Shear	KIPS	206.48	13.07	38.21	3.789	112.53
16.00	40.0	Flexure	KIP-FT	812.52	75.33	266.11	2.052	60.96
16.00	40.0	Shear	KIPS	206.48	10.80	34.99	4.202	124.79
20.00	50.0	Flexure	KIP-FT	812.52	108.74	300.25	1.710	50.78
20.00	50.0	Shear	KIPS	206.48	6.04	28.24	5.371	159.51
24.00	60.0	Flexure	KIP-FT	812.52	123.25	305.76	1.632	48.47
24.00	60.0	Shear	KIPS	206.48	1.49	24.35	6.412	190.45

26.00	65.0	Flexure	KIP-FT	812.52	123.68	295.70	1.686	50.08
26.00	65.0	Shear	KIPS	206.48	0.93	27.60	5.678	168.62
28.00	70.0	Flexure	KIP-FT	817.88	119.57	284.03	1.784	52.99
28.00	70.0	Shear	KIPS	207.64	3.18	30.93	5.023	149.18
32.00	80.0	Flexure	KIP-FT	817.88	97.79	232.06	2.276	67.60
32.00	80.0	Shear	KIPS	207.64	7.70	37.91	3.981	118.25
36.00	90.0	Flexure	KIP-FT	817.88	57.93	138.32	4.102	121.82
36.00	90.0	Shear	KIPS	207.64	12.22	53.29	2.749	81.64
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	2940.30
40.00	100.0	Shear	KIPS	207.64	16.74	62.09	2.288	67.94

Detailed Rating Results
Maine DOT Config. 7 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	5880.60
0.00	0.0	Shear	KIPS	207.64	16.74	62.09	2.288	135.88
4.00	10.0	Flexure	KIP-FT	817.88	57.93	138.32	4.102	243.64
4.00	10.0	Shear	KIPS	207.64	12.22	53.29	2.749	163.28
8.00	20.0	Flexure	KIP-FT	817.88	97.79	232.06	2.276	135.19
8.00	20.0	Shear	KIPS	207.64	7.70	37.91	3.981	236.50
12.00	30.0	Flexure	KIP-FT	817.88	119.57	284.03	1.784	105.98
12.00	30.0	Shear	KIPS	207.64	3.18	30.93	5.023	298.37
14.00	35.0	Flexure	KIP-FT	812.52	123.68	295.70	1.686	100.16
14.00	35.0	Shear	KIPS	206.48	0.93	27.60	5.678	337.24
16.00	40.0	Flexure	KIP-FT	812.52	123.25	305.76	1.632	96.95
16.00	40.0	Shear	KIPS	206.48	1.49	27.39	5.701	338.61
20.00	50.0	Flexure	KIP-FT	812.52	108.74	300.25	1.710	101.56
20.00	50.0	Shear	KIPS	206.48	6.04	34.75	4.365	259.25
24.00	60.0	Flexure	KIP-FT	812.52	75.33	266.11	2.052	121.92
24.00	60.0	Shear	KIPS	206.48	10.80	41.26	3.563	211.62
26.00	65.0	Flexure	KIP-FT	812.52	51.46	242.68	2.347	139.43
26.00	65.0	Shear	KIPS	206.48	13.07	44.27	3.270	194.24
28.00	70.0	Flexure	KIP-FT	817.88	23.05	212.06	2.837	168.53
28.00	70.0	Shear	KIPS	207.64	15.33	47.03	3.049	181.14
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-137.05	3.646	216.59
32.00	80.0	Shear	KIPS	207.64	19.85	51.97	2.674	158.85

35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-221.69	1.915	113.77
35.50	88.8	Shear	KIPS	207.64	23.81	55.63	2.428	144.24
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-235.10	2.088	124.02
36.00	90.0	Shear	KIPS	207.64	24.38	56.10	2.398	142.44
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-276.47	1.626	96.58
37.50	93.8	Shear	KIPS	206.48	26.10	57.40	2.299	136.55
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-349.69	1.092	64.86
40.00	100.0	Shear	KIPS	206.48	28.99	59.43	2.172	129.04

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-279.50	1.606	95.40
2.50	5.0	Shear	KIPS	206.48	25.85	55.69	2.374	141.02
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-225.86	2.221	131.91
4.50	9.0	Shear	KIPS	207.64	23.55	53.98	2.507	148.94
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-213.33	2.405	142.84
5.00	10.0	Shear	KIPS	207.64	22.99	53.58	2.536	150.66
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	158.01	4.029	239.31
10.00	20.0	Shear	KIPS	207.64	17.34	48.96	2.890	171.64
15.00	30.0	Flexure	KIP-FT	817.88	60.12	212.20	2.664	158.22
15.00	30.0	Shear	KIPS	207.64	11.69	43.33	3.393	201.53
19.00	38.0	Flexure	KIP-FT	812.52	96.48	238.87	2.199	130.65
19.00	38.0	Shear	KIPS	206.48	6.83	38.12	3.959	235.14
20.00	40.0	Flexure	KIP-FT	812.52	102.75	242.34	2.143	127.27
20.00	40.0	Shear	KIPS	206.48	5.69	36.76	4.136	245.65
25.00	50.0	Flexure	KIP-FT	812.52	116.98	239.70	2.108	125.20
25.00	50.0	Shear	KIPS	206.48	0.00	29.42	5.357	318.22
30.00	60.0	Flexure	KIP-FT	812.52	102.75	242.34	2.143	127.27
30.00	60.0	Shear	KIPS	206.48	5.69	36.76	4.136	245.65
31.00	62.0	Flexure	KIP-FT	812.52	96.48	238.87	2.199	130.65
31.00	62.0	Shear	KIPS	206.48	6.83	38.12	3.959	235.14
35.00	70.0	Flexure	KIP-FT	817.88	60.12	212.20	2.664	158.22
35.00	70.0	Shear	KIPS	207.64	11.69	43.33	3.393	201.53
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	158.01	4.029	239.31
40.00	80.0	Shear	KIPS	207.64	17.34	48.96	2.890	171.64
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-213.33	2.405	142.84
45.00	90.0	Shear	KIPS	207.64	22.99	53.58	2.536	150.66
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-225.86	2.221	131.91
45.50	91.0	Shear	KIPS	207.64	23.55	53.98	2.507	148.94
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-279.50	1.606	95.40

47.50	95.0	Shear	KIPS	206.48	25.85	55.69	2.374	141.02
Span 3								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-349.69	1.092	64.86
0.00	0.0	Shear	KIPS	206.48	28.99	59.43	2.172	129.04
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-276.47	1.626	96.58
2.50	6.3	Shear	KIPS	206.48	26.10	57.40	2.299	136.55
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-235.10	2.088	124.02
4.00	10.0	Shear	KIPS	207.64	24.38	56.10	2.398	142.44
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-221.69	1.915	113.77
4.50	11.3	Shear	KIPS	207.64	23.81	55.63	2.428	144.24
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-137.05	3.646	216.59
8.00	20.0	Shear	KIPS	207.64	19.85	51.97	2.674	158.85
12.00	30.0	Flexure	KIP-FT	817.88	23.05	212.06	2.837	168.53
12.00	30.0	Shear	KIPS	207.64	15.33	47.03	3.049	181.14
14.00	35.0	Flexure	KIP-FT	812.52	51.46	242.68	2.347	139.43
14.00	35.0	Shear	KIPS	206.48	13.07	44.27	3.270	194.24
16.00	40.0	Flexure	KIP-FT	812.52	75.33	266.11	2.052	121.92
16.00	40.0	Shear	KIPS	206.48	10.80	41.26	3.563	211.62
20.00	50.0	Flexure	KIP-FT	812.52	108.74	300.25	1.710	101.56
20.00	50.0	Shear	KIPS	206.48	6.04	34.75	4.365	259.25
24.00	60.0	Flexure	KIP-FT	812.52	123.25	305.76	1.632	96.95
24.00	60.0	Shear	KIPS	206.48	1.49	27.39	5.701	338.61
26.00	65.0	Flexure	KIP-FT	812.52	123.68	295.70	1.686	100.16
26.00	65.0	Shear	KIPS	206.48	0.93	27.60	5.678	337.24
28.00	70.0	Flexure	KIP-FT	817.88	119.57	284.03	1.784	105.98
28.00	70.0	Shear	KIPS	207.64	3.18	30.93	5.023	298.37
32.00	80.0	Flexure	KIP-FT	817.88	97.79	232.06	2.276	135.19
32.00	80.0	Shear	KIPS	207.64	7.70	37.91	3.981	236.50
36.00	90.0	Flexure	KIP-FT	817.88	57.93	138.32	4.102	243.64
36.00	90.0	Shear	KIPS	207.64	12.22	53.29	2.749	163.28
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	5880.60
40.00	100.0	Shear	KIPS	207.64	16.74	62.09	2.288	135.88

Detailed Rating Results
Maine DOT Config. 8
Axle Load
Impact: As Requested
Lane: As Requested

Span 1								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	1851.30
0.00	0.0	Shear	KIPS	207.64	16.74	40.73	3.488	65.22
4.00	10.0	Flexure	KIP-FT	817.88	57.93	91.19	6.222	116.35
4.00	10.0	Shear	KIPS	207.64	12.22	35.13	4.170	77.97
8.00	20.0	Flexure	KIP-FT	817.88	97.79	154.10	3.427	64.09
8.00	20.0	Shear	KIPS	207.64	7.70	25.17	5.996	112.12
12.00	30.0	Flexure	KIP-FT	817.88	119.57	190.07	2.666	49.86
12.00	30.0	Shear	KIPS	207.64	3.18	20.70	7.506	140.37
14.00	35.0	Flexure	KIP-FT	812.52	123.68	198.71	2.509	46.92
14.00	35.0	Shear	KIPS	206.48	0.93	18.55	8.449	157.99
16.00	40.0	Flexure	KIP-FT	812.52	123.25	201.53	2.476	46.31
16.00	40.0	Shear	KIPS	206.48	1.49	16.46	9.486	177.40
20.00	50.0	Flexure	KIP-FT	812.52	108.74	196.32	2.615	48.90
20.00	50.0	Shear	KIPS	206.48	6.04	19.09	7.947	148.60
24.00	60.0	Flexure	KIP-FT	812.52	75.33	179.66	3.040	56.85
24.00	60.0	Shear	KIPS	206.48	10.80	23.27	6.317	118.13
26.00	65.0	Flexure	KIP-FT	812.52	51.46	163.83	3.477	65.02
26.00	65.0	Shear	KIPS	206.48	13.07	25.26	5.732	107.18
28.00	70.0	Flexure	KIP-FT	817.88	23.05	143.89	4.181	78.19
28.00	70.0	Shear	KIPS	207.64	15.33	27.15	5.282	98.78
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-101.35	4.931	92.20
32.00	80.0	Shear	KIPS	207.64	19.85	30.69	4.528	84.68
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-112.44	3.776	70.62
35.50	88.8	Shear	KIPS	207.64	23.81	33.43	4.041	75.57
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-114.02	4.305	80.50
36.00	90.0	Shear	KIPS	207.64	24.38	33.80	3.981	74.44
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-118.77	3.785	70.78
37.50	93.8	Shear	KIPS	206.48	26.10	34.84	3.787	70.82
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-126.69	3.014	56.36
40.00	100.0	Shear	KIPS	206.48	28.74	36.56	3.538	66.17

Span 2								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)

2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-98.53	4.556	85.19
2.50	5.0	Shear	KIPS	206.48	25.85	35.01	3.776	70.62
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-93.10	5.387	100.74
4.50	9.0	Shear	KIPS	207.64	23.55	33.69	4.018	75.13
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-91.74	5.592	104.56
5.00	10.0	Shear	KIPS	207.64	22.99	33.35	4.075	76.21
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	106.36	5.985	111.92
10.00	20.0	Shear	KIPS	207.64	17.34	29.53	4.790	89.58
15.00	30.0	Flexure	KIP-FT	817.88	60.12	153.18	3.690	69.01
15.00	30.0	Shear	KIPS	207.64	11.69	25.26	5.819	108.82
19.00	38.0	Flexure	KIP-FT	812.52	96.48	179.63	2.925	54.69
19.00	38.0	Shear	KIPS	206.48	6.83	21.66	6.966	130.27
20.00	40.0	Flexure	KIP-FT	812.52	102.75	183.67	2.827	52.87
20.00	40.0	Shear	KIPS	206.48	5.69	20.74	7.329	137.05
25.00	50.0	Flexure	KIP-FT	812.52	116.98	190.57	2.651	49.58
25.00	50.0	Shear	KIPS	206.48	0.00	16.16	9.751	182.34
30.00	60.0	Flexure	KIP-FT	812.52	102.75	183.67	2.827	52.87
30.00	60.0	Shear	KIPS	206.48	5.69	20.74	7.329	137.05
31.00	62.0	Flexure	KIP-FT	812.52	96.48	179.63	2.925	54.69
31.00	62.0	Shear	KIPS	206.48	6.83	21.66	6.966	130.27
35.00	70.0	Flexure	KIP-FT	817.88	60.12	153.18	3.690	69.01
35.00	70.0	Shear	KIPS	207.64	11.69	25.26	5.819	108.82
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	106.36	5.985	111.92
40.00	80.0	Shear	KIPS	207.64	17.34	29.53	4.790	89.58
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-91.74	5.592	104.56
45.00	90.0	Shear	KIPS	207.64	22.99	33.35	4.075	76.21
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-93.10	5.387	100.74
45.50	91.0	Shear	KIPS	207.64	23.55	33.69	4.018	75.13
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-98.53	4.556	85.19
47.50	95.0	Shear	KIPS	206.48	25.85	35.01	3.776	70.62

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-126.69	3.014	56.36
0.00	0.0	Shear	KIPS	206.48	28.74	36.56	3.538	66.17
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-118.77	3.785	70.78
2.50	6.3	Shear	KIPS	206.48	26.10	34.84	3.787	70.82
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-114.02	4.305	80.50
4.00	10.0	Shear	KIPS	207.64	24.38	33.80	3.981	74.44
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-112.44	3.776	70.62

4.50	11.3	Shear	KIPS	207.64	23.81	33.43	4.041	75.57
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-101.35	4.931	92.20
8.00	20.0	Shear	KIPS	207.64	19.85	30.69	4.528	84.68
12.00	30.0	Flexure	KIP-FT	817.88	23.05	143.89	4.181	78.19
12.00	30.0	Shear	KIPS	207.64	15.33	27.15	5.282	98.78
14.00	35.0	Flexure	KIP-FT	812.52	51.46	163.83	3.477	65.02
14.00	35.0	Shear	KIPS	206.48	13.07	25.26	5.732	107.18
16.00	40.0	Flexure	KIP-FT	812.52	75.33	179.66	3.040	56.85
16.00	40.0	Shear	KIPS	206.48	10.80	23.27	6.317	118.13
20.00	50.0	Flexure	KIP-FT	812.52	108.74	196.32	2.615	48.90
20.00	50.0	Shear	KIPS	206.48	6.04	19.09	7.947	148.60
24.00	60.0	Flexure	KIP-FT	812.52	123.25	201.53	2.476	46.31
24.00	60.0	Shear	KIPS	206.48	1.49	16.46	9.486	177.40
26.00	65.0	Flexure	KIP-FT	812.52	123.68	198.71	2.509	46.92
26.00	65.0	Shear	KIPS	206.48	0.93	18.55	8.449	157.99
28.00	70.0	Flexure	KIP-FT	817.88	119.57	190.07	2.666	49.86
28.00	70.0	Shear	KIPS	207.64	3.18	20.70	7.506	140.37
32.00	80.0	Flexure	KIP-FT	817.88	97.79	154.10	3.427	64.09
32.00	80.0	Shear	KIPS	207.64	7.70	25.17	5.996	112.12
36.00	90.0	Flexure	KIP-FT	817.88	57.93	91.19	6.222	116.35
36.00	90.0	Shear	KIPS	207.64	12.22	35.13	4.170	77.97
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	1851.30
40.00	100.0	Shear	KIPS	207.64	16.74	40.73	3.488	65.22

Detailed Rating Results
Maine DOT Config. 8 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3702.60
0.00	0.0	Shear	KIPS	207.64	16.74	40.73	3.488	130.44
4.00	10.0	Flexure	KIP-FT	817.88	57.93	91.19	6.222	232.70
4.00	10.0	Shear	KIPS	207.64	12.22	35.13	4.170	155.95
8.00	20.0	Flexure	KIP-FT	817.88	97.79	154.10	3.427	128.19
8.00	20.0	Shear	KIPS	207.64	7.70	25.17	5.996	224.24
12.00	30.0	Flexure	KIP-FT	817.88	119.57	190.07	2.666	99.71
12.00	30.0	Shear	KIPS	207.64	3.18	20.70	7.506	280.74
14.00	35.0	Flexure	KIP-FT	812.52	123.68	198.71	2.509	93.85

14.00	35.0	Shear	KIPS	206.48	0.93	18.55	8.449	315.98
16.00	40.0	Flexure	KIP-FT	812.52	123.25	201.53	2.476	92.61
16.00	40.0	Shear	KIPS	206.48	1.49	18.34	8.516	318.51
20.00	50.0	Flexure	KIP-FT	812.52	108.74	196.32	2.615	97.79
20.00	50.0	Shear	KIPS	206.48	6.04	23.18	6.542	244.67
24.00	60.0	Flexure	KIP-FT	812.52	75.33	179.66	3.040	113.70
24.00	60.0	Shear	KIPS	206.48	10.80	27.40	5.366	200.68
26.00	65.0	Flexure	KIP-FT	812.52	51.46	163.83	3.477	130.04
26.00	65.0	Shear	KIPS	206.48	13.07	29.32	4.938	184.67
28.00	70.0	Flexure	KIP-FT	817.88	23.05	143.89	4.181	156.38
28.00	70.0	Shear	KIPS	207.64	15.33	31.07	4.616	172.64
32.00	80.0	Flexure	KIP-FT	-715.59	-47.32	-84.90	5.886	220.14
32.00	80.0	Shear	KIPS	207.64	19.85	34.20	4.064	152.00
35.50	88.8	Flexure	KIP-FT	-715.59	-123.72	-139.86	3.036	113.55
35.50	88.8	Shear	KIPS	207.64	23.81	36.45	3.706	138.60
36.00	90.0	Flexure	KIP-FT	-817.88	-135.77	-149.46	3.284	122.82
36.00	90.0	Shear	KIPS	207.64	24.38	36.74	3.662	136.96
37.50	93.8	Flexure	KIP-FT	-812.52	-173.63	-176.75	2.543	95.12
37.50	93.8	Shear	KIPS	206.48	26.10	37.54	3.515	131.47
40.00	100.0	Flexure	KIP-FT	-812.52	-242.50	-229.41	1.664	62.24
40.00	100.0	Shear	KIPS	206.48	28.74	40.58	3.188	119.22

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-174.28	-180.31	2.489	93.11
2.50	5.0	Shear	KIPS	206.48	25.85	37.46	3.529	131.98
4.50	9.0	Flexure	KIP-FT	-817.88	-124.88	-142.92	3.509	131.25
4.50	9.0	Shear	KIPS	207.64	23.55	35.51	3.812	142.56
5.00	10.0	Flexure	KIP-FT	-817.88	-113.24	-134.08	3.826	143.09
5.00	10.0	Shear	KIPS	207.64	22.99	35.27	3.854	144.13
10.00	20.0	Flexure	KIP-FT	817.88	-12.44	107.41	5.927	221.66
10.00	20.0	Shear	KIPS	207.64	17.34	32.35	4.373	163.54
15.00	30.0	Flexure	KIP-FT	817.88	60.12	145.93	3.873	144.86
15.00	30.0	Shear	KIPS	207.64	11.69	28.66	5.129	191.82
19.00	38.0	Flexure	KIP-FT	812.52	96.48	160.80	3.267	122.20
19.00	38.0	Shear	KIPS	206.48	6.83	25.21	5.986	223.89
20.00	40.0	Flexure	KIP-FT	812.52	102.75	161.88	3.208	119.96
20.00	40.0	Shear	KIPS	206.48	5.69	24.30	6.257	234.02
25.00	50.0	Flexure	KIP-FT	812.52	116.98	159.01	3.177	118.83
25.00	50.0	Shear	KIPS	206.48	0.00	19.32	8.159	305.15

30.00	60.0	Flexure	KIP-FT	812.52	102.75	161.88	3.208	119.96
30.00	60.0	Shear	KIPS	206.48	5.69	24.30	6.257	234.02
31.00	62.0	Flexure	KIP-FT	812.52	96.48	160.80	3.267	122.20
31.00	62.0	Shear	KIPS	206.48	6.83	25.21	5.986	223.89
35.00	70.0	Flexure	KIP-FT	817.88	60.12	145.93	3.873	144.86
35.00	70.0	Shear	KIPS	207.64	11.69	28.66	5.129	191.82
40.00	80.0	Flexure	KIP-FT	817.88	-12.44	107.41	5.927	221.66
40.00	80.0	Shear	KIPS	207.64	17.34	32.35	4.373	163.54
45.00	90.0	Flexure	KIP-FT	-817.88	-113.24	-134.08	3.826	143.09
45.00	90.0	Shear	KIPS	207.64	22.99	35.27	3.854	144.13
45.50	91.0	Flexure	KIP-FT	-817.88	-124.88	-142.92	3.509	131.25
45.50	91.0	Shear	KIPS	207.64	23.55	35.51	3.812	142.56
47.50	95.0	Flexure	KIP-FT	-812.52	-174.28	-180.31	2.489	93.11
47.50	95.0	Shear	KIPS	206.48	25.85	37.46	3.529	131.98

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.50	-229.41	1.664	62.24
0.00	0.0	Shear	KIPS	206.48	28.74	40.58	3.188	119.22
2.50	6.3	Flexure	KIP-FT	-812.52	-173.63	-176.75	2.543	95.12
2.50	6.3	Shear	KIPS	206.48	26.10	37.54	3.515	131.47
4.00	10.0	Flexure	KIP-FT	-817.88	-135.77	-149.46	3.284	122.82
4.00	10.0	Shear	KIPS	207.64	24.38	36.74	3.662	136.96
4.50	11.3	Flexure	KIP-FT	-715.59	-123.72	-139.86	3.036	113.55
4.50	11.3	Shear	KIPS	207.64	23.81	36.45	3.706	138.60
8.00	20.0	Flexure	KIP-FT	-715.59	-47.32	-84.90	5.886	220.14
8.00	20.0	Shear	KIPS	207.64	19.85	34.20	4.064	152.00
12.00	30.0	Flexure	KIP-FT	817.88	23.05	143.89	4.181	156.38
12.00	30.0	Shear	KIPS	207.64	15.33	31.07	4.616	172.64
14.00	35.0	Flexure	KIP-FT	812.52	51.46	163.83	3.477	130.04
14.00	35.0	Shear	KIPS	206.48	13.07	29.32	4.938	184.67
16.00	40.0	Flexure	KIP-FT	812.52	75.33	179.66	3.040	113.70
16.00	40.0	Shear	KIPS	206.48	10.80	27.40	5.366	200.68
20.00	50.0	Flexure	KIP-FT	812.52	108.74	196.32	2.615	97.79
20.00	50.0	Shear	KIPS	206.48	6.04	23.18	6.542	244.67
24.00	60.0	Flexure	KIP-FT	812.52	123.25	201.53	2.476	92.61
24.00	60.0	Shear	KIPS	206.48	1.49	18.34	8.516	318.51
26.00	65.0	Flexure	KIP-FT	812.52	123.68	198.71	2.509	93.85
26.00	65.0	Shear	KIPS	206.48	0.93	18.55	8.449	315.98
28.00	70.0	Flexure	KIP-FT	817.88	119.57	190.07	2.666	99.71

28.00	70.0	Shear	KIPS	207.64	3.18	20.70	7.506	280.74
32.00	80.0	Flexure	KIP-FT	817.88	97.79	154.10	3.427	128.19
32.00	80.0	Shear	KIPS	207.64	7.70	25.17	5.996	224.24
36.00	90.0	Flexure	KIP-FT	817.88	57.93	91.19	6.222	232.70
36.00	90.0	Shear	KIPS	207.64	12.22	35.13	4.170	155.95
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3702.60
40.00	100.0	Shear	KIPS	207.64	16.74	40.73	3.488	130.44



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
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Title	Legal Load Ratings		

Legal Load Rating

Objective

Rate girder for legal loads using combined legal trucks and legal lane load output from Virtis

Location of Interest

Girder 2, Pier 1

Moments (Taken From Virtis)

Maximum Live Load Forces	
Load Case/Configuration:	Moment, kip-ft
Config.	
DC Moment	205.50
DW Moment	36.90
Legal Lane	28.05
Config. 1	311.58
Config. 2	279.56
Config. 3	329.24
Config. 4	323.91
Config. 5	327.26
Config. 6	431.52
Config. 7	349.69
Config. 8	229.41

(All loads are unfactored)

Legal Lane = 37.40

0.75 factor is only applied to truck, not lane. Since the entire legal load live load factor is multiplied by 0.75, the inputted lane must be divided by 0.75 so it cancels out.

Capacity	
Moment, kip-ft	812.52

Load and Resistance Factors

$\phi_c =$	1.00	Condition Factor, MBE 6A.4.2.3
$\phi_s =$	1.00	System Factor, MBE 6A.4.2.4
$\phi_f =$	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
$\phi_s =$	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

$*V_{DC} =$	1.25
$*V_{DW} =$	1.50

$*V_{LL} = 1.31$ Maine Truck Config. 1-5, 7-8

$*V_{LL} = 1.31$ Maine Truck Config. 6

$*V_{LL} = 0.98$ Maine Truck Config. 1-5, 7-8

$*V_{LL} = 0.98$ Maine Truck Config. 6

0.75 factor applied per MaineDOT Load Rating Guide (3.3.3.3)



Vanasse Hangen Brustlin, Inc.

Computations

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Title	Legal Load Ratings		

Configuration 1

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	206	37	349	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

ϕ_c =	1.00	Condition Factor, MBE 6A.4.2.3
ϕ_s =	1.00	System Factor, MBE 6A.4.2.4
ϕ_f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
ϕ_s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

$C = \phi_c \phi_s \phi_f R_n$ for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 1 Strength I	
RF _{Flexure} =	1.46

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



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Computations

Project	MaineDOT Load Ratings	Project #	55005.00
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Title	Legal Load Ratings		

Configuration 2

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	206	37	317	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 2 Strength I	
RF _{Flexure} =	1.61

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



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Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 3

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	206	37	367	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

ϕ_c =	1.00	Condition Factor, MBE 6A.4.2.3
ϕ_s =	1.00	System Factor, MBE 6A.4.2.4
ϕ_f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
ϕ_s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

$C = \phi_c \phi_s \phi_R$ for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 3 Strength I	
RF _{Flexure} =	1.39

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 4

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	206	37	361	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

ϕ_c =	1.00	Condition Factor, MBE 6A.4.2.3
ϕ_s =	1.00	System Factor, MBE 6A.4.2.4
ϕ_f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
ϕ_s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

$C = \phi_c \phi_s \phi_f R_n$ for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 4 Strength I	
RF _{Flexure} =	1.41

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 5

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	206	37	365	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

ϕ_c =	1.00	Condition Factor, MBE 6A.4.2.3
ϕ_s =	1.00	System Factor, MBE 6A.4.2.4
ϕ_f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
ϕ_s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

$C = \phi_c \phi_s \phi_R$ for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 5 Strength I	
RF _{Flexure} =	1.40

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



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Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 6

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	206	37	469	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 6 Strength I	
RF _{Flexure} =	1.09

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



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Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 7

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	206	37	387	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

ϕ_c =	1.00	Condition Factor, MBE 6A.4.2.3
ϕ_s =	1.00	System Factor, MBE 6A.4.2.4
ϕ_f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
ϕ_s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

$C = \phi_c \phi_s \phi_f R_n$ for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

* γ_{DC} =	1.25
* γ_{DW} =	1.50
** γ_{LL} =	0.98

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1

Configuration 7 Strength I	
RF _{Flexure} =	1.32



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Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 8

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	206	37	267	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 8 Strength I	
RF _{Flexure} =	1.91

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1433 & 5951	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	DZ	Date	4/29/2013
Title	Legal Load Ratings		

Summary of Ratings

Rating Summary	
Load Case/Configuration:	Strength I
Config.	
Config. 1	1.46
Config. 2	1.61
Config. 3	1.39
Config. 4	1.41
Config. 5	1.40
Config. 6	1.09
Config. 7	1.32
Config. 8	1.91

Bridge # **Br. No. 1433/5951**
I-95 over Souadabscook

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate Mid Span

Fatigue Rating Input Values

Designations

= input value

= result

References

a = AASHTO Manual for Bridge Evaluation, 2011 2nd Edition
 b = AASHTO LRFD Bridge Design Guide, 2012

Inputs

Partial load factor = $R_{sa} = 1$

a 7.2.2.1.1-2 Use 0.95 if using refined method of analysis
 a 7.2.2.1.1-3 Else, use 1

Truck-weight partial load factor = $R_{st} = 1$

a 7.2.2.1.1-4 Use 0.95 if truck weight estimate through weight-in-motion study
 a 7.2.2.1.1-5 Else, use 1

Detail Category = $A = E'$

a 7.2.5.2 Number of stress-range cycles per truck = $n = 2$
 This is assumed for continuous, near support, span $\leq 40'$

b 3.6.1.4.2 Average number of trucks per day in single lane $(ADTT)_{SL} = 1877$

Year built = 1961

Loading

Description of Point of Interest

Span 1 - 0.35L
Span 1 - 0.65L
Span 2 - 0.38L

*0.75 Factor

	Live Load Moment		*Factored		
	Max	Min	Max	Min	
A =	156.0	-33.1	117.0	-24.8	k -ft
B =	118.6	-61.5	89.0	-46.1	k -ft
C =	145.5	-39.2	109.1	-29.4	k -ft
D =			0.0	0.0	k -ft
E =			0.0	0.0	k -ft
F =			0.0	0.0	k -ft

Geometry

Welded or bolted cover plates? = (W/B) **W**

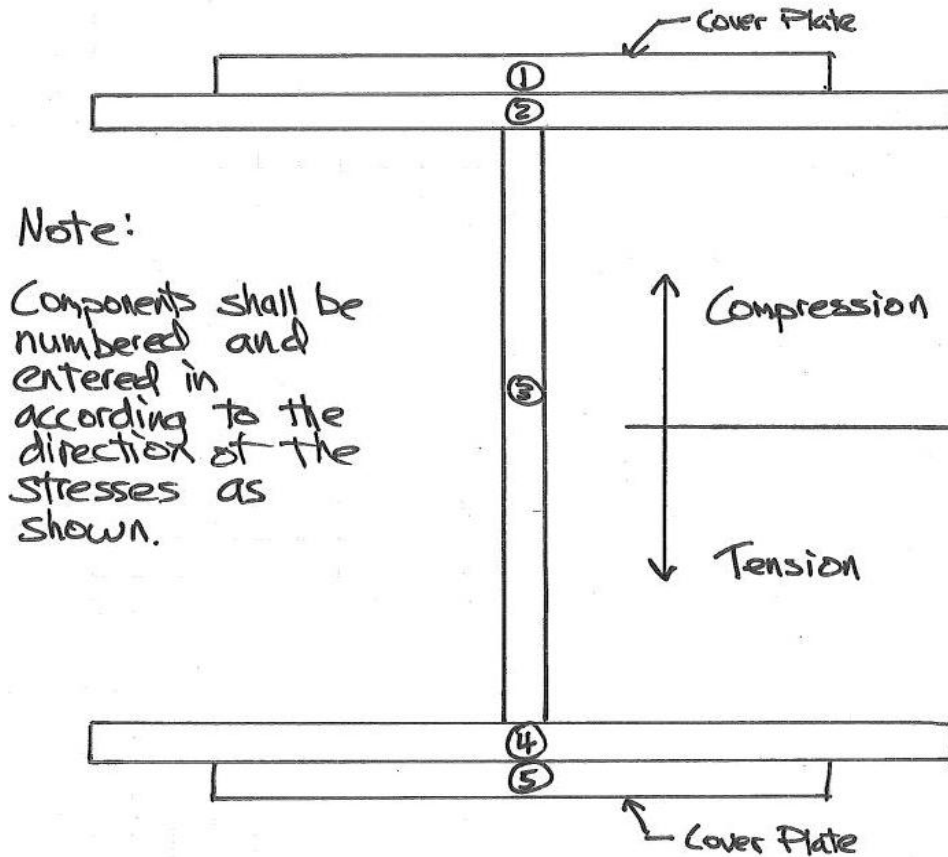
(For bolted cover plates only)

Diameter of rivets/bolts = $\phi = 0.000$ in
 Pitch = $s = 0.000$ in
 Gage = $g = 0.000$ in

Bridge # **Br. No. 1433/5951**

Project:	MaineDOT Ratings	Project #	55005.00
Location:	Hampden, ME	Sheet:	
Calculated by:	KZS	Date:	4/24/2013
Checked by:	0	Date:	1/0/1900
Title:	Fatigue Calculations - Cover Plate Mid Span		

Section Component Labeling



Note:

Spreadsheet is only valid if points of interest have same dimension properties in tension and compression. If not, a separate spreadsheet with the different properties must be created.

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate Mid Span

Gross Section Properties

Component No.*	Dimensions & Centroid Distances				Gross Component Properties			
	w	h	x	y	A	I _x	I _y	
	(in)	(in)	(in)	(in)	(in ²)	(in ⁴)	(in ⁴)	
C ↑ ↓ T	1	4.000	0.313	0.0000	24.5938	1.250	0.010	1.667
	2	12.000	0.875	0.0000	24.0000	10.500	0.67	126.000
	3	0.500	22.375	0.0000	12.3750	11.188	466.743	0.233
	4	12.000	0.875	0.0000	0.7500	10.500	0.670	126.000
	5	4.000	0.313	0.0000	0.1563	1.250	0.010	1.667
d =		24.750		34.688				

Component No.*	A	(A)(y)	I _x	d	Ad ²	I _x + Ad ²
	(in ²)	(in ³)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	1.250	30.742	0.010	12.219	186.622	186.632
2	10.500	252.000	0.670	11.625	1418.977	1419.646
3	11.188	138.445	466.743	0.000	0.000	466.743
4	10.500	7.875	0.670	11.625	1418.977	1419.646
5	1.250	0.195	0.010	12.219	186.622	186.632
Y _{x-x} = 12.375		I _{xx} = 3679				

* See diagram for definition of components.

Definition of Variables

w = component width (x direction)

h = component height (y direction)

x = horizontal distance from center of web to component center

y = vertical distance from bottom of entire section to component center

A = component area $A = w h$

I_x = moment of inertia about component x-x axis

$$I_x = \frac{1}{12} w h^3$$

$$I_y = \frac{1}{12} h w^3$$

I_y = moment of inertia about component y-y axis

Definition of Variables

$$Y_{x-x} = \text{x-x centroidal axis measured from bottom of section, in} \quad Y_{x-x} = \frac{\sum (Ay)}{\sum A}$$

$$d = \text{distance between member x-x centroidal axis and the center of the component} \quad d = |Y_{x-x} - y|$$

$$I_{xx} = \text{gross moment of inertia of the section about x-x axis, in}^4 \quad I_{xx} = \sum (I_x + A d^2)$$

Gross Top Section Modulus

S_{top gross} = gross section modulus for compression (top)

$$S_{top_gross} = \frac{I_{xx}}{d_{tot} - Y_{x-x}}$$

$$S_{top-gross} = 297 \text{ in}^3$$

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings

Project # 55005.00

Location: Hampden, ME

Sheet:

Calculated by: KZS

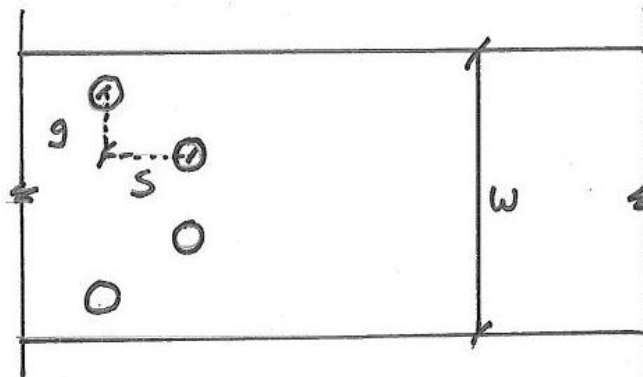
Date: 4/24/2013

Checked by: 0

Date: 1/0/1900

Title: Fatigue Calculations - Cover Plate Mid Span

Tension Net Width



Effective Hole Diameter

$$d = \frac{1}{16}'' + \phi_{\text{rivet or bolt}}$$

$$d = \boxed{\text{N/A}} \text{ in}$$

Consider Straight Line Through One Row of Bolts

$$w_n = w - 2d$$

Flange
Cover Plate

$$w_{n1} = \boxed{\text{N/A}} \text{ in}$$

$$w_{n1} = \boxed{\text{N/A}} \text{ in}$$

Consider line through staggered bolt holes

$$w_n = w - 4d + 2 \frac{s^2}{4g}$$

Flange
Cover Plate

$$w_{n2} = \boxed{\text{N/A}} \text{ in}$$

$$w_{n2} = \boxed{\text{N/A}} \text{ in}$$

Use minimum value for net width

Flange
Cover Plate

$$w_n = \boxed{12.000} \text{ in}$$

$$w_n = \boxed{4.000} \text{ in}$$

Note: This sheet valid only for bolted cover plates.

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: 0 Date: 1/0/1900
 Title: Fatigue Calculations - Cover Plate Mid Span

Gross Section Properties

Gross Section Properties About Y-Y Axis (for the area in compression only)

y_c = depth of section in compression, measured from top of section: $y_c = d_{tot} - Y_{x-x} = 12.375$ in

Component No.*	A (in ²)	(A)(x) (in ³)	h_c (in)	A_c (in ²)	d (in)	$A_c d^2$ (in ⁴)	I_{y_c} (in ⁴)	$I_{y_c} + A_c d^2$ (in ⁴)
1	1.250	0.000	0.3125	1.250	0.000	0.000	1.667	1.667
2	10.500	0.000	0.8750	10.500	0.000	0.000	126.000	126.000
3	11.188	0.000	11.1875	5.594	0.000	0.000	0.117	0.117
4	10.500	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
5	1.250	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
$X_{y-y} = 0.000$			$A_{c_tot} = 17.3$		$I_{yy_c} = 127.783$			

Component No.*	Dimensions & Centroid Distances			
	w_n	h_n	x	y
	(in)	(in)	(in)	(in)
1	4.000	0.313	0.000	24.594
2	12.000	0.875	0.000	24.000
3	0.500	22.375	0.000	12.375
4	12.000	0.875	0.000	0.750
5	4.000	0.313	0.000	0.156

Definition of Variables

w_n = net width
 h_n = net height
 x = horizontal distance from center of web to component center
 y = vertical distance from bottom of entire section to component center

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings

Project # 55005.00

Location: Hampden, ME

Sheet:

Calculated by: KZS

Date: 4/24/2013

Checked by: 0

Date: 1/0/1900

Title: Fatigue Calculations - Cover Plate Mid Span

Gross Section Properties

Component No.*	Net Member Properties						
	A_n	$(A_n)(y)$	I_{xn}	I_{yn}	d	$A_n d^2$	$I_{xn} + A_n d^2$
	(in ²)	(in ³)	(in ⁴)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	1.250	30.742	0.010	1.667	12.219	186.622	186.632
2	10.500	252.000	0.670	126.000	11.625	1418.977	1419.646
3	11.188	138.445	466.743	0.233	0.000	0.000	466.743
4	10.500	7.875	0.670	126.000	11.625	1418.977	1419.646
5	1.250	0.195	0.010	1.667	12.219	186.622	186.632
$Y_{x-xn} =$		12.375					
			$I_{xxn} =$				
			3679				

Definition of Variables

I_{xn} = net moment of inertia about component x-x axis

$$I_{xn} = \frac{1}{12} w_n h_n^3$$

I_{yn} = net moment of inertia about component y-y axis

$$I_{yn} = \frac{1}{12} h_n w_n^3$$

Y_{x-xn} = x-x centroidal axis measured from bottom of the net section, in

$$Y_{x-xn} = \frac{\sum (A_n y)}{\sum A_n}$$

I_{xxn} = net moment of inertia of the section about x-x axis, in⁴

$$I_{xxn} = \sum (I_{xn} + A_n d^2)$$

Net bottom Section Modulus

S_{bot_net} = net section modulus for tension (bottom)

$$S_{bot_net} = \frac{I_{xxn}}{Y_{x-xn}}$$

$$S_{bot_net} = 297 \text{ in}^3$$

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate Mid Span

Fatigue Stresses

Moments

POI 1	117	-25	ft-k
POI 2	89	-46	ft-k
POI 3	109	-29	ft-k
POI 4	0	0	ft-k
POI 5	0	0	ft-k
POI 6	0	0	ft-k

Section Properties

Top Flange Section Modulus, gross section =	297	in ³
Bottom Flange Section Modulus, net section =	297	in ³

Actual Stresses

POI 1	4.722	-1.003	ksi
POI 2	3.590	-1.862	ksi
POI 3	4.403	-1.186	ksi
POI 4	0.000	0.000	ksi
POI 5	0.000	0.000	ksi
POI 6	0.000	0.000	ksi

$$\Delta f = \frac{M}{S}$$

Effective Stress Range

$$(\Delta f)_{eff} = R_s \Delta f \quad R_s = 1$$

where:

$$R_s = R_{sa} R_{st}$$

POI 1	(Δf) _{eff} =	5.725	ksi
POI 2	(Δf) _{eff} =	5.452	ksi
POI 3	(Δf) _{eff} =	5.589	ksi
POI 4	(Δf) _{eff} =	0.000	ksi
POI 5	(Δf) _{eff} =	0.000	ksi
POI 6	(Δf) _{eff} =	0.000	ksi

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: 0 Date: 1/0/1900
 Title: Fatigue Calculations - Cover Plate Mid Span

Fatigue Life

Check Infinite-Life

If $(\Delta f)_{\max} \leq (\Delta F)_{TH}$ where: $(\Delta f)_{\max} = 2.0(\Delta f)_{\text{eff}}$
 $(\Delta F)_{TH} = (\text{From Table 6.6.1.2.5-3, Ref b})$
 Then $Y = \infty$

	$(\Delta f)_{\max}$		$(\Delta F)_{TH}$		RF
1	11.450	>	2.6	NOT INFINITE	0.227
2	10.904	>	2.6	NOT INFINITE	0.238
3	11.178	>	2.6	NOT INFINITE	0.233
4	0.000	<	2.6	N/A	
5	0.000	<	2.6	N/A	
6	0.000	<	2.6	N/A	

Calculate Remaining Fatigue Life for Non-Infinite Points

$$Y = \frac{R_R A}{365n(ADTT)_{SL} [(\Delta f)_{\text{eff}}]^3}$$

AASHTO MBE Table 7.2.5.2-1

Detail Category	Evaluation Life	Minimum Life	Mean Life
A	1.7	1.0	2.8
B	1.4	1.0	2.0
B'	1.5	1.0	2.4
C	1.2	1.0	1.3
C'	1.2	1.0	1.3
D	1.3	1.0	1.6
E	1.3	1.0	1.6
E'	1.6	1.0	2.5

	R_R	A	Y	Years Remaining
1	1.6	390000000	2	-50 years
2	1.6	390000000	3	-49 years
3	1.6	390000000	3	-49 years
4	1.6	390000000		years
5	1.6	390000000		years
6	1.6	390000000		years

Controlling = -50 years

Bridge # **Br. No. 1433/5951**
I-95 over Souadabscook

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate Pier

Fatigue Rating Input Values

Designations

= input value

= result

References

a = AASHTO Manual for Bridge Evaluation, 2011 2nd Edition
 b = AASHTO LRFD Bridge Design Guide, 2012

Inputs

Partial load factor = $R_{sa} = 1$

a 7.2.2.1.1-2 Use 0.95 if using refined method of analysis
 a 7.2.2.1.1-3 Else, use 1

Truck-weight partial load factor = $R_{st} = 1$

a 7.2.2.1.1-4 Use 0.95 if truck weight estimate through weight-in-motion study
 a 7.2.2.1.1-5 Else, use 1

Detail Category = $A = E'$

a 7.2.5.2 Number of stress-range cycles per truck = $n = 2$
 This is assumed for continuous, near support, span $\leq 40'$

b 3.6.1.4.2 Average number of trucks per day in single lane $(ADTT)_{SL} = 1877$

Year built = 1961

Loading

Description of Point of Interest	Live Load Moment		*Factored		
	Max	Min	Max	Min	
Span 1 - 37.5'	20.7	-124.3	15.5	-93.2	k -ft
Span 2 - 2.5'	17.2	-122.9	12.9	-92.2	k -ft
			0.0	0.0	k -ft
			0.0	0.0	k -ft
			0.0	0.0	k -ft
			0.0	0.0	k -ft

*0.75 Factor

Geometry

Welded or bolted cover plates? = (W/B) **W**

(For bolted cover plates only)

Diameter of rivets/bolts = $\phi = 0.000$ in

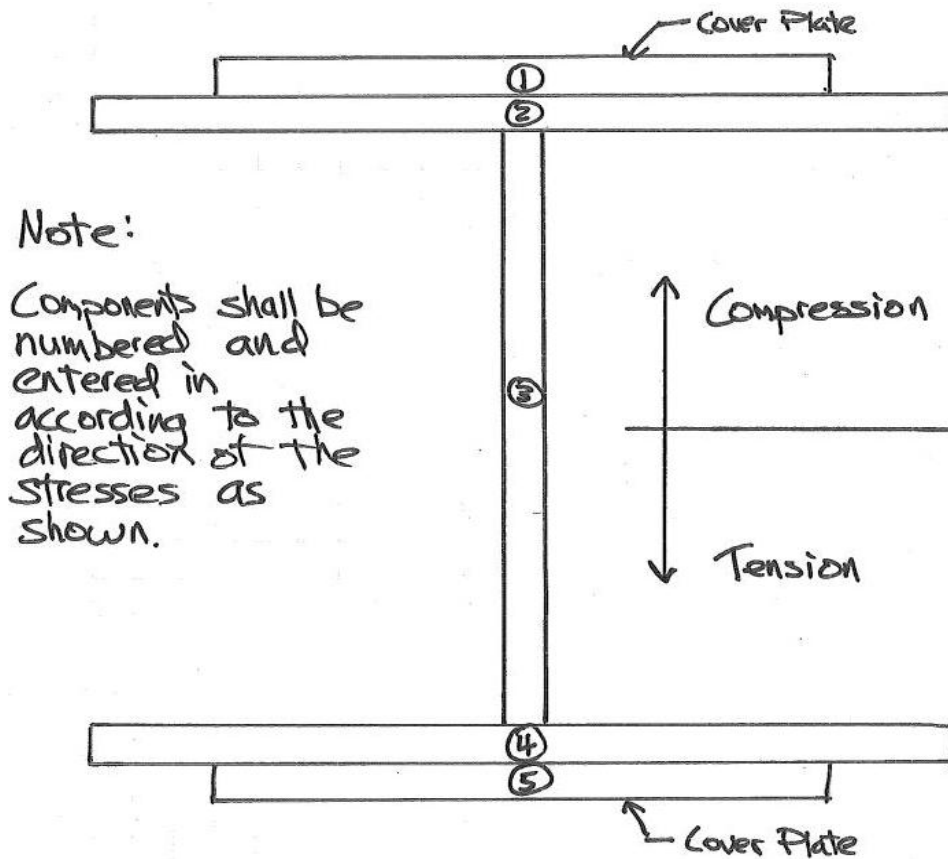
Pitch = $s = 0.000$ in

Gage = $g = 0.000$ in

Bridge # **Br. No. 1433/5951**

Project:	MaineDOT Ratings	Project #	55005.00
Location:	Hampden, ME	Sheet:	
Calculated by:	KZS	Date:	4/24/2013
Checked by:	AMG	Date:	4/24/2013
Title:	Fatigue Calculations - Cover Plate Pier		

Section Component Labeling



Note:

Spreadsheet is only valid if points of interest have same dimension properties in tension and compression. If not, a separate spreadsheet with the different properties must be created.

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate Pier

Gross Section Properties

Component No.*	Dimensions & Centroid Distances				Gross Component Properties		
	w	h	x	y	A	I _x	I _y
	(in)	(in)	(in)	(in)	(in ²)	(in ⁴)	(in ⁴)
1	10.000	0.375	0.0000	24.6875	3.750	0.044	31.250
2	12.000	0.875	0.0000	24.0625	10.500	0.67	126.000
3	0.500	22.375	0.0000	12.4375	11.188	466.743	0.233
4	12.000	0.875	0.0000	0.8125	10.500	0.670	126.000
5	10.000	0.375	0.0000	0.1875	3.750	0.044	31.250
d =					24.875	39.688	

Component No.*	A	(A)(y)	I _x	d	Ad ²	I _x + Ad ²
	(in ²)	(in ³)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	3.750	92.578	0.044	12.250	562.734	562.778
2	10.500	252.656	0.670	11.625	1418.977	1419.646
3	11.188	139.145	466.743	0.000	0.000	466.743
4	10.500	8.531	0.670	11.625	1418.977	1419.646
5	3.750	0.703	0.044	12.250	562.734	562.778
Y _{x-x} =		12.438	I _{xx} =		4432	

* See diagram for definition of components.

Definition of Variables

w = component width (x direction)

h = component height (y direction)

x = horizontal distance from center of web to component center

y = vertical distance from bottom of entire section to component center

A = component area $A = w h$

I_x = moment of inertia about component x-x axis

I_y = moment of inertia about component y-y axis

$$I_x = \frac{1}{12} w h^3 \quad I_y = \frac{1}{12} h w^3$$

Definition of Variables

$$Y_{x-x} = \text{x-x centroidal axis measured from bottom of section, in} \quad Y_{x-x} = \frac{\sum (Ay)}{\sum A}$$

$$d = \text{distance between member x-x centroidal axis and the center of the component} \quad d = |Y_{x-x} - y|$$

$$I_{xx} = \text{gross moment of inertia of the section about x-x axis, in}^4 \quad I_{xx} = \sum (I_x + A d^2)$$

Gross Top Section Modulus

S_{top gross} = gross section modulus for compression (top)

$$S_{top_gross} = \frac{I_{xx}}{d_{tot} - Y_{x-x}}$$

$$S_{top-gross} = 356 \text{ in}^3$$

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings

Project # 55005.00

Location: Hampden, ME

Sheet:

Calculated by: KZS

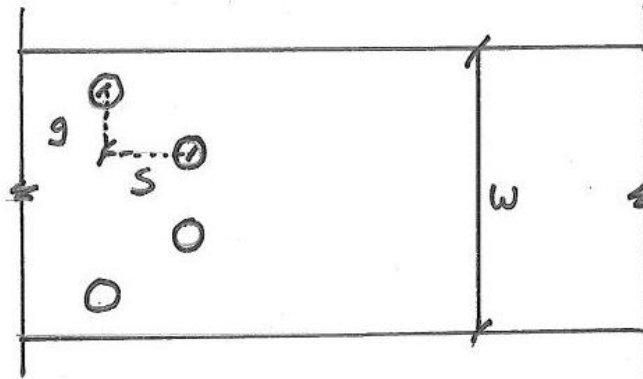
Date: 4/24/2013

Checked by: AMG

Date: 4/24/2013

Title: Fatigue Calculations - Cover Plate Pier

Tension Net Width



Effective Hole Diameter

$$d = \frac{1}{16}'' + \phi_{\text{rivet or bolt}}$$

$$d = \boxed{\text{N/A}} \text{ in}$$

Consider Straight Line Through One Row of Bolts

$$w_n = w - 2d$$

Flange
Cover Plate

$$w_{n1} = \boxed{\text{N/A}} \text{ in}$$

$$w_{n1} = \boxed{\text{N/A}} \text{ in}$$

Consider line through staggered bolt holes

$$w_n = w - 4d + 2 \frac{s^2}{4g}$$

Flange
Cover Plate

$$w_{n2} = \boxed{\text{N/A}} \text{ in}$$

$$w_{n2} = \boxed{\text{N/A}} \text{ in}$$

Use minimum value for net width

Flange
Cover Plate

$$w_n = \boxed{12.000} \text{ in}$$

$$w_n = \boxed{10.000} \text{ in}$$

Note: This sheet valid only for bolted cover plates.

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate Pier

Gross Section Properties

Gross Section Properties About Y-Y Axis (for the area in compression only)

y_c = depth of section in compression, measured from top of section: $y_c = d_{tot} - Y_{x-x} = 12.438$ in

Component No.*	A (in ²)	(A)(x) (in ³)	h_c (in)	A_c (in ²)	d (in)	$A_c d^2$ (in ⁴)	I_{y_c} (in ⁴)	$I_{y_c} + A_c d^2$ (in ⁴)
1	3.750	0.000	0.3750	3.750	0.000	0.000	31.250	31.250
2	10.500	0.000	0.8750	10.500	0.000	0.000	126.000	126.000
3	11.188	0.000	11.1875	5.594	0.000	0.000	0.117	0.117
4	10.500	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
5	3.750	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
$X_{y-y} = 0.000$			$A_{c_tot} = 19.8$		$I_{yy_c} = 157.367$			

Component No.*	Dimensions & Centroid Distances			
	w_n	h_n	x	y
	(in)	(in)	(in)	(in)
1	10.000	0.375	0.000	24.688
2	12.000	0.875	0.000	24.063
3	0.500	22.375	0.000	12.438
4	12.000	0.875	0.000	0.813
5	10.000	0.375	0.000	0.188

Definition of Variables

w_n = net width
 h_n = net height
 x = horizontal distance from center of web to component center
 y = vertical distance from bottom of entire section to component center

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings

Project # 55005.00

Location: Hampden, ME

Sheet:

Calculated by: KZS

Date: 4/24/2013

Checked by: AMG

Date: 4/24/2013

Title: Fatigue Calculations - Cover Plate Pier

Gross Section Properties

Component No.*	Net Member Properties						
	A _n	(A _n)(y)	I _{xn}	I _{yn}	d	A _n d ²	I _{xn} + A _n d ²
	(in ²)	(in ³)	(in ⁴)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	3.750	92.578	0.044	31.250	12.250	562.734	562.778
2	10.500	252.656	0.670	126.000	11.625	1418.977	1419.646
3	11.188	139.145	466.743	0.233	0.000	0.000	466.743
4	10.500	8.531	0.670	126.000	11.625	1418.977	1419.646
5	3.750	0.703	0.044	31.250	12.250	562.734	562.778
Y _{x-xn} = 12.438			I _{xxn} = 4432				

Definition of Variables

I_{xn} = net moment of inertia about component x-x axis

$$I_{xn} = \frac{1}{12} w_n h_n^3$$

I_{yn} = net moment of inertia about component y-y axis

$$I_{yn} = \frac{1}{12} h_n w_n^3$$

Y_{x-xn} = x-x centroidal axis measured from bottom of the net section, in

$$Y_{x-xn} = \frac{\sum (A_n y)}{\sum A_n}$$

I_{xxn} = net moment of inertia of the section about x-x axis, in⁴

$$I_{xxn} = \sum (I_{xn} + A_n d^2)$$

Net bottom Section Modulus

S_{bot_net} = net section modulus for tension (bottom)

$$S_{bot_net} = \frac{I_{xxn}}{Y_{x-xn}}$$

$$S_{bot_net} = 356 \text{ in}^3$$

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate Pier

Fatigue Stresses

Moments

POI 1	16	-93	ft-k
POI 2	13	-92	ft-k
POI 3	0	0	ft-k
POI 4	0	0	ft-k
POI 5	0	0	ft-k
POI 6	0	0	ft-k

Section Properties

Top Flange Section Modulus, gross section =	356	in ³
Bottom Flange Section Modulus, net section =	356	in ³

Actual Stresses

POI 1	0.524	-3.139	ksi
POI 2	0.434	-3.104	ksi
POI 3	0.000	0.000	ksi
POI 4	0.000	0.000	ksi
POI 5	0.000	0.000	ksi
POI 6	0.000	0.000	ksi

$$\Delta f = \frac{M}{S}$$

Effective Stress Range

$$(\Delta f)_{eff} = R_s \Delta f$$

$$R_s = 1$$

where:

$$R_s = R_{sa} R_{st}$$

POI 1	(Δf) _{eff} =	3.662	ksi
POI 2	(Δf) _{eff} =	3.538	ksi
POI 3	(Δf) _{eff} =	0.000	ksi
POI 4	(Δf) _{eff} =	0.000	ksi
POI 5	(Δf) _{eff} =	0.000	ksi
POI 6	(Δf) _{eff} =	0.000	ksi

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate Pier

Fatigue Life

Check Infinite-Life

If $(\Delta f)_{\max} \leq (\Delta F)_{TH}$ where: $(\Delta f)_{\max} = 2.0(\Delta f)_{\text{eff}}$
 $(\Delta F)_{TH} = (\text{From Table 6.6.1.2.5-3, Ref b})$
 Then $Y = \infty$

	$(\Delta f)_{\max}$		$(\Delta F)_{TH}$		RF
1	7.325	>	2.6	NOT INFINITE	0.355
2	7.076	>	2.6	NOT INFINITE	0.367
3	0.000	<	2.6	N/A	
4	0.000	<	2.6	N/A	
5	0.000	<	2.6	N/A	
6	0.000	<	2.6	N/A	

Calculate Remaining Fatigue Life for Non-Infinite Points

$$Y = \frac{R_R A}{365n(ADTT)_{SL} [(\Delta f)_{\text{eff}}]^3}$$

AASHTO MBE Table 7.2.5.2-1

	R_R		R_R		
Detail Category	Evaluation Life	Minimum Life	Mean Life		
A	1.7	1.0	2.8		
B	1.4	1.0	2.0		
B'	1.5	1.0	2.4		
C	1.2	1.0	1.3		
C'	1.2	1.0	1.3		
D	1.3	1.0	1.6		
E	1.3	1.0	1.6		
E'	1.6	1.0	2.5		
	R_R	A	Y	Years Remaining	
1	1.6	390000000	9	-43	years
2	1.6	390000000	10	-42	years
3	1.6	390000000			years
4	1.6	390000000			years
5	1.6	390000000			years
6	1.6	390000000			years

Controlling = -43 years

Bridge # **Br. No. 1433/5951**
I-95 over Souadabscook

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Fatigue Rating Input Values

Designations

= input value

= result

References

a = AASHTO Manual for Bridge Evaluation, 2011 2nd Edition
 b = AASHTO LRFD Bridge Design Guide, 2012

Inputs

Partial load factor = $R_{sa} = 1$

a 7.2.2.1.1-2 Use 0.95 if using refined method of analysis
 a 7.2.2.1.1-3 Else, use 1

Truck-weight partial load factor = $R_{st} = 1$

a 7.2.2.1.1-4 Use 0.95 if truck weight estimate through weight-in-motion study
 a 7.2.2.1.1-5 Else, use 1

Detail Category = $A = E'$

a 7.2.5.2 Number of stress-range cycles per truck = $n = 2$
 This is assumed for continuous, near support, span $\leq 40'$

b 3.6.1.4.2 Average number of trucks per day in single lane $(ADTT)_{SL} = 1877$

Year built = 1961

Loading

Description of Point of Interest

Span 1 - 35.5'
Span 2 - 4.5'

*0.75 Factor

Geometry

Welded or bolted cover plates? = (W/B) W

(For bolted cover plates only)

Diameter of rivets/bolts =

Pitch =

Gage =

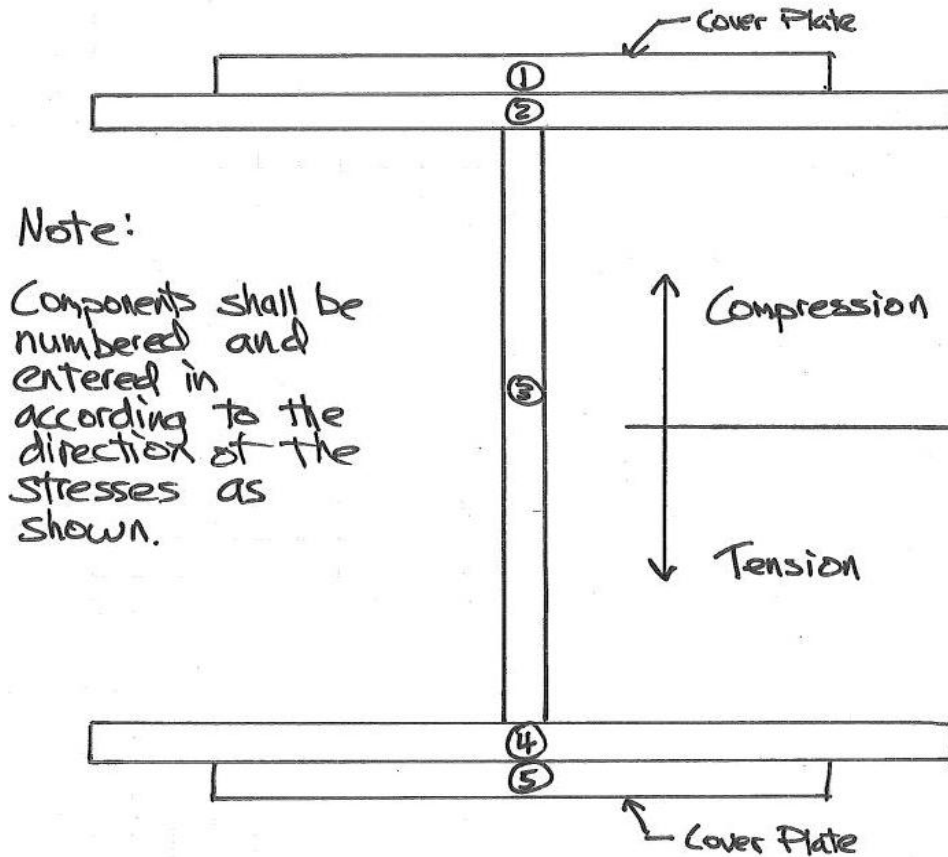
	Live Load Moment		*Factored		
	Max	Min	Max	Min	
A =	31.5	-84.1	23.6	-63.1	k -ft
B =	13.2	-95.7	9.9	-71.7	k -ft
C =			0.0	0.0	k -ft
D =			0.0	0.0	k -ft
E =			0.0	0.0	k -ft
F =			0.0	0.0	k -ft

$\phi = 0.000$ in
 $s = 0.000$ in
 $g = 0.000$ in

Bridge # **Br. No. 1433/5951**

Project:	MaineDOT Ratings	Project #	55005.00
Location:	Hampden, ME	Sheet:	
Calculated by:	KZS	Date:	4/24/2013
Checked by:	0	Date:	1/0/1900
Title:	Fatigue Calculations - Cover Plate @ Pier end of taper		

Section Component Labeling



Note:

Spreadsheet is only valid if points of interest have same dimension properties in tension and compression. If not, a separate spreadsheet with the different properties must be created.

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Gross Section Properties

Component No.*	Dimensions & Centroid Distances				Gross Component Properties		
	w	h	x	y	A	I _x	I _y
	(in)	(in)	(in)	(in)	(in ²)	(in ⁴)	(in ⁴)
1	4.000	0.375	0.0000	24.6875	1.500	0.018	2.000
2	12.000	0.875	0.0000	24.0625	10.500	0.67	126.000
3	0.500	22.375	0.0000	12.4375	11.188	466.743	0.233
4	12.000	0.875	0.0000	0.8125	10.500	0.670	126.000
5	4.000	0.375	0.0000	0.1875	1.500	0.018	2.000
d =					24.875	35.188	

Component No.*	A	(A)(y)	I _x	d	Ad ²	I _x + Ad ²
	(in ²)	(in ³)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	1.500	37.031	0.018	12.250	225.094	225.111
2	10.500	252.656	0.670	11.625	1418.977	1419.646
3	11.188	139.145	466.743	0.000	0.000	466.743
4	10.500	8.531	0.670	11.625	1418.977	1419.646
5	1.500	0.281	0.018	12.250	225.094	225.111
Y _{x-x} =		12.438	I _{xx} =		3756	

* See diagram for definition of components.

Definition of Variables

w = component width (x direction)

h = component height (y direction)

x = horizontal distance from center of web to component center

y = vertical distance from bottom of entire section to component center

A = component area $A = w h$

I_x = moment of inertia about component x-x axis

I_y = moment of inertia about component y-y axis

$$I_x = \frac{1}{12} w h^3 \quad I_y = \frac{1}{12} h w^3$$

Definition of Variables

$$Y_{x-x} = \text{x-x centroidal axis measured from bottom of section, in} \quad Y_{x-x} = \frac{\sum (Ay)}{\sum A}$$

$$d = \text{distance between member x-x centroidal axis and the center of the component} \quad d = |Y_{x-x} - y|$$

$$I_{xx} = \text{gross moment of inertia of the section about x-x axis, in}^4 \quad I_{xx} = \sum (I_x + A d^2)$$

Gross Top Section Modulus

S_{top gross} = gross section modulus for compression (top)

$$S_{top_gross} = \frac{I_{xx}}{d_{tot} - Y_{x-x}}$$

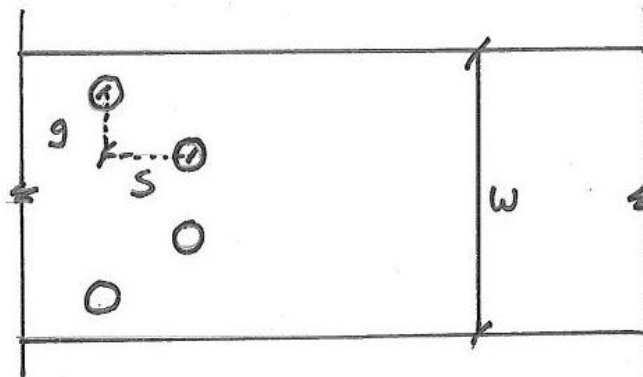
$$S_{top-gross} = 302 \text{ in}^3$$

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings
 Location: Hampden, ME
 Calculated by: KZS
 Checked by: 0
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Project # 55005.00
 Sheet: 4/24/2013
 Date: 1/0/1900

Tension Net Width



Effective Hole Diameter

$$d = \frac{1}{16}'' + \phi_{\text{rivet or bolt}}$$

$$d = \boxed{\text{N/A}} \text{ in}$$

Consider Straight Line Through One Row of Bolts

$$w_n = w - 2d$$

Flange	$w_{n1} = \boxed{\text{N/A}}$ in
Cover Plate	$w_{n1} = \boxed{\text{N/A}}$ in

Consider line through staggered bolt holes

$$w_n = w - 4d + 2 \frac{s^2}{4g}$$

Flange	$w_{n2} = \boxed{\text{N/A}}$ in
Cover Plate	$w_{n2} = \boxed{\text{N/A}}$ in

Use minimum value for net width

Flange	$w_n = \boxed{12.000}$ in
Cover Plate	$w_n = \boxed{4.000}$ in

Note: This sheet valid only for bolted cover plates.

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: 0 Date: 1/0/1900
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Gross Section Properties

Gross Section Properties About Y-Y Axis (for the area in compression only)

y_c = depth of section in compression, measured from top of section: $y_c = d_{tot} - Y_{x-x} = 12.438$ in

Component No.*	A	(A)(x)	h _c	A _c	d	A _c d ²	I _{y c}	I _{y c} +A _c d ²
	(in ²)	(in ³)	(in)	(in ²)	(in)	(in ⁴)	(in ⁴)	(in ⁴)
1	1.500	0.000	0.3750	1.500	0.000	0.000	2.000	2.000
2	10.500	0.000	0.8750	10.500	0.000	0.000	126.000	126.000
3	11.188	0.000	11.1875	5.594	0.000	0.000	0.117	0.117
4	10.500	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
5	1.500	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
X _{y-y} = 0.000			A _{c tot} = 17.6		I _{yy c} = 128.117			

Component No.*	Dimensions & Centroid Distances			
	w_n	h_n	x	y
	(in)	(in)	(in)	(in)
1	4.000	0.375	0.000	24.688
2	12.000	0.875	0.000	24.063
3	0.500	22.375	0.000	12.438
4	12.000	0.875	0.000	0.813
5	4.000	0.375	0.000	0.188

Definition of Variables

w_n = net width
 h_n = net height
 x = horizontal distance from center of web to component center
 y = vertical distance from bottom of entire section to component center

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: 0 Date: 1/0/1900
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Gross Section Properties

Component No.*	Net Member Properties						
	A_n	$(A_n)(y)$	I_{xn}	I_{yn}	d	$A_n d^2$	$I_{xn} + A_n d^2$
	(in ²)	(in ³)	(in ⁴)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	1.500	37.031	0.018	2.000	12.250	225.094	225.111
2	10.500	252.656	0.670	126.000	11.625	1418.977	1419.646
3	11.188	139.145	466.743	0.233	0.000	0.000	466.743
4	10.500	8.531	0.670	126.000	11.625	1418.977	1419.646
5	1.500	0.281	0.018	2.000	12.250	225.094	225.111
$Y_{x-xn} =$		12.438					
			$I_{xxn} =$				
			3756				

Definition of Variables

I_{xn} = net moment of inertia about component x-x axis

$$I_{xn} = \frac{1}{12} w_n h_n^3$$

I_{yn} = net moment of inertia about component y-y axis

$$I_{yn} = \frac{1}{12} h_n w_n^3$$

Y_{x-xn} = x-x centroidal axis measured from bottom of the net section, in

$$Y_{x-xn} = \frac{\sum (A_n y)}{\sum A_n}$$

I_{xxn} = net moment of inertia of the section about x-x axis, in⁴

$$I_{xxn} = \sum (I_{xn} + A_n d^2)$$

Net bottom Section Modulus

S_{bot_net} = net section modulus for tension (bottom)

$$S_{bot_net} = \frac{I_{xxn}}{Y_{x-xn}}$$

$$S_{bot_net} = 302 \text{ in}^3$$

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: AMG Date: 4/24/2013
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Fatigue Stresses

Moments

POI 1	24	-63	ft-k
POI 2	10	-72	ft-k
POI 3	0	0	ft-k
POI 4	0	0	ft-k
POI 5	0	0	ft-k
POI 6	0	0	ft-k

Section Properties

Top Flange Section Modulus, gross section =	302	in ³
Bottom Flange Section Modulus, net section =	302	in ³

Actual Stresses

POI 1	0.938	-2.505	ksi
POI 2	0.395	-2.851	ksi
POI 3	0.000	0.000	ksi
POI 4	0.000	0.000	ksi
POI 5	0.000	0.000	ksi
POI 6	0.000	0.000	ksi

$$\Delta f = \frac{M}{S}$$

Effective Stress Range

$$(\Delta f)_{eff} = R_s \Delta f$$

$$R_s = 1$$

where:

$$R_s = R_{sa} R_{st}$$

POI 1	(Δf) _{eff} =	3.443	ksi
POI 2	(Δf) _{eff} =	3.245	ksi
POI 3	(Δf) _{eff} =	0.000	ksi
POI 4	(Δf) _{eff} =	0.000	ksi
POI 5	(Δf) _{eff} =	0.000	ksi
POI 6	(Δf) _{eff} =	0.000	ksi

Bridge # Br. No. 1433/5951

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/24/2013
 Checked by: 0 Date: 1/0/1900
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Fatigue Life

Check Infinite-Life

If $(\Delta f)_{\max} \leq (\Delta F)_{TH}$ where: $(\Delta f)_{\max} = 2.0(\Delta f)_{\text{eff}}$
 $(\Delta F)_{TH} = (\text{From Table 6.6.1.2.5-3, Ref b})$
 Then $Y = \infty$

	$(\Delta f)_{\max}$		$(\Delta F)_{TH}$		RF
1	6.886	>	2.6	NOT INFINITE	0.378
2	6.490	>	2.6	NOT INFINITE	0.401
3	0.000	<	2.6	N/A	
4	0.000	<	2.6	N/A	
5	0.000	<	2.6	N/A	
6	0.000	<	2.6	N/A	

Calculate Remaining Fatigue Life for Non-Infinite Points

$$Y = \frac{R_R A}{365n(ADTT)_{SL} [(\Delta f)_{\text{eff}}]^3}$$

AASHTO MBE Table 7.2.5.2-1

	R_R		R_R		
Detail Category	Evaluation Life	Minimum Life	Mean Life		
A	1.7	1.0	2.8		
B	1.4	1.0	2.0		
B'	1.5	1.0	2.4		
C	1.2	1.0	1.3		
C'	1.2	1.0	1.3		
D	1.3	1.0	1.6		
E	1.3	1.0	1.6		
E'	1.6	1.0	2.5		
	R_R	A	Y	Years Remaining	
1	1.6	390000000	11	-41	years
2	1.6	390000000	13	-39	years
3	1.6	390000000			years
4	1.6	390000000			years
5	1.6	390000000			years
6	1.6	390000000			years

Controlling = -41 years

Live Load Actions Report

Name: I95 over Souadabscook Stream ...
Struct-Def: 1433+5951

Bridge ID: Br. No. 1433+5951
Member: G1

NBl: 1433+5951
Member Alt: G1

Stage: Composite (short term) (Stag...

Live Load: LRFD Fatigue Truck (US)

Live Load Type: Axle Load

Span	Location (ft)	% Span	Positive Moment (kip-ft)	Negative Moment (kip-ft)	Positive Shear (kip)	Negative Shear (kip)	Positive Axial (kip)	Negative Axial (kip)	Positive Reaction (kip)	Negative Reaction (kip)	Positive X Deflection (in)	Negative X Deflection (in)	Positive Y Deflection (in)	Negative Y Deflection (in)	% Impact Pos Reaction	% Impact Neg Reaction
1	0.00	0.0	-0.00	-0.00	25.35	-2.88	-0.00	-0.00	25.35	-2.88	0.0000	0.0000	0.0000	0.0000	15.000	15.000
1	4.00	10.0	70.50	-9.46	21.49	-2.88	0.00	0.00			0.0000	0.0000	0.0147	-0.0381		
1	8.00	20.0	119.66	-18.92	15.47	-4.56	0.00	0.00			0.0000	0.0000	0.0284	-0.0717		
1	11.00	27.5	143.20	-26.02	13.46	-6.96	0.00	0.00			0.0000	0.0000	0.0375	-0.0914		
1	12.00	30.0	148.61	-28.39	12.81	-7.73	0.00	0.00			0.0000	0.0000	0.0403	-0.0965		
1	14.00	35.0	156.00	-33.12	11.52	-9.21	0.00	0.00			0.0000	0.0000	0.0452	-0.1046		
1	16.00	40.0	159.05	-37.85	10.28	-10.60	0.00	0.00			0.0000	0.0000	0.0493	-0.1099		
1	20.00	50.0	153.05	-47.31	7.91	-13.47	0.00	0.00			0.0000	0.0000	0.0550	-0.1104		
1	22.00	55.0	144.52	-52.04	6.79	-14.84	0.00	0.00			0.0000	0.0000	0.0563	-0.1062		
1	24.00	60.0	133.01	-56.77	5.73	-16.18	0.00	0.00			0.0000	0.0000	0.0565	-0.0996		
1	26.00	65.0	118.61	-61.50	4.72	-17.42	0.00	0.00			0.0000	0.0000	0.0554	-0.0912		
1	28.00	70.0	104.99	-66.23	3.88	-18.56	0.00	0.00			0.0000	0.0000	0.0528	-0.0809		
1	31.00	77.5	82.04	-73.42	2.14	-20.08	0.00	0.00			0.0000	0.0000	0.0458	-0.0622		
1	32.00	80.0	72.98	-75.79	1.21	-20.54	0.00	0.00			0.0000	0.0000	0.0426	-0.0554		
1	35.50	88.8	31.47	-84.07	0.57	-21.99	0.00	0.00			0.0000	0.0000	0.0276	-0.0305		
1	36.00	90.0	24.40	-102.08	0.57	-22.17	0.00	0.00			0.0000	0.0000	0.0250	-0.0270		
1	37.50	93.8	20.73	-124.26	0.57	-22.67	0.00	0.00			0.0000	0.0000	0.0164	-0.0165		
1	40.00	00.0	22.11	-162.23	0.57	-24.56	0.00	0.00	38.84	-3.08	0.0000	0.0000	0.0000	0.0000	15.000	15.000
2	0.00	0.0	22.11	-162.23	25.84	-2.04	-0.00	-0.00	38.84	-3.08	0.0000	0.0000	0.0000	0.0000	15.000	15.000
2	2.50	5.0	17.18	-122.88	24.13	-2.04	0.00	0.00			0.0000	0.0000	0.0145	-0.0189		
2	4.50	9.0	13.24	-95.66	22.70	-2.04	0.00	0.00			0.0000	0.0000	0.0245	-0.0353		
2	5.00	10.0	18.55	-88.96	22.34	-2.04	0.00	0.00			0.0000	0.0000	0.0267	-0.0395		
2	7.50	15.0	53.51	-61.72	20.65	-2.04	0.00	0.00			0.0000	0.0000	0.0366	-0.0607		
2	10.00	20.0	82.07	-56.79	19.62	-2.04	0.00	0.00			0.0000	0.0000	0.0441	-0.0813		
2	15.00	30.0	124.53	-47.08	17.17	-3.94	0.00	0.00			0.0000	0.0000	0.0527	-0.1146		
2	19.00	38.0	145.46	-39.17	14.89	-6.75	0.00	0.00			0.0000	0.0000	0.0543	-0.1314		
2	20.00	40.0	148.18	-37.19	14.27	-7.44	0.00	0.00			0.0000	0.0000	0.0540	-0.1337		
2	25.00	50.0	147.56	-27.29	10.99	-10.99	0.00	0.00			0.0000	0.0000	0.0500	-0.1329		
2	30.00	60.0	148.18	-37.19	7.44	-14.27	0.00	0.00			0.0000	0.0000	0.0540	-0.1337		
2	31.00	62.0	145.46	-39.17	6.75	-14.89	0.00	0.00			0.0000	0.0000	0.0543	-0.1314		
2	35.00	70.0	124.53	-47.08	3.94	-17.17	0.00	0.00			0.0000	0.0000	0.0527	-0.1146		
2	40.00	80.0	82.07	-56.79	2.04	-19.62	0.00	0.00			0.0000	0.0000	0.0441	-0.0813		
2	42.50	85.0	53.51	-61.72	2.04	-20.65	0.00	0.00			0.0000	0.0000	0.0366	-0.0607		
2	45.00	90.0	18.55	-88.96	2.04	-22.34	0.00	0.00			0.0000	0.0000	0.0267	-0.0395		
2	45.50	91.0	13.24	-95.66	2.04	-22.70	0.00	0.00			0.0000	0.0000	0.0245	-0.0353		
2	47.50	95.0	17.18	-122.88	2.04	-24.13	0.00	0.00			0.0000	0.0000	0.0145	-0.0189		

Live Load Actions Report

Name: I95 over Souadabscook Stream ...
Struct-Def: 1433+5951

Bridge ID: Br. No. 1433+5951
Member: G1

NBl: 1433+5951
Member Alt: G1

Stage: Composite (short term) (Stag...

Live Load: LRFD Fatigue Truck (US)

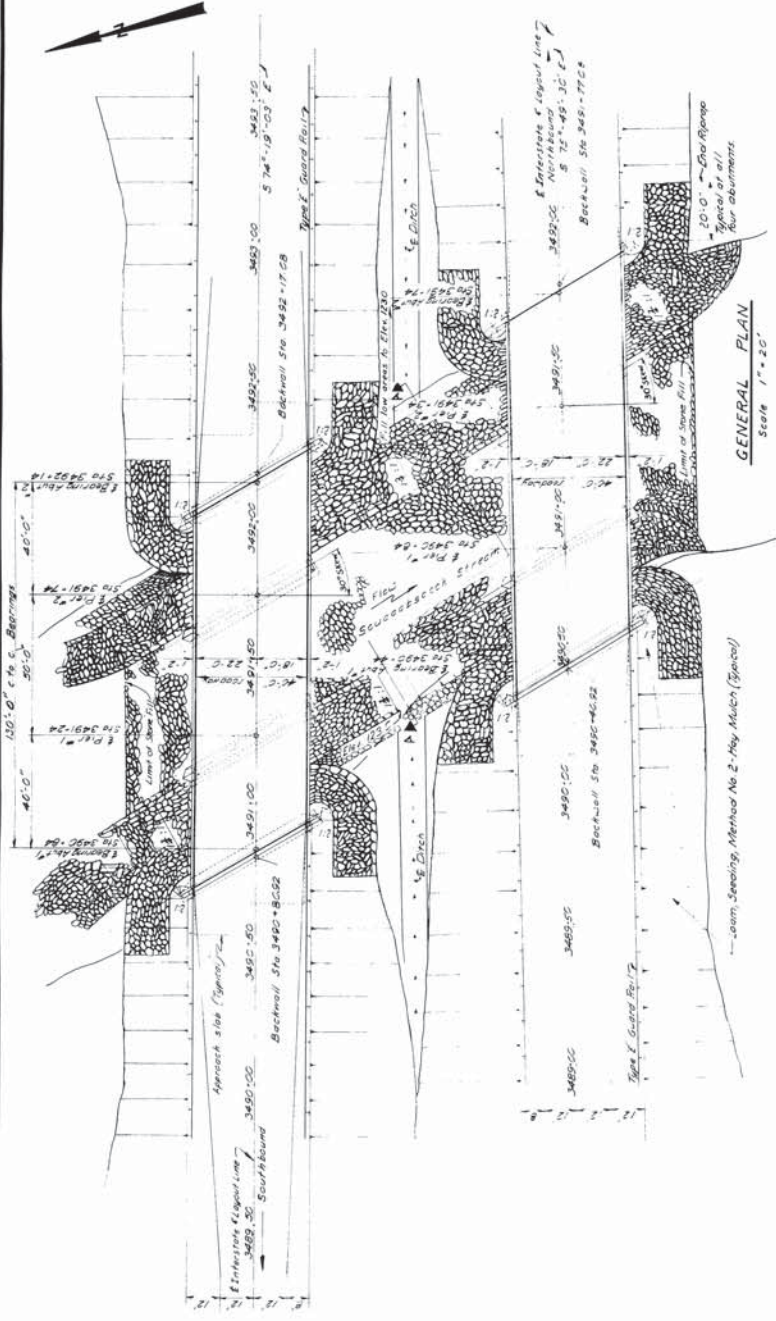
Live Load Type: Axle Load

Span	Location (ft)	% Span	Positive Moment (kip-ft)	Negative Moment (kip-ft)	Positive Shear (kip)	Negative Shear (kip)	Positive Axial (kip)	Negative Axial (kip)	Positive Reaction (kip)	Negative Reaction (kip)	Positive X Deflection (in)	Negative X Deflection (in)	Positive Y Deflection (in)	Negative Y Deflection (in)	% Impact Pos Reaction	% Impact Neg Reaction
2	50.00	00.0	22.11	-162.23	2.04	-25.84	0.00	0.00	38.84	-3.08	0.0000	0.0000	0.0000	0.0000	15.000	15.000
3	0.00	0.0	22.11	-162.23	24.56	-0.57	-0.00	-0.00	38.84	-3.08	0.0000	0.0000	0.0000	0.0000	15.000	15.000
3	2.50	6.3	20.73	-124.26	22.67	-0.57	0.00	0.00			0.0000	0.0000	0.0164	-0.0165		
3	4.00	10.0	24.40	-102.08	22.17	-0.57	0.00	0.00			0.0000	0.0000	0.0250	-0.0270		
3	4.50	11.3	31.47	-84.07	21.99	-0.57	0.00	0.00			0.0000	0.0000	0.0276	-0.0305		
3	8.00	20.0	72.98	-75.79	20.54	-1.21	0.00	0.00			0.0000	0.0000	0.0426	-0.0554		
3	9.00	22.5	82.04	-73.42	20.08	-2.14	0.00	0.00			0.0000	0.0000	0.0458	-0.0622		
3	12.00	30.0	104.89	-66.17	18.56	-3.88	0.00	0.00			0.0000	0.0000	0.0528	-0.0809		
3	14.00	35.0	118.51	-61.45	17.42	-4.72	0.00	0.00			0.0000	0.0000	0.0554	-0.0912		
3	16.00	40.0	132.88	-56.72	16.18	-5.73	0.00	0.00			0.0000	0.0000	0.0565	-0.0996		
3	18.00	45.0	144.39	-51.99	14.84	-6.79	0.00	0.00			0.0000	0.0000	0.0563	-0.1062		
3	20.00	50.0	152.91	-47.27	13.47	-7.91	0.00	0.00			0.0000	0.0000	0.0550	-0.1104		
3	24.00	60.0	158.91	-37.81	10.60	-10.28	0.00	0.00			0.0000	0.0000	0.0493	-0.1099		
3	26.00	65.0	155.86	-33.09	9.21	-11.52	0.00	0.00			0.0000	0.0000	0.0452	-0.1046		
3	28.00	70.0	148.47	-28.36	7.73	-12.81	0.00	0.00			0.0000	0.0000	0.0403	-0.0965		
3	29.00	72.5	143.07	-26.00	6.96	-13.46	0.00	0.00			0.0000	0.0000	0.0375	-0.0914		
3	32.00	80.0	119.55	-18.91	4.56	-15.47	0.00	0.00			0.0000	0.0000	0.0284	-0.0717		
3	36.00	90.0	70.44	-9.45	2.88	-21.49	0.00	0.00			0.0000	0.0000	0.0147	-0.0381		
3	40.00	00.0	0.00	0.00	2.88	-25.35	0.00	0.00	25.35	-2.88	0.0000	0.0000	0.0000	0.0000	15.000	15.000

ESTIMATED QUANTITIES

Rock Excavation	850 cy
Structural Dam Excavation, Area	200 cy
Common Excavation, Channel	5000 cy
Common Backfill	3450 cy
Gravel Backfill	130 cy
Gravel Base Course in Place Measurement	130 Tons
Bituminous Concrete Surface Course, Type A	460 cy
Bituminous Concrete Surface Course, Type B	460 cy
Portland Cement Concrete, Area (Ramp under water)	360 cy
Portland Cement Concrete, Area (Ramp under water)	360 cy
Structural Steel, Fabricated and Delivered	236,000 lbs
Structural Steel, Erection	236,000 lbs
Structural Steel, Field Riveting	236,000 lbs
Structural Steel, Field Riveting and Common Rivets, Delivered	410 lbs
Structural Steel, Field Riveting and Common Rivets, Riveting	410 lbs
Reinforcing Steel, Delivered	124,500 lbs
Reinforcing Steel, Piling	5033 ft
Steel H-Beam Piles, 42 lbs/ft	184,500 lbs
Aluminum Rail, 16 lbs/ft	515 ft
Membrane Water-proofing	1,100 sq
Plain Riprap	1,600 cy
Gravel Backfill	1,400 cy
Stone Fill	1,100 cy

Not part of this Contract



GENERAL PLAN
Scale 1" = 20'

CONTRACT SPECIFICATIONS
State of Maine, State Highway Commission Standards
Specifications, Revision of January 1937.

DESIGN SPECIFICATIONS
AASHTO Standard Specifications for Highway
Bridges, 1937 and Subsequent Revision.

LOADING
HS20-S16-44 as Modified for Interstate Highway.

TRAFFIC
4.07 1960-1980
4.07 1980-1990
4.07 1990-2010
4.07 2010-2030
4.07 2030-2050
4.07 2050-2070
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NORTHBOUND STRUCTURE

BOTTOM OF SLAB ELEVATIONS

Line	Line a	Line b	Line c	Line d	Line e	Line f
6 Beams, Pier #2 (Expansion)	134.40	134.53	134.66	134.79	134.90	134.91
6 Beams, Pier #1 (Expansion)	134.41	134.54	134.67	134.80	134.91	134.92
6 Beams, Pier #3 (Expansion)	134.42	134.55	134.68	134.81	134.92	134.93
6 Beams, Pier #4 (Expansion)	134.43	134.56	134.69	134.82	134.93	134.94
6 Beams, Pier #5 (Expansion)	134.44	134.57	134.70	134.83	134.94	134.95
6 Beams, Pier #6 (Expansion)	134.45	134.58	134.71	134.84	134.95	134.96
6 Beams, Pier #7 (Expansion)	134.46	134.59	134.72	134.85	134.96	134.97
6 Beams, Pier #8 (Expansion)	134.47	134.60	134.73	134.86	134.97	134.98
6 Beams, Pier #9 (Expansion)	134.48	134.61	134.74	134.87	134.98	134.99
6 Beams, Pier #10 (Expansion)	134.49	134.62	134.75	134.88	134.99	135.00

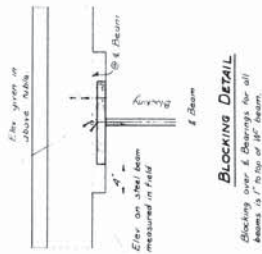
NOTE: The line designated by the letter 'a' in the upstream line of stringers are both North and Southbound Structures.

SOUTHBOUND STRUCTURE

BOTTOM OF SLAB ELEVATIONS

Line	Line a	Line b	Line c	Line d	Line e	Line f
6 Beams, Pier #1 (Expansion)	134.40	134.53	134.66	134.79	134.90	134.91
6 Beams, Pier #2 (Expansion)	134.41	134.54	134.67	134.80	134.91	134.92
6 Beams, Pier #3 (Expansion)	134.42	134.55	134.68	134.81	134.92	134.93
6 Beams, Pier #4 (Expansion)	134.43	134.56	134.69	134.82	134.93	134.94
6 Beams, Pier #5 (Expansion)	134.44	134.57	134.70	134.83	134.94	134.95
6 Beams, Pier #6 (Expansion)	134.45	134.58	134.71	134.84	134.95	134.96
6 Beams, Pier #7 (Expansion)	134.46	134.59	134.72	134.85	134.96	134.97
6 Beams, Pier #8 (Expansion)	134.47	134.60	134.73	134.86	134.97	134.98
6 Beams, Pier #9 (Expansion)	134.48	134.61	134.74	134.87	134.98	134.99
6 Beams, Pier #10 (Expansion)	134.49	134.62	134.75	134.88	134.99	135.00

NOTE: In order to compensate for the dead load deflection and any irregularities in the setting of the steel elevations, all be taken at the above points, after the erection of the steel, the stringers, beams, and slabs, have been constructed and the blocking will be installed. The elevations in the blocking will then result will be the blocking. (See Blocking Detail.)



Blocking over 6 Beams for all beams is 1' to top of 10' beam.

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
WEST
SQUADABSCOOK STREAM BRIDGE
IN THE TOWN OF
HAMPTEN
PENOBSCOT COUNTY
STRUCTURAL STEEL

NOTE: See Sheet No. 13 for location of abutments.

